The Lumleian Lectures

SOME CIRRHOSES OF THE LIVER.

Delivered before the Royal College of Physicians of London on March 29th and April 3rd and 5th, 1900.

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LECTURE II.[1]

Delivered on April 3rd.

GENERAL CONSIDERATIONS WITH REGARD TO THE FORMS OF CIRRHOSIS.

MR. PRESIDENT AND GENTLEMEN.—There are certain points connected with the pathology of the different forms of cirrhosis discussed in the first lecture which deserve a passing consideration.

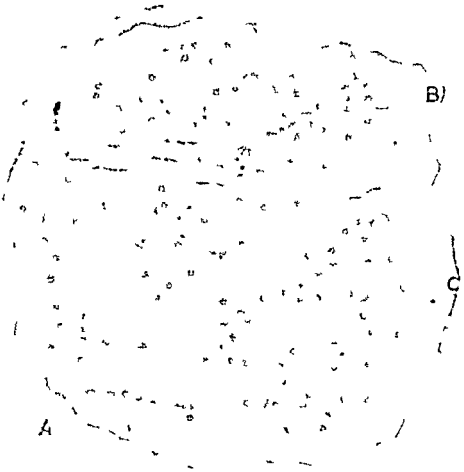
DEGENERATION OF HEART MUSCLE.

The first of these, and perhaps the most important, is the association of marked degeneration of heart tissue with cirrhosis. Degeneration of cardiac muscle and cardiac failure are, of course, acknowledged results of chronic alcoholism, and their importance in that relation has been emphasised by Dr. Graham Steell,[2] but the frequency of such degeneration and failure in connexion with cirrhosis, its pathological significance, and its bearing upon prognosis, have, I think, been insufficiently appreciated. Of the 53 fatal cases mentioned the condition of the heart was especially noted in 33. In six of these fatty degeneration, in some instances extreme, was verified by microscopic examination, active myocarditis was observed in one, and in eight others the muscle was found to be pale, soft, and presumably fatty, in nine more there was atheroma of one or other of the cardiac valves. There was, therefore, marked degeneration of heart muscle in eight and in less degree in nine more—or 17 in all—out of 36, without counting the cases (nine more) in which atheroma of the valves only was recorded. Of the 17 cases of fatty degeneration the liver was enlarged in 11 instances; in six it was small and contracted. So that the tendency to degeneration is not limited either to the large or the small liver. In 13 the cirrhosis was distinctly traced to alcohol.

My attent[illegible] drawn to the frequency of these changes by [illegible] to him [illegible] eart for the foll[illegible] the muscle and [illegible] and sketches before you have been [illegible] figures are based upon an examination of six fatal cases of cirrhosis—all traced to alcoholism. In three the liver was enlarged and in three it was contracted. The naked eye appearance was one of undue softness and pallor and the texture was abnormally friable. The changes were similar in all, but most extreme in one in which there was also peripheral neuritis. Microscopically these were seen to affect the muscular fibres rather than the interstitial tissues. Numerous dark granules ('brown atrophy') were always found in the muscle fibres, especially spreading from the poles of the nuclei. In addition to this, in several cases the nuclei had undergone this dark granular change wholly or in part. Striation was often lost and the fibres had a 'ground-[illegible] In other cases the striation was more evi[illegible] to the fibres [illegible] change was [illegible] a rule minute [illegible] in shape and and finely scattered [illegible] had lost all contour. The chief size and in the worst cases [illegible] a fatty infiltration separating the [illegible] well marked [illegible] upon failure [illegible] seems clear of general health as [illegible] from the fact that a similar appearance was found in the [illegible] died from pneumonia and [illegible] liver was not cirrhotic."

The frequent [illegible] erious degeneration of the cardiac muscle accounts for the fact that a certain proportion of these cases end suddenly in death by syncope—many more by rapid, if [illegible] failure. In the 53 fatal cases mentioned [illegible] from syncope (not the result of [illegible] s. As I shall endeavour to sh[illegible] the enfeebled cardiac condition may sometimes be the factor which

FIG. 5.



Extreme degeneration of the heart wall in a case of alcoholic cirrhosis of the liver. Many of the muscle fibres are unrecognisable. The protoplasm of the muscle has lost striation. There is scattered fatty change. Many of the muscle nuclei are circular in outline. A, Muscle fibres. B, Muscle nucleus circular in outline. C, Degenerated muscle protoplasm. Osmic preparation.

determines the advent of ascites in alcoholic cirrhosis, and also be concerned in the development of the fibrotic change and influence its character.

CONCURRENT INTERSTITIAL FIBROSIS OF OTHER ORGANS.

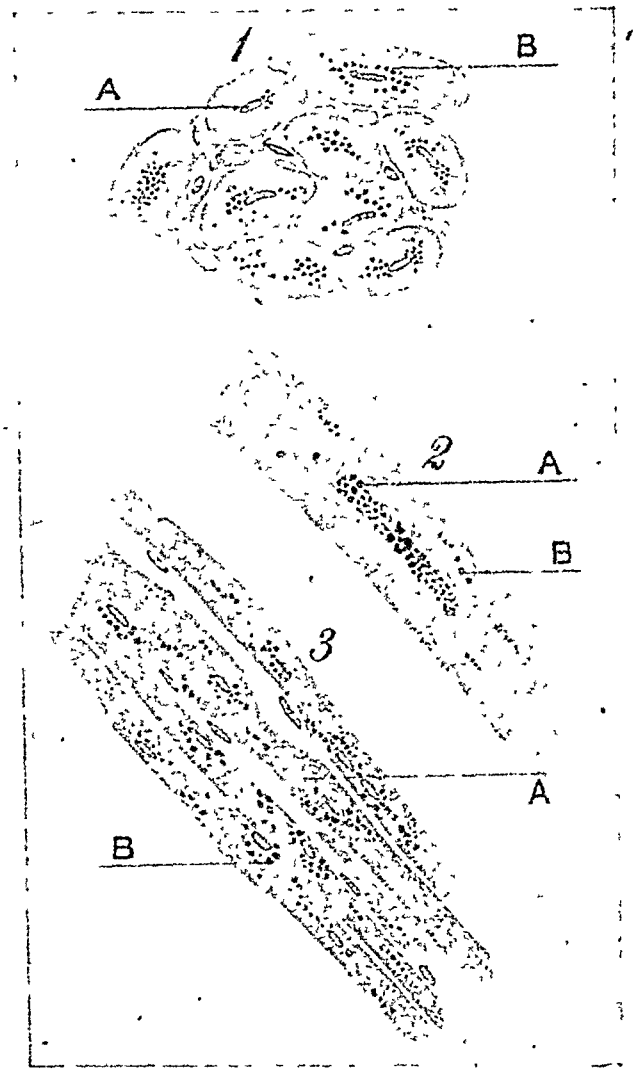
Another important feature of the morbid state in cases of cirrhosis—or at all events of alcoholic cirrhosis—is that the interstitial fibrosis is not confined to the liver, although its most extreme development may be found there and very largely ru[illegible] it also affects other organs [illegible] liver in order. They were four[illegible] n 26 of the 53 cases. In five in[illegible] anular, "moderately cirrhosed" or "fibrosed" in 13, in five they are described as "fibrosed" simply; and in three there was parenchymatous nephritis. Again, in 12 of these cases, in which the liver was markedly atrophic and small, there was fibrotic change in the kidney in every instance but in five only was the interstitial change advanced. In the remaining seven it was extremely slight. The spleen was enlarged in 23 instances, 11 of these being in atrophic and 12 in hypertrophic cases, and its co[illegible] a [illegible] as. The pancreas has only [illegible] few of the recent cases—viz., in 14, [illegible] cirrhosed in three instances and extremely hard or firmer than natural in 10, in the remaining case, which was one in which neither alcohol nor syphilis could be traced, the organ was large and soft. In seven of the 14 cases alcoholism was established, in two syphilis, and in the remaining five the cause was not stated.

This association of cirrhosis of the pancreas with cirrhosis of the liver is of interest in connexion with Hanot's[3] observation that hypertrophic cirrhosis was an occasional complication of diabetes, and also on account of the association of

[1] Lecture I was published in THE LANCET of March 31st, 1900.
[2] Medical Chronicle, vol. xviii., 1893.
[3] Hanot and Chaufford: Revue de Médecine, 1882.

fibrosis and atrophy of the pancreas with diabetes independently. In the St. Mary's cases the fibrosis of the pancreas was not limited to those cirrhoses of the liver in which that organ was enlarged, although these were in the majority—viz., nine as compared with five of the atrophic form. In no case did diabetes occur, nor did sugar appear in the urine, but it is obvious that such a condition of pancreatic degeneration must seriously affect nutrition and be a factor in the wasting which attends hepatic cirrhosis. Alcoholic cirrhosis is, indeed, only one phase of chronic alcoholism, yet we are apt to look upon it as if it were the single and

FIG. 6.



Muscle fibres from the left ventricle. Alcoholic cirrhosis of the liver. Sudden death. 1, Transverse section of some of the fibres. A, Nucleus. B, Dark granules. 2, A single fibre magnified about 1000 times to [illegible] the nucleus as well as in the fibre. A, [illegible], Granules in the fibre. 3, Some fibr[illegible] A, Fatty change. B, Granular change. Osmic preparations. 1 and 2, Stained with safranin. 3, Stained with methyl green.

only result—as if all the evil effect of the poison were concentrated upon the liver alone. The heart, the kidneys, the spleen, the pancreas, the blood-vessels, and the nervous system all suffer, but usually in less degree. The great stress most commonly falls upon the organ which receives the poison first in full flood, but the implication of the others constantly influences the course of the liver affection upon which attention is mainly directed.

LIABILITY TO ERYSIPELAS.

These records also seem to show that persons suffering from cirrhosis, vulnerable in so many respects, suffer from a special liability to erysipelas beyond that common to all chronic exhaustive diseases. Dr. J. Dreschfeld remarked that erysipelas was not uncommon in Hanot's disease, but there is no exclusive association with biliary cirrhosis or, indeed, with hypertrophic cirrhosis as compared with the atrophic kind. In the 53 fatal cases of the last ten years death occurred from facial erysipelas in three. In two other instances of a previous period the fatal issue was due to the same cause—or five cases in all. Of these, the liver was enlarged in three, two of which were syphilitic and one alcoholic. In the remaining two the liver was contracted and hobnailed and the affection was of alcoholic origin.

LIABILITY TO TUBERCULOSIS.

The close association of tuberculosis with cirrhosis of the liver is well known and acknowledged and it is unnecessary for me to do more than allude to it here. It marks again the vulnerability of these subjects of degenerated tissues and is due chiefly, I imagine, to the proved influence of alcohol in favouring tuberculous infection.[4]

LINES OF DEMARCATION BETWEEN DIFFERENT FORMS TOO RIGID.

The evidence which I adduced in the first lecture supports, I think, the opinion which I ventured to express at the outset—viz., that the lines of demarcation between some of the different forms have been too rigidly drawn. They hold good with regard to typical examples only. Take, for instance, the mere question of size and weight. No strict line can be drawn between hypertrophic and atrophic forms, at any rate so far as alcoholic cirrhosis is concerned. The conclusion arrived at by Dr. A. Foxwell that all sizes, from 100 ounces to 30 ounces, are met with is more than borne out by my series of cases, in which all sizes, from 152 ounces to 18 ounces, are found. And thus with regard to other symptoms there are many cases in which the symptoms agree in some respects with those attributed to one form, in other respects with those attributed to another form. It is convenient to divide people morally into the two classes of sheep and goats; but, as a matter of fact, as I think we should all acknowledge, the majority of persons are neither the one nor the other, but something of each; there are many hybrids. And so it is with regard to our conceptions of disease. We look for a strict separation into classes, and the expectation of close conformity to given types is apt to warp our intelligence. It is thus with reference to cirrhoses; they are met with in typical forms, but occur also in various degrees of modification between them. We assume one factor to be alone engaged and expect each case to correspond to the authorised description. Yet the acknowledged causes—alcohol, syphilis, and malaria—are just those which, although they may usually act alone and produce simple results, are, from the very nature of things, liable to be associated, to act together in varying degree upon the same subjects and produce results more or less complex. In these instances the effect of the relative influences at work is not easily estimated. And then there is the fallacy of negative classification. If no alcoholic history is traced the case is called non-alcoholic; if no history of syphilis, non-syphilitic. The fallacy of this with regard to syphilis I have shown, and that it exists largely with regard to alcohol we all know well. Occasionally, as in certain cases of cirrhosis in children, no adequate cause can be discovered. And there are others, again, which differ from all recognised forms and from any combination of the characters of the acknowledged varieties and cannot be traced to the recognised causes. Thus in a case recently under the care of my colleague, Dr. Sidney Phillips—a young man, aged 37 years,[5] with enlarged liver and extreme ascites and no jaundice—the history appeared absolutely to exclude alcoholism and syphilis. He died at the end of a year—from hæmatemesis—having been tapped 35 times. The post-mortem examination disclosed a large hobnailed liver with small patches of perihepatitis. Microscopically, there were multilobular and fine monolobular fibrosis of active cell proliferation, no gross portal obstruction, and no sign of syphilis or of general alcoholic degeneration; there was some fibrosis of the kidney, but this was not extreme, and the heart muscle was firm and healthy. The source of cirrhosis remained undetermined.

PROGNOSIS.

The prognosis in cirrhosis varies according to the particular form in which it appears and the conditions

[4] Dickinson: Transactions of the Royal Medical and Chirurgical Society, vol. lvi., 1873.

[5] Case 2, 1898.

associated with it; yet as set forth by authority in books of medicine it is almost universally and absolutely unfavourable. Its fatality is regarded as inevitable and the end speedy. Thierfelder, speaking of cirrhosis generally, says: "In the cases which have been accurately diagnosticated the termination is without exception death." Frerichs, Niemeyer, and Murchison spoke in like fashion, and more recent authorities are almost equally pessimistic. This unfavourable verdict, more positive than the actual facts seem to me to warrant, has, I think, arisen partly from the use of the generic term cirrhosis when the condition really *intended to be indicated is one form of the disease only*—viz., the atrophic contracted liver of Laennec. Thus the occurrence of ascites, so significant of evil in that condition, has been assumed to be equally serious in hypertrophic or syphilitic cirrhosis, where its import is less grave.

Cirrhosis is of course incurable. Fibrous tissue is a permanent formation, but it is in itself harmless, it injures only by pressure and it may exist within certain limits for long without fatal issue. In some degrees of it the glandular structure of the liver is not so extensively injured as to render life impossible, and if the obstruction to the direct portal flow is eased by compensatory channels fair health may be maintained for a season.

Cirrhosis is not a disease of rapid development but of slow and gradual progress. It may advance silently and steadily for years before its presence is discovered. The liver is frequently found indurated to an extreme degree and usually enlarged in persons who have died from other causes without the patient having been known to suffer from any marked symptoms of such affection during life. Dr. Hilton Fagge[8] noted that the average age of such person thus found accidentally to have been suffering from cirrhosis without discovery was on an average five years in excess of the average age of those who died directly from the disease. This would seem to show that the disease is often quiescent before reaching its final stage. The elaborate statistics of Dr. Rolleston and Dr. Fenton[9] give, however, somewhat different results and make the patients with latent cirrhosis slightly younger than those who die from the disease.

Further, as the existence of cirrhosis is commonly betrayed by the supervention of ascites, the estimation of its future course is only made towards the extreme end of it. If the disease could be recognised earlier the prognosis would be in corresponding degree less immediately unfavourable. I have now under my care a gentleman of upwards of 50 years of age, an inveterate spirit drinker, whom I have known for 20 years, who has a greatly enlarged liver, reaching four fingers breadths below the ensiform cartilage, and as hard as wood. He came under my care for influenza, and although I knew his habits of life I knew nothing of any hepatic disorder. He has no ascites, no special symptoms of cirrhosis bey[illegible] venous stigmata on [illegible]

In anoth[illegible] of my acquaintance [illegible] ledge a large indurated liver for many years. He enjoyed fair health up to 70 years of age and then died from hæmatemesis supervening upon an attack of pneumonia. He never had ascites or any special signs of cirrhosis except the enlarged liver and a certain alcoholic aspect.

As I write this I have under observation a young man, aged 29 years, of extreme alcoholic habits, taking a bottle of spirits a day, who has already a hard enlarged liver extending two inches below the edge of the ribs. He has no other symptoms except some dyspepsia and palpitation and a slightly dilated heart. There can, I presume, be no doubt that he has early cirrhosis. He is fat and well-nourished and the prognosis depends upon the future regimen.

The prognosis in cirrhosis is, however, almost invariably made with regard to the advent of ascites and turns upon this symptom. The observation of Dr. Bristowe in 1892[8] that most medical men of that time regarded the development of ascites in connexion with liver disease as of fatal omen or, at any rate, as "the beginning of the end" still, I believe, holds true. Yet some masters in medicine have expressed more hopeful views. Dr. Frederick Roberts[9] and Dr. Austin Flint[10] have shown that the supervention of ascites is not necessarily a sentence of immediate death, and have adduced a series of cases in proof of it.

It is not disputed, I think, that occasionally the course of cirrhosis—even after ascites has supervened—is in some cases prolonged for months, and in a few rare instances for a considerable number of years. Hitherto, however, as far as I know, no satisfactory discrimination of the conditions in which a favourable issue may be regarded as possible has been established.

PROGNOSIS IN ATROPHIC CIRRHOSIS.

The first point to lay down is that when the cirrhosis is of the atrophic contracted kind traceable to alcoholic excess the prognosis is the least favourable. If ascites has supervened—as is usually the case when the diagnosis is made—it probably indicates that the disease has reached its final stage. Much, however, depends upon the condition of general nutrition. In proportion as this is satisfactory the prognosis is more hopeful of respite. If emaciation and cachexia have advanced the condition is one of proximate gravity.

EXAMPLES OF MORE FAVOURABLE COURSE OF ATROPHIC CIRRHOSIS.

The course of some of the more favourable cases of atrophic cirrhosis which survive for a time is exemplified by that of the woman previously mentioned who died from intercurrent bronchitis before the liver was so extensively injured as seriously to impair general nutrition. She was a small, tolerably plump, slightly anæmic woman, aged 53 years,[11] admitted into hospital for ascites and hæmatemesis. She had long been a steady drinker, with her husband as a boon companion. He was a carpenter employed in the medical school, whose alcoholic excesses became well known to me when I was brought into contact with him there during my term of office as Dean. The woman admitted that she took half a pint of gin every day in addition to stout, and had done so for the last 30 years. She was tapped twice, about 600 ounces being drawn off. The fluid did not return, her general condition rapidly improved, and she went out at the end of two months in fair health and nutrition. Nine months later she was readmitted. The ascites had returned and the hard edge of the liver could be felt two inches below the costal margin. She was tapped ten days after admission and 198 ounces were withdrawn. There was no return of the effusion, but a sharp attack of acute pleuro-pneumonia developed, probably influenzal, with extensive consolidation, pleuritic and rusty sputum, high temperature, and delirium. Her case was judged to be hopeless, but under the free use of digitalis in doses of 15 drops every four hours given by my earnest house physician at the time and a temporary dispensation of an allowance of wine she had a crisis and to our extreme surprise recovered. A month later she went out of hospital for the second time in a state of comparative health. A month later still she was admitted for the third time, on this occasion with an acute bronchitis of great severity contracted by exposure in the extremely bitter weather which prevailed at the time.

The post-mortem examination disclosed a contracted typically hobnailed, cirrhotic liver, weighing 38 ounces, with thickened capsule, but no general perihepatitis or peritonitis, and no thickening of, or adhesions to, neighbouring structures. It was calculated from general appearances, aided by microscopic examination, that about half of the liver tissue was efficient, the cells being normal and active. The kidneys showed commencing granulation but were not much contracted, weighing four and a half ounces and five and a half ounces respectively. The heart showed advanced fatty changes with so-called tabby-cat striation in a marked degree.

This case is of importance since the patient was not in a condition of emaciation and regained fair general health although 54 years of age. The fact that she recovered from a severe attack of pleuro-pneumonia showed that the liver damage was not so extreme as to be incompatible with a state of nutrition and vigour equal to the strain of acute intercurrent disease and restoration to the previous degree of

[illegible] course

[illegible] --), of [illegible] al on

[illegible] II., p. 370.

[illegible] 11 Case 53, 1891-92.

April 4th, 18[illegible]. [illegible] from ascites. The man was plump, soft of skin [illegible] the abdomen was much distended with [illegible] measuring 40½ inches in circumference. The hard edge of the liver could just be felt below the margin of the ribs, [illegible] sounds gave a slight apex bruit, and the apex was [illegible] space. There was no hypertrophy. A few medium moist râles were audible at the base of the lungs. The urine had a specific gravity of 103, and was free from albumin. He was tapped 19 times between April and August, nearly 3000 ounces being removed. On August 9th he was tapped for the last time. The edge of the liver was not to be felt. The fluid did not return and he was discharged on Sept. 20th apparently well. On June 18th of the following year he called to report himself. He complained of loss of appetite, but [illegible] with a fair amount of subcutaneous fat, [illegible] well nourished; there was no return of ascites. The liver could be felt just below the costal margin, extremely hard. In the following August he was readmitted for hæmatemesis; the liver could just be felt. There was no ascites. The urine was of specific gravity 1020, with a trace of albumin, and there was a systolic bruit in the aortic area. Hæmatemesis recurred and he died the following day, one and a half years after coming under treatment for ascites. At the post-mortem examination the liver was found to be contracted, weighing 48½ ounces, was markedly hobnailed and tough, and was covered by thick false membrane; the spleen was enlarged; the kidneys were enlarged slightly, but otherwise were normal. The valves of the heart were atheromatous, otherwise the heart was normal. There was no general peritonitis.

A woman, an acknowledged spirit drinker, was admitted into St. Mary's Hospital for jaundice and ascites in July, 1893. She was tapped twice and the ascites not returning she went out apparently well, to be re-admitted in January, 1894, six months later, with a return of ascites. She was again tapped, once only, and remained without much return of fluid until January, 1895, when she was again admitted and tapped a fourth time. By some mischance which could not be traced suppurative peritonitis supervened and the patient died—one and a half years after first coming under treatment for ascites. The post-mortem examination was most instructive on account of the extremely small size of the liver, which weighed only 18 ounces instead of 50 ounces, and was typically hobnailed, with abundant adhesions between the liver and neighbouring organs, great thickening and shortening of the large intestine, the ascending colon being only two inches in length, and the fact that no morbid changes were found in the kidneys.

[illegible] case, that of a man who came under th[illegible] Sir William Broadbent.

[illegible] rid but fairly healthy looking man, aged 33 years, with a history of alcoholism but none of syphilis. He was tapped 11 times between 1893 and 1896, coming into hospital eight times for the purpose. The liver was small, only just felt at first, and at the last visit, in June, 1896, its size could not be made out. The man left hospital at that time apparently well and was lost sight of afterwards.

Let me give another in illustration. The patient, a man, aged 35 years, under the care of Sir William Broadbent, was tapped 11 times. Ascites was first noted in July, 1892. It being found impossible to remove all the fluid a localised collection was suspected and for this laparotomy was performed in December, 1893, nearly one and a half years after the first appearance of ascites. The diagnosis of a localised collection was verified; chronic peritoneal adhesions were found shutting in fluid between the stomach and diaphragm. The operation, however, proved fatal. Post mortem, advanced atrophic cirrhosis, peri-hepatitis, peri-splenitis, and peri-enteritis were found; the kidneys were unaffected.

In this case peri-hepatitis may have played a part in the production of the abdominal dropsy. It seems to me immaterial, except in so far as it might affect the possibility of a favourable issue, whether the fluid was poured out as the direct result of portal obstruction or because of a local peritonitis due to the engorgement [illegible] from this same obstruction, or to [illegible] case was one of advanced cirrhosi[illegible] toneal inflammations were not due to Bright's disease for the kidneys were healthy.

In my notes I find a number of other cases of atrophic cirrhosis in which life has been prolonged for considerable periods after the first appearance of ascites. Apart, however, from these observations of mine, there is evidence from other sources as to the occasional prolongation of life in atrophic cirrhosis for a considerable period after the betrayal of its existence by the occurrence of dropsy. One such is recorded by Dr. J. S. Bristowe[12] in which the patient remained well for six years. The man was a drinker, had alcoholic neuritis, and the liver was not enlarged.

The most notable case is one quoted by Dr. H. P. Hawkins in Allbutt's System of Medicine. The patient, a free drinker, came under the care of Dr. Murchison for alcoholic cirrhosis and ascites. From that time he became a total abstainer, and for 12 years enjoyed fair health. At the end of that time he came into St. Thomas's Hospital with granular kidney and peritonitis, from which he died. The post-mortem examination showed a hobnailed liver with multilobular fibrosis and thickened capsule adherent to the diaphragm.

PROGNOSIS IN THE HYPERTROPHIC FORM.

In the hypertrophic form, however, the prognosis is less gloomy. In the majority of cases the disease progresses to a fatal ending, but far less certainly and, as I have seen it, less rapidly than in the contracted form. As I pointed out in 1892[13] it is the *large* liver which gives promise of recovery. Curiously enough, however, according to Dr. Rolleston and Dr. Fenton's statistics[14] and those of Dr. Pitt,[15] patients with enlarged livers who die are younger than patients who die with contracted livers. There is, however, no incompatibility between the two statements. The patients with enlarged livers are younger than those with contracted liver; if they die they die younger probably. This does not, however, affect the question whether more of these recover or prove that although they die younger on the average some do not run a protracted course.

Again, the cirrhosis of the enlarged liver is said to be more acute, and this I believe is so, as I shall show later; but this is only in its development; its after course may be prolonged. In some instances, no doubt, the estimation of the size of the liver during life is liable to error. A contracted liver displaced downwards may be mistaken for actual enlargement, especially in the case of women, and when ascites is present: and, on the contrary, a large liver may be mistaken during life for a small contracted one, when it is bound by adhesions to the diaphragm and tucked under it. Each of these cases has happened once within my knowledge, and once only, I think. In all other cases which have ended fatally and the condition of the liver has been verified by post-mortem examination the diagnosis of enlargement or contraction has proved to be correct. Be this how it may, however, to put it broadly, the cases which do well are those in which the liver, apparently large, exposes a flat, hard surface to the abdominal front extending far below the edge of the ribs and sometimes down to the umbilicus.

In speaking of recovery in cirrhosis I may repeat it is not suggested that the impossible feat of removing the fibrosis is accomplished, but that changes are effected in the general condition, so that the disease does not progress. The effects of ascitic pressure, for instance, are removed. In alcoholic disease the stimulation of interstitial tissue is arrested; in syphilis gummata are reduced and the formation of fibrous tissue from them cut short; the peri-hepatitis and peritonitis subduced. In this way a condition of stable equilibrium is established compatible with the maintenance of life. In three cases of recovery from alcoholic cirrhosis with ascites recorded by Murchison the liver was enlarged. In another attributed to mitral disease of the heart the liver was enlarged. In one of the four cases observed by Dr. Bristowe the liver was greatly enlarged. In two cases recorded by Dr. Dickinson[16] in which recovery took place after extreme ascites developed, and in one of which the diagnosis was verified on death from cerebral abscess two years afterwards, the liver was described as hypertrophic. In 11 other cases which I have culled from various authorities in which recovery is stated to have taken place and the patient to have regained apparent health for periods varying from one year to 18 years the liver was stated to be enlarged in six, contracted in one, and the condition not stated in four.

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[12] Brit. Med. Jour., April, 1892.
[13] Ibid., Nov. 10th, 1892.
[14] Birmingham Medical Review, October, 1896.
[15] Transactions of the Pathological Society, vol. xl.
[16] Allbutt's System of Medicine, vol. v., p. 672.

FIRST FAVOURABLE CONDITION IS THE LIVER BEING ENLARGED.

This fact of the [illegible] is in cirrhosis when the liver is [illegible] by Hanot and Gilbert,[17] who, wri[illegible] affirmed that the hypertrophic form w[illegible] the most successful cases th[illegible] In my address in 1892, I [illegible] atic ascites in which relief [illegible] of general health took place. To these cases of recovery, temporary or prolonged, I may add three more, making 11 in all. There are exclusive of those instances in which there was mere relief of symptoms sufficient to permit of discharge from hospital and of private cases which were not traced afterwards. Of these 11 cases the [illegible] in seven, considerably enlarged in [illegible] two, and in one the condition of the [illegible] If I add to these cases 24 others in wh[illegible] as to warrant discharge from hospital, [illegible] cessation of attendance, there are 30 in which recovery, either temporary or prolonged, resulted. I may remark with regard to the St. Mary's cases that they were not merely tapped and discharged at once, but were kept in for considerable periods until recovery appeared stable and maintained. Of these 30 the liver was markedly enlarged in 19 cases, normal or slightly enlarged in 3 cases, smaller than normal in 5 cases, and in the remaining 3 cases the condition was not ascertained. So that here, again, in nearly two-thirds of the cases in which good was effected by treatment the liver was enlarged. One salient feature of the cases which are capable of relief or recovery then is that the liver is enlarged.

FAVOURABLE CASES, BOTH SYPHILITIC AND ALCOHOLIC.

The question may be asked, Were any of these cases of genuine alcoholic cirrhosis or were they merely instances of syphilitic fibrosis? A certain proportion of cases of cirrhosis with enlargement which recover are undoubtedly syphilitic, having a history of, or marks of, syphilis, or yielding to anti-syphilitic treatment—as, for example, a case recorded by Murchison, one by Sir Grainger Stewart, and three under my own care. It must, however, be borne in mind, as I have said before, that there is a close social relation between alcohol and syphilis and that in some instances both these f[illegible] in certain instances, as I [illegible] diagnosis, syphilis exists [illegible] to be obtained, where there is nothing in the physical character of the liver, as far as can be ascertained during life, to suggest it. As I urged before, there may be no history of syphilitic infection or irregularity of surface, no enlargement or marked contraction, and yet the condition be syphilitic. Apart from these cases, however, of syphilitic or mixed syphilitic and alcoholic hypertrophic cirrhosis there are, as has been already shown, instances in which the disease is purely alcoholic in origin. These also are to be included amongst the cases of hypertrophic cirrhosis which now and again recover. Syphilitic cases, it is generally allowed, occasionally recover. A certain proportion of cases of hypertrophic cirrhosis, also, in which no cause except alcoholic stimulation can be traced, in which syphilitic remedies are useless and even harmful, from time to time recover sufficiently to enjoy apparent he[illegible] years. Three cases recorded by Murchison were alco[illegible] origin. In six cases of hypertrophic cirrhosis under [illegible]

GOOD NUTRITION THE SECOND FAVOURABLE CONDITION.

[illegible] to the hypertrophic enlarge[illegible] remaining intact to serve [illegible] cases of syphilitic affection which get well the cachectic state may be marke[illegible] all the patients who [illegible] ledge have been i[illegible] cachectic or greatly [illegible]

YOUTH A THIRD FAVOURABLE CONDITION.

Another feature of the cases which are of more favourable prognosis is that they are as a rule younger than those which end fatally. Of the 11 cases of recovery which I adduced I omit five in which the further history was less perfectly traced. In the six others the later career was ascertained for periods, ranging from six months to 11½ years. The average age is just over 39 years (39 years and five months). In 31 cases of recovery recorded by others the average age is, curiously enough, almost exactly the same, just under 39 years. Further, in the enlarged liver we find a texture tough and hard, but not that leathery, hardness and toughness of the contracted form; there is nowhere any tendency to contraction unless it be a little drawing in of the surface at [illegible]

proliferation is conspicuous. T[illegible] alcoholism in which the liver [illegible] was smooth without thickenin[illegible] peritonitis, and the cellular connective tissue elements were greatly increased, but the fibrous tissue was imperfectly formed. In another, not traced to alcohol, in which the liver weighed 72 ounces, the same active cell proliferation was observed. In the case of the boy[20] with enormously enlarged liver, previously described as probably a cirrhosis of congenital syphilis, this appearance of active cell proliferation and imperfectly developed fibrosis was most conspicuous. In a case of hypertrophic alcoholic cirrhosis recorded by Murchison, in which the liver weighed 80 ounces, the nuclear element was observed to be extremely abundant. This sign of an active process appears to prevail chiefly in hypertrophied forms and suggests a more acute condition than the mature fibrosis of the contracted form which bears evidence of a more chronic and advanced development. Possibly in some instances of early atrophic cirrhosis nuclear growth may be present; in cases, however, which progress to a final stage and death comes directly from the liver affection the contrast between the two conditions of fibrous change is generally distinctly marked. Dr. Price,[21] as the result of [illegible] 143 cases of cirrhosis, came to the [illegible] that the large cirrhotic livers repre[illegible] of the disease than do the small. If these conclusions are confirmed I think that some of those cases of hypertrophic alcoholic cirrhosis in younger subjects might be termed acute cirrhosis, set up by more [illegible] opious and more [illegible] irrhosis of older [illegible] intense drinking [illegible] ver many years produces a more dense and mature fibrosis, with greater destruction of secreting tissue.

The characteristics, then, of these cases of cirrhosis which are more amenable to treatment and run a more favourable course to arrest or recover [illegible] age of the subjects, and [illegible] condition of good nutri[illegible] alcoholic wrecks—are [illegible]

FEATURES OF THE FAVOURABLE CASES.

To sum up. The distinctive features of the favourable cases are: 1. The liver is large and the cirrhosis is probably [illegible]ore acute. 2. The subjects are, on the average, younger [illegible]an in the less favourable cases of contracted liver. 3. [illegible]ey are in a condition of fairly good nutrition. [illegible]stly, they are, as a rule, either exceptionally hard [illegible]inkers, acute drinkers, or they are syphilitic. It [illegible]y be asked with regard to these cases of apparent [illegible] and alcoholic cirrhosis, as shown by [illegible] how far [illegible] difficult, [illegible]as every hospital physician knows, than to trace out cases to [illegible]

17 Archives Générales de Médecine, 1890, vol. clxvi, p. 250.

18 Case 8, 1893. 19 Case 2, 1890.

20 Case book, 1883.

21 Guy's Hospital Reports, series iii, vol. xxvi.

their conclusion. Leaving aside all which have been lost sight of quickly I have been able to follow out the history with some completeness in six instances—viz, for considerable periods varying from one to 12 years, two to my knowledge surviving to this day; others I have observed for less, although for considerable, periods, at the close of which the recovery remained unimpaired. To show more completely the course and character of these cases I shall state some of their salient features when I come to speak of treatment in the next lecture.

ERRATUM.—In Dr. W. B. Cheadle's first Lumleian Lecture (THE LANCET, March 31st, p 935) the heading "Ascites in Atrophic Cirrhosis—its Significant Viability in Atrophic Cirrhosis," should read thus: "Ascites in Atrophic Cirrhosis—its Significance—Viability in Atrophic Cirrhosis."

The Lettsomian Lectures

ON

PRACTICAL OBSERVATIONS ON CANCER OF THE BREAST.

Delivered before the Medical Society of London on March 5th and 19th and April 2nd, 1900,

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LECTURE III.[1]

Delivered on April 2nd.

THE PARASITIC AND INFECTIVE VIEWS OF CANCER.

MR. PRESIDENT AND GENTLEMEN,—It would be out of place here to enter into a detailed history of the early searchings after truth in this matter, for, however praiseworthy, nothing definite came of them. The first notable step in advance was made by Dr. W. Russell of Edinburgh in 1890. In the *British Medical Journal* for December of that year will be found a paper by him modestly entitled "The Characteristic Organisms of Cancer." Seeing that they were well displayed by staining with fuchsin he termed them "fuchsin bodies." The attaching of men's names to all sorts of silly little discoveries and operations is much to be deprecated, but so important a move in the right direction might well be commemorated by designating them "Russell's Bodies." He described them both as intra-cellular and extra-cellular, and, what is of much importance, he held them to be blastomycetes, a variety of the saccharo-mycetes of yeasts. The general opinion was distinctly against him, but in 1892 appeared a paper by Professor Soudakewitch[2] of Kieff describing and figuring bodies obviously very similar to Russell's Bodies, and in the same year there appeared a very important contribution by Armand and Ruffer[3] containing confirmatory evidence. Preparations illustrating both these papers were shown to Metchnikoff and that distinguished pathologist gave it as his opinion that the bodies were "parasitic protozoa." This at once altered the venue from the vegetable kingdom to the animal kingdom. In this country the fuller investigation of the parasite has been very ably carried on by Mr. H. G. Plimmer of St. Mary's Hospital. In the so-called Cancer Number of the *Practitioner*, already referred to, will be found a review by him of the whole question up to April, 1899. It is a model of clear and unbiassed writing and the descriptions of the general structure of cancer and methods of examination are most admirable. For a considerable time my friend and old pupil, Dr. R. J. M. Buchanan, formerly assistant demonstrator of physiology in University College, Liverpool, and now physician to the Hospital for Consumption and Diseases of the Chest at Liverpool, has been investigating these parasites, and in January, 1900, he contributed a paper upon them to the Pathological Section of the Liverpool Medical Institution. I have had the pleasure of going over all his work with him and I cannot help coming to the conclusion that the bodies described as parasites are bodies *sui generis*—special organisms—and are not degenerations of cell protoplasm or of non-parasitic cell inclusions. It seems as if the almost daily increasing evidence is now too strong to permit of our simply listening to those sceptical persons who merely deny their existence without having ever hunted for them or even seen them. Where these bodies come from, where they go, or what they do, is nothing to the point for the moment. The question is, Do they exist? I have been convinced that they do exist.

A very reasonable question on the part of the doubter is this: Cannot these said parasites be found in structures other than carcinomata and sarcomata? After Russell's pronouncement many investigators said that this was so, but, as time has gone on, they have failed so far to prove their case. On the other hand, Mr. Plimmer's most extensive inquiries have gone all the other way. During the six years preceding 1899 he had examined microscopically 1278 cancers taken as they came from many parts and organs and of all possible varieties. Out of this number he has found the parasite in 1130 instances. Of the cases in which he failed to find them 63 were densely fibrous and atrophic, actually in process of spontaneous cure, and 23 were so degenerate that they would not stain. He has examined by his method gummata, typical histoid tumours of all kinds, tuberculous growths, glanders, actinomycotic growths, epithelium which had been artificially irritated, and normal tissues, and never in man in any instance has he seen any intra-cellular or extra-cellular bodies like the parasitic bodies he describes or any which had their reactions.

The opinion of Metchnikoff that the parasitic bodies were protozoa was for a while the dominant one with probably all investigators. But Dr. W. Russell's view that they were blastomycetes has been revived by two eminent Italian savants, whose names are at present in the mouths of all who are interested in the question. One of these is Professor Sanfelice, director of the Institute of Hygiene in the Royal University of Cagliari, and the other is Professor Roncali of Rome—the former working largely from the experimental point of view and the latter from the histological. Their opinion is distinctly that the parasites are blastomycetes. Mr. Plimmer, however, still holds to the protozoal view, as the better for provisional acceptance until more is known. It is clear that the question is not a vital one, and that, at all events, it does not in any way hinder the experimental work now going on and having for its object to prove that these bodies, when separated from the other constituents of a cancerous growth, when cultivated and the cultivated products implanted in animals, will be reproduced in these animals and originate cancer in them.

What, then, is the appearance of these parasites? As I have seen them in Dr. Buchanan's sections they are round cells possessing what would correspond to a central nucleus, a surrounding mass of indefinite protoplasm, and an enveloping cell-wall or enclosing capsule of some kind. These general features have been brought out by different investigators in different ways, but the plates published by them show a great uniformity in the general appearance of the parasite. The method of display pursued by Dr. Buchanan is this. As fixing reagents he used (1) a saturated solution of perchloride of mercury in 0·75 salt solution in which the specimen was placed for 24 hours and then transferred to methylated spirit to which had been added a few drops of saturated solution of iodine in alcohol; (2) bichromate of ammonia; and (3) Fleming's solution. As regards staining processes he found the Ehrlich-Biondi triple stain very good but apt to fade too quickly. Another method is to stain with Ehrlich's acid hæmatoxylin, wash in distilled water, and then "blue" in distilled water rendered faintly alkaline with lithium carbonate. Again, another method is, stain with saturated aqueous solution of fuchsin S. or carbol-fuchsin S., then dehydrate in absolute alcohol strongly tinged with aurantia, clear in clove oil, tinged with aurantia, and mount in xylo-balsam. The size of the cells is very various. Mr. Plimmer reckons them at from 0·004 millimetre to 0·04 millimetre or even more. I have seen some which have a circumferential row of fine dots disposed just within the capsule and others in which the nucleus has an appearance of being split up and the portions

[1] Lectures I. and II. were published in THE LANCET of March 10th and 24th, 1900, respectively.

[2] Parasitisme Intracellulaire des Néoplasies Cancereuses: Annales de l'Institut Pasteur, 1892.

[3] Journal of Pathology, 1892.

somewhat twisted. Again, there are some which have most delicate lines radiating from the centre to the circumference Some writers have described and figured quite an array of different forms of the parasite, but personally, possibly owing to my want of skill, I have not been able to make sure to myself of more than the varieties mentioned above. As far as regards their mode of reproduction, Mr. Plimmer is of opinion that it is by division into two by the process of budding, or that the nucleus divides into two while the capsule throws in septa which meet between these two halves and so divide the parasite into two Dr. Buchanan believes that reproduction is effected by sporing, although in his specimens I have not been able to make sure of anything definite as regards this point. In a recent interview which I had with Mr. Plimmer he most kindly showed me his specimens and gave me the very beautiful one which I show you to-night. Those of you who may care to turn back to his article in the *Practitioner* will see that Fig 1 in Plate 1 represents this in the most faithful manner. I also saw specimens identical with Fig. 8 in Plate 2, where the nucleus, becoming somewhat oval, had then divided into two.

I would like here to quote some of Dr. Buchanan's conclusions. He says: "By careful comparison I found in these bodies a constant recurrence of definite structure, a beauty and regularity of design marked by stages of enlargement and growth with many evidences of a truly developmental process. Degenerative processes are essentially irregular with no definite recurrence of form and with no beauty of design. I entertained two ideas. 1. That if these bodies were truly parasitic from without two conditions were necessary for their entrance into cells: (*a*) either they must be capable of movement constituting change of locality; or (*b*) the (epithelial) cancer cell must be capable of movement sufficient for it to enclose the parasite—or a combination of both conditions at one time. 2. That as a cancer is not a parasite [illegible] capable of movement and that its appearance in many cases is due to definite change of shape (such as is generally recognised in amœboid cells); that in its young state it enters a cell and there develops, dividing and re dividing into a number of spore like bodies which may eventually fill and swell the capsule into a cyst in which the spore bodies lie like a mulberry mass and the cyst resembles a sporocyst; that these spores eventually find exit from the capsule, probably through a special aperture, whence they infect other cells; that the parasites are probably fertilised to ensure reproduction, although the method has not yet been demonstrated; and that they are living entities introduced from without to whom the cancer cell occupies the position of a host.

It has been matter for wonder why, if the parasites are such well-defined bodies, they have not been noticed long ago. But the fact is that on any average tumour they are comparatively few in number and have to be searched for; and—a most important point—they are not to be found in the hard centre of a scirrhous mass at all, but only at the growing edges of a tumour The centre is largely composed of fibrous tissue and cells in course of degeneration. It is the inactive part of the tumour, where nature is making an effort at cure. All the vigorous proliferating epithelium is at the margin and it is only inside active cells that the parasite is found. Then the processes of staining required to display the parasites are very delicate and complicated and are really only the product of the last few years.

Ignoring, then, the question of whether the parasites are to be considered as yeasts and to be named "blastomycetes," or whether they are protozoa or coccidia, has anything experimental been done with them? I will begin with some recent observations made by my friend Mr. Keith [illegible] to the Liverpool Infirmary [illegible] to confirm the observations [illegible] Having obtained a fresh cancerous tumour he made into its outlying parts a series of some 20 or 30 incisions with a sterilised knife. Scrapings were taken from the edges of these incisions and inoculated on glucose agar. From this culture subcultures grown on wort agar and wort bouillon were employed and were plentiful after 24 hours' incubation at 37° C. From this, again, guinea pigs were inoculated by intra peritoneal injection of 1 cubic centimetre of a culture 48 hours old. They showed no symptoms of illness and were killed at periods of from two to six weeks after the injection. On opening the abdomen the omentum and general peritoneal surface were found to be studded with nodules from the size of a pea to that of a pin's head. To the naked eye nodules were visible in the lungs, liver, spleen, and kidneys. The parasites were found reproduced in the cultivations and in the inoculation growths. Mr Monsarrat employed f[illegible] [illegible]m, which he believes ve[illegible] [illegible]d picks them out from [illegible] th saturated solution of [illegible] in alcohol; place in ac[illegible] then wash in water, followed by two minutes in methyl violet 1 per cent, and two minutes in picric acid 25 per cent, and then transfer to clove oil until no more methyl violet will come off. The primary growths on the peritoneum are composed of proliferated endothelial cells. The organisms are present in considerable numbers, some within the cells but most outside them. This is contrary to what occurs in primary cancers in the human body where the extra-cellular parasites are few in number compared with the intra-cellular. In many of the nodules there is some attempt at the formation of a connective tissue capsule and in others the central parts are broken down. In the lungs the nodules are made up of endothelial cells; in each nodule there are organisms present and usually centrally situated. In the liver and spleen the nodules are very similar in appearance to the primary omental growths The origin of the cells composing them is doubtful. In the kidney, where, again, the nodules are of endothelial origin, the cells are derived from those lining the Malpighian corpuscles and tubules In no case was there any alveolar arrangement of the cells or any appearance resembling the endotheliomata of man. With regard to the cultures, the appearances agreed in the main with those described by Professor Sanfelice and Mr. Plimmer. Fresh specimens from them are spherical, they are from four to 10 micro-millimetres in diameter, and in most instances they take an aniline chromatin stain diffusely.

I think we may regard Mr. Monsarrat's work as quite confirmative of what Mr. Plimmer has detailed with such admirable clearness and precision in the Cancer Number of the *Practitioner*. There his own experiments on the same lines are to be found and also the fullest directions for staining according to the methods which he has found the best and which produce specimens at once beautiful and convincing. To anyone who wishes to know about the parasites of cancer this article is invaluable. But what has been briefly touched upon in this description regarding the results of the inoculation of animals with the parasite has been far outdone by Sanfelice, who began his researches in 1894, and whose last conclusions were published in 1899. Dr. W. Russell has written a most admirable summary of Sanfelice's last experiments[4] If you will allow me I will give you the barest outline of them Sanfelice was investigating the characters of blastomycetes when he found that some of them were pathogenic to animals and caused the growth of tumours in them. He selected a special organism for purposes of experiment, which he denominated the "saccharomyces neoformans" Inoculations of guinea pigs with it produced a general infection of the animal with the formation of tumours, consisting partly of masses of the parasite and partly of proliferation of the cells of the part The general microscopic appearance of the new growths seems to have been pretty much what Mr Plimmer has recorded as the result of his experiments and what Mr. Monsarrat has described as produced in his, as we have just noted Bodies were perceived having the appearance of what the earlier investigators described as coccidia (protozoa), and what Dr. Russell had described and regarded as blastomycetes. These bodies as found in the tumours differed somewhat from those in the cultures as regards appearance. He inoculated with pure cultures of the saccharomyces neoformans certain cats and found typical forms of Russell's bodies in the tissues. To make sure of the matter he investigated the tissues of normal cats but no parasites were found in them, although this occurred invariably after the injection of the special blastomyces. The cats, in short, were very susceptible. (Cats, by the way, are liable to cancer although not nearly in the same proportion as [illegible] perimenter proceeded to pass the [illegible] was experimenting through a number of dogs, that is from dog to dog. In two instances something very specially tending towards malignancy was produced. In one case the dog was

[4] THE LANCET, April 29th, 1899, p 1178

inoculated in the two posterior nipples with the blastomyces which had been passed through several dogs. The animal died 10 months later with tumours in both teats, showing [illegible] cking down of the skin with [illegible] inal and abdominal glands. [illegible] carcinoma. In the other [illegible] in both testicles died with adeno-carcinoma of these organs with [illegible] in the neighbourhood of the penis and [illegible] be true it will constitute a remarkable advance in the history of the parasitic view of cancer, m[illegible] it is considered that these experiments [illegible] cultures made from an or[illegible]. These he found much [illegible] ade from cancer. I have seen a microscopic section of a tumour produced after passing a blastomyces through many animals, but I confess I could not recognise in it a typical carcinoma, although it assuredly tended in that direction and had a certain amount of connective tissue in its composition.

If I were now asked what was the impression produced on my mind by what I have seen and read about the so-called "Russell's bodies" or "cancer parasites" I would put it briefly thus: 1. There is plainly a structure of a definite nature which is found in man at the [illegible] edges of carcinomata. It is not found i[illegible] or in any other neoplasm except sarc[illegible] regarded as a protozoon or coccidium, but most investigators seem now to regard it (as Dr. Russell did at first) as a blastomyces, which is a form of [illegible] reckoned to be a development stage of [illegible] parasites are inside the epithelial cancer cells, but some are outside. There is a stron[illegible] they spread by sporing, although much [illegible] on this point is wanted. How they get into or originate in the human body is not known, and what action, if any, they have upon the epithelial cells has not yet been demonstrated. But, admitting an action, it is doubtless that of an irritant to them, which causes them to proliferate. 2. There is no doubt that from these parasites cultivations in certain media can be made, and that when such are injected into animals growths are produced in them, mostly of a fatal character, which contain these parasites. 3. Sanfelice asserts that he can produce the same results in animals by the injection of a blastomyces obtained from a fruit juice; furthermore, that by passing the parasites through a series of animals a tumour is at length produced which is an adeno-carcinoma. On these points I cannot say anything of my own knowledge beyond what I have said a few sentences back regarding a section of such a tumour which I have seen. 4. That as yet there is no [illegible] cancer; [illegible] effect or a [illegible] during the [illegible] certain of [illegible] This is not the time for positive assertion; this is the time for patient experiment and the collection of facts.

OPERATIVE PROCEDURES IN MAMMARY CANCER.

When I left my medical school in 1862 my recollection of *operations for cancer of the breast was that they* [illegible] of local removals of the tumour of the most [illegible] description. If any glands were affected, not merely in the case of [illegible] t in all instances, *ipso facto* that was [illegible] eration. In 1867 Mr. C. H. Moore of [illegible] whose experience of cancer in the [illegible] rote what is [illegible] paper on "Inadequate Operations in [illegible] great many minds thinking, inasmuch as it was a revolt against constituted authority. It made me think, too, s[illegible] that I became deep[illegible] I hope tha[illegible] in what I am abou[illegible] be too self-satisfied with what [illegible] bled to take in it, but this does [illegible] for presenting to the medic[illegible] history of the operations for mammary cancer, seeing that the changes that have occurred in a very brief period have been of [illegible], and what has been done only a few years ago seems wonderfully soon forgotten. Well, then, during the 10 years following Mr. Moore's protest great progress was made by the persevering and bold manner in which Lister and Bryant and Annandale and Heath and other able surgeons attacked secondary glandular growths and demonstrated that all that was required for their safe removal was careful patient dissection. Among English-speaking surgeons Samuel Gross of Philadelphia was the next who made a notable move in favour of the free removal of breast cancers,[6] and to him much is due for the earnestness and enthusiasm with which he pushed his case—as will be remembered by all those who, like myself, had the privilege of being his friend.

My first paper on the subject was read to the Lancashire and Cheshire Branch of the British Medical Association in 1877 and was termed "A Plea for the More Free Removal of Cancerous Growths." In it I said: "I can point to several cases of hard scirrhus of the breast in which the whole mamma has been removed which have now remained well for years. There is no mystery about this, all that is required is to take the precaution to cut freely through sound texture. *But this is exactly what surgeons will not do.* I have over and over again watched a surgeon remove a breast and have seen him make his incisions so as to include a little elliptical bit of skin containing the nipple, after which he would proceed to scoop out the breast so as to get nice flaps, which fell easily together and covered in the wound. He never considered that in the brawny dotted skin over the tumour were already implanted the germs of the disease and that the most dangerous thing he could do was to leave plenty of skin—skin, one of the tissues above all others along which cancer cells love to make their way. I can safely affirm that in the great majority of operations for cancer which I have seen, and they are not a few, the cancer has not been removed root and branch. When the tumour has been carefully looked at after the excitement of the operation has been over there has generally been found some spot where everyone wished that a bit more had been taken away. Not long ago I was looking over some old illuminated manuscripts. Among other pictures of the tortures inflicted upon the faithful there was one in which a horrid wretch was represented w[illegible] knife mangling the body of a devout [illegible] lashed off one breast, the former site of which was represented by a great bleeding chasm, while with one hand he was [illegible] ining organ and with the other was pre[illegible] weep to lop it off also. I could not [illegible] I had this picture to hang up in the students' room in our school, not *in terrorem*, but as my idea of what most amputations of the breast ought to be: not a niggling, half-and-half digging out of the tumour [illegible] lical sweeping away of the whole mamma, skin [illegible] I have a very strong notion that it would not [illegible] plan when removing a breast always to clear out [illegible] ry glands whether we can feel anything wrong with [illegible] not; and I mean to try it. At present we only [illegible] the glands when we can distinctly feel them [illegible] and that frequently through a great deal of [illegible] a thick skin. How do we know they are not already affected? And then the patient disappears and doesn't return till the axilla is full and the great vessels are so mixed up with the disease that we despair about being able to clear everything out and so leave her alone. [illegible] By disabusing the lay mind of the unreasonable dread of operation the public will come to regard an [illegible] for cancer in the same light as they do an [illegible] for stone or for cataract; a bad job at the best, they will say, but still with a prospect of ultimate cure. They will come to us when their cancers are small and request us to remove them, and, if we could only extirpate them [illegible] what might we not expect? Have [illegible] t the results would be if all cancers [illegible] d when they were no bigger than [illegible] elapsed since I said the above words [illegible] ore to say now.

[illegible] s after the above—appeared Mr. Samuel W. Gross's admirable work on "Tumours of the Mammary Gland." In it occur the following sentences:—"This point [illegible] that the wiser course is to explore the [illegible] glands cannot [illegible] without. By clearing out that cavity in [illegible] may naturally expect to diminish, if n[illegible] local dissemination and remove foci of ger[illegible]

[6] Tumours of the Breast, 1880.

My next papers, on "Free Removal of Mammary Cancer with Extirpation of the Axillary Glands as a Necessary [illegible]" were read before the meeting of the [illegible] in Worcester in August, 1882, [illegible] of Liverpool in the same year. They are in purport the same paper. The results of 46 cases were given. May I quote a paragraph or two from this paper? I said, referring to my paper written in 1877: "In this paper it was asserted that surgeons do not remove cancers of the breast. After an interval of five years I feel obliged to re-assert the statement. Surgeons, as a rule, do not remove cancers of the breast. They persuade their patients that they do and they almost persuade themselves. But there is always that little bit which they leave behind and which they fondly hope will not grow because it is such a little bit. Alas! that so little leaven should leaven the whole lump. ..... In the present paper a principal object is to advocate the removal of the axillary glands as well as the breast in *all cases*, whether we can feel them enlarged or not; in fact, to make a clearing out of the axilla a necessary part of the operation for removal of the breast. I have been quietly practising this for three or four years, having been driven to the conclusion that it was the right thing to do by discovering that, even in those cases where certain glands could distinctly be felt enlarged when the axilla was opened, small ones were discovered which although most palpably affected were quite incapable of being affected from the outside. From this it follows that the usual fumbling in the axilla which is commonly practised is all nonsense. When the glands are as big as walnuts any first-year student can tell that they are affected. But what I wish with all earnestness to insist upon is that there is a stage—the earliest [illegible] certainly infected, although to the [illegible] skin, nothing amiss can be [illegible] his report upon a case of mammary scirrhus winds up with the stock phrase, 'Glands in the axilla n[illegible] with 'How do you kr[illegible] you can't feel them, [illegible]

In 1887 I read a paper to the Harveian Society of London, entitled "Extirpation of the Axillary Glands a Necessary Accompaniment [illegible] with details of 82 ca[illegible] have just alluded to, [illegible] me. "Having cleare[illegible] but leave it suspended by its upper and outer end. I next open the axilla and in so doing carry away a continuous mass of tissue upwards from the mamma [illegible] in it all the lymphatic vessels g[illegible] glands. This is an important [illegible] neglected. ..... I have tied the [illegible] a dozen times, and there was [illegible] afterwards between these cases [illegible] certain that careful ligature th[illegible] dangerous proceeding. Is it [illegible] pectoralis major? Very seldom, I think. I imagine that out of my 82 recorded cases it was not done more than two or three times. If the floor of the axilla has been widely opened and if the arm is properly drawn up you can feel with your finger quite well up to the clavicle and pinch or pull down glands from the very top of the cavity. Dividing the pectoral muscle adds somewhat to the tediousness of the [illegible] hough urging the employment of [illegible] peration than that usually per[illegible] em to prove that greater immunity [illegible] s obtained thereby, I had hoped [illegible] encouragement from the London surgeons present at the meeting. Exactly the reverse was the case. In the *International Journal of the Medical Sciences* (1888) is a mos[illegible] Mr. Samuel Gross in which he said: [illegible] at the Harveian Society i[illegible] surgeon reported 82 cases [illegible] with the axillary confer[illegible] [illegible] should be freely removed. Owen was the only member who gave cordial support to the procedure urged [illegible] Banks, the prevailing opinion being that the operat[illegible] was attended with an excessive mortality, and did[illegible]

[illegible] Mr. Thomas Smith, by the [illegible] o had never [illegible] considera[illegible] not render [illegible] returned to [illegible] g, but I am [illegible] Owen and I [illegible] mph of the [illegible] March 3rd, [illegible]

MR. BUTLIN'S VIEWS.

"Before I enter on the discussion of this question let me say that no personal feelin[illegible] those who hold the doctrine of [illegible] if I speak at any time warmly [illegible] is because the subject is one in [illegible] interest and on which I hold very decided opinions. [illegible] Dr. Gross and Mr. Banks, [illegible] of [illegible] e." [illegible] ind [illegible] and 1898.

1881. *From the Transactions of the International Medical Congress.*—Mr. Butlin said that he quite agreed with Dr. Gross that in the case of any tumour of suspicious character the sooner it was removed and the more freely it was removed the greater were the prospects of complete recovery; and further, he agreed thoroughly with Dr. Gross that in the c[illegible] tumours it was highly desirable to ex[illegible] the axilla, if there were [illegible] no definite [illegible] be detected. [illegible] felt running up into the axilla it was not necessary to search for the [illegible] vessels or to remove a large quantity [illegible] es in order to insure their removal [illegible] d Banks, these surgeons were in [illegible] mamma with all the skin which c[illegible] *fascia from the pectoral muscle*, [illegible] nles of the gland in the surrounding tissues, carrying the incision into the axilla, whether enlarged glands were previously felt there or not, [illegible] clearing out the glands and all easily removeable [illegible] tures. Both surgeons were impressed with the abso[illegible] necessity of very ext[illegible] patient [illegible] to be afforded a [illegible] nplete [illegible] very from the disea[illegible] ushed [illegible] teaching so far th[illegible] many [illegible] rents, although he [illegible] oreign than among English surgeons. Indeed, he was surprised to find how strong an opinion was expressed against it by some [illegible] at a recent meeting of [illegible] a paper by Mr. Bank[illegible] wholesale way of treat[illegible] it to be [illegible] would [illegible] opera[illegible] tion as that which was frequently practised in London and provincial hospitals, but was much more sweeping, for it included the whole of the skin over the breast and not merely over the tumour. In fact, the breast was, so to speak, lopped off as if the operation had been performed with a sword or a carving knife. Now, he quite admitted that if the entire breast was to be removed in every instance of cancer the operation [illegible] of this sweeping character. But he was strongly [illegible] removing the whole of the [illegible] ly wrong. [illegible] required [illegible] that the practice was [illegible] e removal [illegible] by all means let them be [illegible] enlarged and appear to be [illegible] cases in which there was a

doubtful fulness which was not apparent on the other side. But let no theoretical considerations lead them further than this, and on no account let the axilla be opened in search of diseased glands of the existence of which there was not the least outward or palpable sign. In reply to all the arguments he had brought forward Mr. Banks had at his command a very strong answer—viz., his results. He quite admitted, and with very great pleasure admitted, that, so far as his later results were concerned, they were the best he had ever seen from operations performed with the knife. The superiority of these statistics may be accounted for, not by the fact that the entire breast was removed in every instance, but because Mr. Banks was in the habit of sweeping away the disease itself and the surrounding textures in a fashion at which most operators would be horrified.

1898.—In the number of the *British Medical Journal* for Nov. 26th, 1898, Mr. Butlin wrote that he had read Professor Halsted's paper on the Results of Operations for the Cure of Cancer of the Breast (1894), and his results appeared to him to justify a thorough reconsideration of the subject of the operative surgery of cancer of the breast. This operation was suggested by a paper in Langenbeck's *Archiv* (1889) on the Causes of Local Recurrence of Cancer after Amputation by Dr. Heidenhain and he studied it along with a paper on the Surgical Anatomy of the Breast and Lymphatic Glands, reprinted from the *Edinburgh Medical Journal* (1892), which the author, Mr. Harold Stiles, had been so kind as to send him. Both authors had come to the conclusion, from a general and microscopical examination of a number of breasts which had been removed, that cancer of the breast rapidly extends back towards and then into the pectoral fascia, even when there appears to the naked eye to be a considerable interval between the posterior border of the tumour, and that the pectoral fascia is often very difficult to separate satisfactorily from the surface of the muscle. Looking back on his own clinical experience in order to see how far it seemed to be consistent with the investigations of Heidenhain and Stiles he could quickly remember several cases in which recurrence had taken place in the substance of the pectoral muscle after the removal of a cancer which appeared to be quite separate from the pectoral fascia and even after the fascia had been roughly dissected off. (Then followed a long description of Halsted's operation with Mr. Butlin's expressions of belief in its value.)

Now if any gentleman will take the trouble to turn up Mr. Butlin's work on "The Operative Surgery of Malignant Disease" he will find that the last chapter is devoted very largely to three things: (1) a subdued admiration of a certain Dr. Bougard of Brussels who used caustic paste for the destruction of cancerous mammæ as well as of the axillary glands down to the vicinity of the main vessels and nerves; (2) an advocacy of the mere removal of malignant tumours of the breast and nothing more, seeing that the evidence for the removal of the entire breast was only very partially true; and (3) a very sharp attack upon the doctrines then being promulgated by Dr. Gross and myself. Dr. Gross presently wrote these words: "Had so good a pathologist as Butlin been in possession of the facts derived from my practice and that of Kuester he would scarcely have given utterance to so pernicious a doctrine—a doctrine which, we fear, will so influence English surgeons as to counteract in great measure the recent advances that have been made in the treatment of carcinoma of the breast."

For myself I offer no criticism. I have merely quoted the *ipsissima verba* of Mr. Butlin in 1881, 1887, and 1898, and leave them to the consideration of the surgical profession.

HALSTED'S AND OTHER OPERATIONS.

In the *British Medical Journal* of Dec. 5th, 1898, is a very full description of Halsted's operation. It contains 15 paragraphs with very minute details down to the grasping of the tumour with the left hand and the scrupulous dissection of the axilla with "the sharpest possible knife." The only points of any fundamental importance in which it differs from the operation ascribed by Mr. Butlin to myself (just quoted) consist in the removal of the sternal portion of the pectoralis major and the division of the pectoralis minor with reflection of that muscle. This is described as necessary for the complete removal of the glands in the axilla. I desire entirely to dissent from this view. I do not believe it necessary; still less that the entire pectoralis major need be removed, as is now Dr. Halsted's present contention. If the arm be properly manipulated and the great pectoral well dragged upwards and inwards the very topmost point of the axilla can be cleaned out. Moreover, if there is any doubt at all, the great pectoral muscle can be cut across with very little trouble and then stitched together with catgut sutures, as I have every now and then done. In the Transactions of the American Surgical Association Dr. Halsted relates that he almost invariably cleans out the supra-clavicular region and that our rule ought to be, "Operate on the neck in every case." For this purpose, however, he does not divide the clavicle as he did five or six years ago, but, if it were very desirable to remove the supra-clavicular contents in one piece with the axillary contents and breast, one need not hesitate to excise, if necessary, even the entire clavicle. He considers the neck involvement is no more serious than the axillary and that the neck can be cleared out just as thoroughly as the axillary region. He believes that in the near future we shall remove the mediastinal contents at some of our primary operations.

With every wish to defer to the opinions of those from whom I differ I feel sure that they will permit me to state my views as plainly as many of them have stated theirs. Some little apology I may plead—viz., that I have removed the breast and cleared out the axilla over 250 times. It is a locality with which I am necessarily fairly familiar. Well, I have stated that I do not consider that carrying away the entire great pectoral muscle and dividing the small one are at all necessary for the satisfactory removal of the axillary contents. Moreover, I have given up attempting to get any good out of clearing out the supra-clavicular region. In former days when I thought I could remove any cancer I did a good many cases, but never one survived long. I do not say I will not do it again if an apparently suitable case occurs. I did it 12 months ago on a lady who had a small cancer situated about an inch below the clavicle which had directly affected the cervical glands, but it was a failure, as usual. Dr. Coley in the article "Cancer" in "Twentieth Century Practice of Medicine" says: "The only positive evidence Halsted's statistics afford us as to the value of this operation of cleaning out the supra-clavicular fossa rests upon two cases in which the operation was done secondarily and in which the patients remained well three and three and a half years after the operation. In view of what I have already said regarding the failure of a three-year limit as establishing a cure of the disease we cannot consider the question as settled with much stronger evidence." Natürlich! My notion is this, that when cancer has laid hold of the supra-clavicular glands it has got such a grip as to be past extirpation. It is like a burning house. When the fire is beginning even some buckets of water will put it out, when it has got to a certain pitch a whole fire brigade will not quench it. Moreover, an experienced fireman will tell you the minute he sees the fire whether he can put it out or not. Bennett May in his Ingleby Lectures for 1897 says that he thinks it very doubtful whether some of these modern extensive operative procedures confer any additional immunity from recurrence at all commensurate with their severity. It is clear that in both classes of operation the majority of fatal cases die from internal metastases without external recurrence, and against these no operation can protect. Dr. Matas of New Orleans at a meeting of the American Surgical Association in 1898 said, speaking of Halsted and Meyer's operations, that he firmly believed that surgery had there nearly reached, if it had not already attained, its maximum expression of effectiveness, beyond which it is absolutely impossible to advance without great risk to life or with any further expectation of increasing the chances of permanent recovery. I entirely agree with Mr. Marmaduke Sheild when he says that the swing of the pendulum of surgical opinion is generally too extreme and has now turned from too slight to too extensive operating.

One word more in reference to removing the great pectoral muscle. Do cancerous recurrences take place in the substance of that muscle? Are they found in the interval between the great and small pectoral muscles? Taking the latter query first, I have never seen such an occurrence. Referring to the first I believe that when the great pectoral muscle is the site of recurrent growths they creep into it from the subcutaneous tissues and pectoral fascia. They do not primarily originate in the muscle. There is, therefore, no need for its removal on that ground. No man in this country has had more experience of the pathology of cancer than Mr. H. G. Plimmer from his connexion as pathologist to the Cancer Hospital. In a conversation with him the

other day he perfectly concurred in this view, and, moreover, stated that he had never known anybody live long after distinct invasion of the supra-clavicular glands.

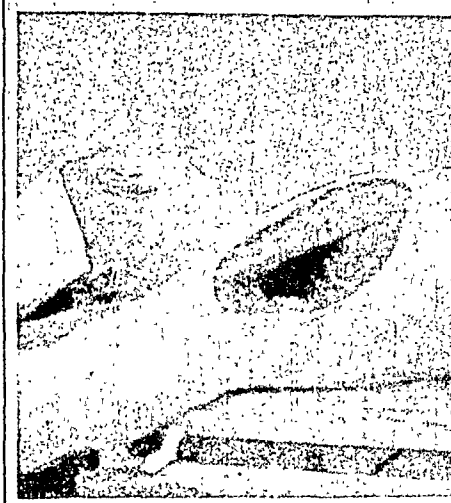
I think I need say very little concerning the operation of Berger which means removing the upper limb along with the scapula. It may be dismissed with the remark I once heard made by my friend Mr. Owen about another matter slightly altered from the French marshal's observation about Balaclava: "*C'est magnifique, mais ce n'est pas la chirurgie.*" Surely there are hypodermic syringes and morphia still in the land.

In the operations, the statistics of which I am about to present to you, my plan has been this. I never make angular, triangular, or multi-angular incisions, for they are a farce. I draw a circular "*ring fence*" with a knife outside the apparent limits of the mamma if the tumour is central, and if it is lateral the "ring fence" should bulge well beyond the tumour. I then slip the blade on the flat beneath the skin for about two inches and undercut it all round. This skin is then well pulled back at successive points by an assistant, and where the undercutting stops there the removal begins. So one gets a long way beyond the rough limits of the mamma proper. Then the tumour is removed and the fascia is dissected off the great pectoral muscle. The great advantage of the undercutting is that one can get the fascia off the muscle as far inwards as the sternum down to the ribs and up almost to the clavicle. As Mr. Butlin mentions, the removal of the fascia was one of the points dwelt upon by Dr. Gross and myself very many years ago. The axilla should then be opened by an incision just under the edge of the great pectoral and the upper end of the gland, and the whole contents of this cavity, as far as they can be held together, carried away in one mass. The importance of this lies in the fact that recurrence in the axilla takes place for the most part, not in glands that are left behind, but in fragments of lymphatic vessels. I feel convinced of that. A good plan is to get hold soon of the axillary vein and then there is nothing else to trouble about. One must take the matter very patiently, getting everything out of the cavity that can be got and cleaning up the digitations of the serratus magnus. On no account do I introduce the "sharpest possible knife" into the armpit or any knife at all. I use a dissecting tool, two very long strong pairs of dissecting forceps, and curved probe-pointed scissors. But everybody according to his taste except beginners, who ought not to use knives here. A drain hole should now be made just above the edge of the latissimus dorsi. Concerning the covering in of the great wound it is remarkable what can be done towards pulling it together by very strong wire and by the help of lead buttons. The very top of the axillary incision should be kept open. I put a little bit of gauze into this aperture and into the drain hole below. I wash my hands well with hot water and soap before operating. I pour hot water constantly over the wound during the operation and see that it is dry from blood at the end. I use no disinfectant fluids and I dress the wound with a piece of perchloride gauze and a pad of absorbent wool over it. I have used this plan of operating for over 20 years and have only altered it slightly in the following points. After reading my paper to the Harveian Society in 1887, so soon as I had recovered from my first discouragement I proceeded to remove more skin than ever, for I became more and more convinced that skin is the really dangerous tissue in this matter of cancer of the breast. Thiersch grafting was not then invented and so I had great difficulty in covering the big wounds. It was then that I began the practice of undercutting which I have demonstrated and taught ever since. If a wound of great size is left uncovered nowadays we have Thiersching to fall back upon. I have used it both at the time of operation and afterwards when granulation was going on, and I prefer the latter plan.

The accompanying reproduction of a photograph shows the result of the operation just described. The patient was a small woman, the carcinoma was of about the size of a walnut, and the affected glands were few in number and not big. It was, therefore, a proceeding of quite moderate dimensions. Just as I finished a sudden thought struck me to have it photographed. My house surgeon, Dr. Arkle, ran to his room for his camera and took a rapid picture. If it is not very successful the flurry of doing it in so much haste must account for that; nevertheless, it will give an idea of what I regard as the "complete" operation in opposition to the "redundant" variety. (See Fig. 7.) This lady was up and walking about on the twelfth day with the wound entirely healed, without a drop of suppuration, and without a degree of rise in temperature.

A view is being now taught that there is great danger of infecting the wound with the knife that has made the exploratory incision through the tumour. I have seen no evidence whatever to this effect and the extreme difficulty of getting the strongest cancer juice to reproduce anything in

FIG. 7.



The illustration shows the "complete" as opposed to the "redundant" operation.

any cultivation medium is not in favour of it. Besides, let the operator wash his knife if he is afraid of this accident.

Before leaving this subject I wish to make a few remarks and I find great difficulty in making them, so much do I fear lest what I may say should be regarded in any way as derogatory to the talents of two gentlemen for whom I have a very great admiration—Dr. Heidenhain and Mr. Stiles. In 1887 Mr. Butlin said with reference to mammary operations: "It was only during the writing of this book that I became impressed with the necessity for reconsideration of the subject." In 1898, in consequence of having read Dr. Halsted's paper, the results "appeared to me to justify a thorough reconsideration of the surgery of cancer of the breast." In this he was fortified by the work of Heidenhain and Stiles. Now the researches of these gentlemen on the minute lymphatics of the breast and neighbouring tissues and the way cancer creeps into them are of the greatest interest from an anatomical point of view. But I do not see that they have done anything very specially to influence the views of men who are occupied practically in endeavouring to eradicate mammary cancer. Dr. Coley says: "Still later in 1889 Heidenhain by his very careful and scientific investigations as to the manner in which cancer cells extend [illegible] into the neighbourin[illegible] [illegible] which Moore and [illegible] ons previously assu[illegible] results may be summed up in a few words. A cancerous tumour that has become sufficiently large to be recognised clinically has already scattered its infective cells throughout the entire breast, the neighbouring chain of glands and in many cases the fascia overlying the pectoral muscle." Quite so; but there was no surgeon in 1889 who did not know this as a matter of fact, although the matter had not been demonstrated by the microscope. It was not that surgeons did not know this, it was that they were not bold enough to act on their knowledge. In justice to myself and to the memory of my late friend Gross I think it rather hard that a certain group of surgeons should date the origin of the modern operative treatment of cancer from the microscopic investigations of Heidenhain and Stiles and the labours of Halsted and themselves.

TABLE OF STATISTICS.

Cases in which the Disease proved Fatal by Local Recurrence.

SERIES 1.—*(a) Cases which lived between One and Three Years.*

No.	Age.	Duration of life.	No.	Age.	Duration of life.
1	?	5 months.	26	40	1 year 4 months.
2	50	6 ,,	27	45	1 ,, 6 ,,
3	50	6 ,,	28	40	1 ,, 4 ,,
4	61	6 ,,	29	48	1 ,, 6 ,,
5	50	8 ,,	30	52	1 ,, 6 ,,
6	46	9 ,,	31	?	1 ,, 8 ,,
7	47	9 ,,	32	46	1 ,, 8 ,,
8	54	10 ,,	33	46	1 ,, 8 ,,
9	35	10 ,,	34	44	1 ,, 9 ,,
10	?	10 ,,	35	56	2 years.
11	41	11 ,,	36	45	2 ,,
12	33	1 year.	37	44	2 ,,
13	39	1 ,,	38	39	2 ,,
14	41	1 ,,	39	53	2 ,,
15	?	1 ,,	40	52	2 ,,
16	58	1 ,,	41	56	2 ,,
17	67	1 ,,	42	36	2 years 2 months.
18	46	1 ,,	43	42	2 ,, 1 ,,
19	60	1 year 1 month.	44	54	2 ,, 3 ,,
20	41	1 ,, 1 ,,	45	49	2 ,, 4 ,,
21	35	1 ,, 2 ,,	46	38	2 ,, 6 ,,
22	45	1 ,, 3 ,,	47	54	2 ,, 6 ,,
23	55	1 ,, 2 ,,	48	40	2 ,, 6 ,,
24	55	1 ,, 2 ,,	49	50	2 ,, 6 ,,
25	42	1 ,, 4 ,,			

(b) Cases which lived between Three and 14 Years.

50	40	3 years.	59	46	4 years 2 months.
51	52	3 years 2 months.	60	57	4 ,, 5 ,,
52	43	3 ,, 3 ,,	61	50	4 ,, 6 ,,
53	48	3 ,, 5 ,,	62	48	5 years.
54	50	3 ,, 6 ,,	63	34	5 years 7 months.
55	48	3 ,, 3 ,,	64	67	5 ,, 7 ,,
56	?	4 years.	65	36	7 ,, 3 ,,
57	43	4 ,,	66	50	12 years.
58	47	4 ,,	67	40	14 ,,

SERIES 2.—*Cases alive and remaining free from Disease.*

(a) From One to Three Years.

No.	Age.	Duration of life.	No.	Age.	Duration of life.
1	40	1 year 5 months.	6	56	2 years.
2	49	1 ,, 6 ,,	7	58	2 years 4 months.
3	39	1 ,, 8 ,,	8	57	2 ,, 5 ,,
4	(?)	1 ,, 10 ,,	9	53	2 ,, 5 ,,
5	54	1 ,, 10 ,,	10	56	2 ,, 6 ,,

(b) From Three to 21 Years.

11	56	3 years.	30	50	7 years 2 months.
12	45	3 ,,	31	55	7 ,, 6 ,,
13	24	3 ,,	32	51	8 years.
14	46	3 ,,	33	(?)	8 ,,
15	45	3 years 1 month.	34	63	8 years 2 months.
16	42	3 ,, 3 ,,	35	64	8 ,, 5 ,,
17	38	3 ,, 6 ,,	36	39	8 ,, 6 ,,
18	34	3 ,, 5 ,,	37	69	10 years.
19	50	4 ,, 4 ,,	38	62	10 ,,
20	50	4 ,, 10 ,,	39	40	10 years 3 months.
21	62	4 ,, 3 ,,	40	55	11 years.
22	54	5 years.	41	41	12 years 7 months.
23	31	5 years 5 months.	42	46	14 years.
24	50	5 ,, 6 ,,	43	52	14 years 3 months.
25	52	6 years.	44	53	14 ,, 6 ,,
26	45	6 years 9 months.	45	50	14 ,, 10 ,,
27	63	6 ,, 4 ,,	46	44	16 ,, 2 ,,
28	47	7 years.	47	42	17 ,, 10 ,,
29	43	7 ,,	48	49	21 years.

SERIES 3.—*Cases where the Patient Died without Local or General Return as far as Known.*

No.	Age.	Duration of life.	Cause of death.
1	48	2 months.	Died in asylum—mania (?).
2	56	1 year 4 months.	Acute pleurisy.
3	37	1 year.	Heart disease.
4	36	1 ,,	Childbirth.
5	43	1 ,,	Acute meningitis.
6	41	1 year 6 months.	Some nerve disease.
7	49	1 ,, 8 ,,	Acute pneumonia.
8	45	1 ,, 10 ,,	Sudden coma and collapse.
9	62	1 ,, 9 ,,	?
10	32	2 years.	?
11	46	2 years 6 months.	Bronchitis and heart disease.
12	57	2 ,, 11 ,,	Pneumonia.
13	?	2 ,, 6 ,,	Acute tuberculous phthisis (doctor's rep.).
14	56	2 ,, 8 ,,	Liver cirrhosis.
15	43	2 ,, 7 ,,	Phthisis and hæmoptysis.
16	54	3 years.	?
17	33	3 years 8 months.	Diabetes.
18	50	3 ,, 9 ,,	Acute bronchitis.
19	?	3 ,, 8 ,,	Do.
20	42	4 years.	Some cerebral disease.
21	63	4 ,,	Renal and general debility.
22	61	5 years 6 months.	"No secondary cancer" (doctor's rep.).
23	55	5 ,, 6 ,,	M. ?
24	43	6 years.	Pneumonia.
25	?	8 ,,	Apoplexy.
26	49	8 years 2 months.	?
27	55	9 years.	Heart disease.
28	43	9 years 3 months.	Apoplexy.
29	50	16 years.	Influenza.
30	53	18 ,,	"Weak heart" at 71 years.

SERIES 4.—*Cases with no Local but General Recurrence.*

No.	Age.	Duration of life.	Sites and causes of internal recurrence.
1	49	3 months.	Liver.
2	26	8 ,,	Lung.
3	42	1 year.	Cancerous pleurisy.
4	50	1 year 2 months.	Pelvic organs.
5	42	1 ,, 2 ,,	Humerus.
6	40	1 ,, 4 ,,	Liver.
7	53	1 ,, 6 ,,	Lung.
8	42	2 years.	Stomach—probably cancer.
9	61	2 years 1 month.	Spinal column.
10	35	2 ,, 6 months.	Lung.
11	40	3 years.	Lung—probably cancer.
12	49	3 ,,	Stomach.
13	51	3 years 1 month.	Rectum.
14	(?)	3 ,, 10 months.	Uterus.
15	56	3 ,, 10 ,,	Lung.
16	(?)	4 years.	Uterus and rectum.
17	40	4 ,,	Lung—probably cancer.
18	(?)	4 ,,	Lung.
19	33	4 ,,	Rectum.
20	62	4 years 10 months.	Cæcum.
21	52	5 years.	Rectum.
22	52	5 ,,	Œsophageal disease (?).
23	(?)	5 years 6 months.	"Relapse."
24	48	5 ,, 2 ,,	Lung.
25	67	7 years.	Lung.
26	49	7 years 2 months.	Stomach and Pleura.
27	(?)	7 ,, 4 ,,	Liver and rectum.
28	46	10 ,, 6 ,,	Ovary.
29	58	10 ,, 6 ,,	Liver.
30	38	14 years.	Stomach—probably cancer.

SERIES 5.—*Imperfect Cases in which it was found impossible to remove the whole Disease at the time of Operation.*

1	52	6 months.	5	61	1 year 6 months.
2	36	7 ,,	6	43	4 months.
3	51	7 ,,	7	54	2 years.
4	42	1 year 1 month.	—	—	—

SERIES 6. *Cases done under one year and about which nothing can as yet be said.*—16 cases have been operated upon during the past twelve months successfully.

SERIES 7. *Cases which recovered from operation but cannot be traced.*—These numbered 15; of whom one was alive after two years 10 months, another after two years six months, and a third after eight months.

SERIES 8.—*Cases Operated upon during 1896, 1897, 1898, 1899, and Three Months of 1900.*

No.		No.		No.	
	1896.		1897.		1899.
1	March	21	January.	42	December.
2	January.	22	February.	43	April.
3	November.	23	November.	44	March.
4	October.	24	September.	45	October.
5	November.	25	November	46	March.
6	August.	26	January.	47	January.
7	April.	27	May.	48	October
8	February.	28	March	49	January.
9	October.	29	June.	50	November.
10	August.	30	November.	51	August.
11	October		1898.	52	April.
12	December.	31	June.	53	April.
13	March.	32	November.	54	June.
14	December.	33	November.	55	July.
	1897.	34	June.	56	June.
		35	June.	57	April.
15	April	36	March.		1900.
16	December.	37	April.		
17	March.	38	September.	58	March.
18	April.	39	October.	59	March.
19	May.	40	December.	60	January.
20	October.	41	March.		

Among these 60 cases there was no fatal one.

The above table of statistics speaks for itself. I am sorry that during the removal from our old Liverpool Infirmary to the present one the histories of many cases were lost. But what I have laid before you have been collected with as much care and accuracy as I could give to the matter. Mistakes there may be, but I am certain that they cannot be sufficiently numerous to invalidate in any way any general conclusions that may be drawn from the table. The cases number 213, of which 175 are available for statistical comparison. In Series 1 it is noteworthy that of the 67 persons who died from local recurrence 17 lived for periods between three and 13 years. Series 2 shows 38 persons alive and well between three and 21 years after operation. To Series 3 it may be objected that I cannot prove that some of the patients did not die from internal recurrence. It is a fair argument and all I can reply is that I have taken all the pains I could to make sure of the causes of death and have put any doubtful ones into Series 4. But, after all, if a cancer of the breast seems a fit subject for removal we do not speculate on internal recurrence, for our business as surgeons is to find out whether we can eradicate the disease locally so that we may be able to give patients who apply early for relief a good prospect of future immunity. Now, the first four series comprise 175 patients and of these 108 have remained free from local recurrence. Of the 108 there have lived 73 over three years as follows: cases that lived between three and six years after operation, 40; cases that lived between seven and 14 years after operation, 28; and cases that lived between 16 and 21 years after operation, 5. Take from these 73 cases half a dozen in case of errors, and still it follows that for every one of my 67 failures I can [illegible] where the patient remained free from [illegible] With regard to tables of statistics in [illegible] taking percentages of small numbers of [illegible] published. The figures in a surgical article nowadays make it look like an extract from an accountant's report on a bankruptcy case. As for the Three Years' Cure System it, too, must be abolished if people are to be instructed fairly. Let no woman be reckoned cured of cancer of the breast till she is dead.

And now, gentlemen, I have only to thank you for the patient courtesy with which you have listened to my poor attempts in a line of surgery to which I have devoted the best efforts of my life during the past quarter of a century.

EXPLANATION OF THE ILLUSTRATIONS.—PARASITES IN MAMMARY [illegible]

FIG. 1.—Parasit[illegible] [illegible]lined. × 350.

FIG. 2.—Parasit[illegible] [illegible]cinoma. × 350.

FIG. 3.—A singl[illegible] mammary carcin[illegible] [illegible]Buchanan.

FIG. 4.—Group of parasites in a mammary carcinoma. × 350. Mr. Keith W. Monsarrat.

FIG. 5.—Cover-slip preparation of parasites cultivated on agar-[illegible] media from a mammary carcinoma. × 75. Low power. Mr. Keith W. Monsarrat.

FIG. 6.—Lung of guinea-pig [illegible] inoculation of cultivation, Fig. 5.

The specimens were prepared by [illegible] Monsarrat.

REMARKS ON THE PHYSICAL SIGNS OF PULMONARY DISEASE.

By P. H. PYE-SMITH, M.D. LOND., F.R.S.,
CONSULTING PHYSICIAN TO GUY'S HOSPITAL.

THE great step made by Laennec in scientific medicine was not the invention of an instrument, like the ophthalmoscope or the laryngoscope, for we can do without the stethoscope in auscultation; and Auenbrugger's discovery of percussion, made 50 years before, had been almost forgotten until Corvisart translated it in 1808. Mediate auscultation was the great discovery it was because Laennec was a morbid anatomist as well as a clinical physician and was thus able to compare intelligently his observations at the bedside with the anatomical facts of the dead-house. The same is true of Bright and albuminous nephritis and of the application of electricity to diagnosis by Duchenne and Erb. If diagnosis is to advance it must still go hand-in-hand with post-mortem inspections.

In forming a diagnosis we dep[illegible] partly on physical signs. The [illegible] nor important. We call dropsy [illegible] but why not a sign [illegible] and why [illegible] rather than a symptom of cirr[illegible] distinction would seem to be rather between symptoms which are subjective conditions of the patient's consciousness, such as pain of all kinds and degree, pruritus, inability to move, nausea, dyspnœa, amaurosis, diplopia, anorexia, and symptoms which are objective, recognised by the physician [illegible] such as [illegible] and [illegible] latter cannot. [illegible] called physical signs [illegible] ortant thing to notice [illegible] us only of physical conditions. The [illegible] e absence of a knee-jerk, the pre[illegible] sions, icterus, or pyrexia are all c[illegible] ney are physiological conditions [illegible] uses; whereas

the physiology of disease, the perversion of functions; they do not even tell us the nature of the solidification of a pulmonary lobe or that of the liquid which causes bubbles in a bronchus. The former may be due to hepatisation, compression by pleural effusion, or infiltration by cancer; the latter to the mixture of moving air with mucus or blood or pus, or beef-tea. Physical signs point only to physical conditions, not to pathological processes—hence it is undesirable to speak of "pneumonic" crepitation, of "bronchitic" râles, or "cavernous" breathing. This may be thought hypercritical, but I feel sure that I am right in deprecating the loose descriptive way of reporting the physical sounds of the chest by which each writer makes some new comparison or coins some new term. Nothing is more repellent to students and nothing makes reports of cases of pulmonary disease so tedious to read and so difficult to understand.

The essentials of auscultation of the lungs are, I venture to think, neither very numerous nor very difficult, and they admit of being stated in precise, definite, and recognised language. For instance, the difference between dulness and resonance is easy for even an untrained ear to appreciate, though the slight degrees of dulness need attention and experience to recognise. But a "boxy" note, "skodaic" resonance, "tympanitic dulness," a "flat" or "empty" (*leer* as Skoda called it) percussion sound—these terms are either indefinable or contradictory or tautological. A resonant sound is louder by amplitude of vibrations, longer by duration of vibrations, lower pitched by frequency of vibrations, and it possesses more tone—i.e., a greater proportion of regular overtones. A dull note is much less sonorous, much shorter in duration, higher in pitch, and above all is a mere toneless noise without any musical quality. Between the absolute dulness on percussion of a chest full of fluid or of the muscles of the thigh and the resonance of healthy lung there is doubtless every gradation; as, again, there is between healthy pulmonary resonance and the over-resonant note given out by the larynx on percussion, the "amphoric" note of pneumothorax, and the drum-like note of tympanites. But the whole difference is of degree, and there is no special "quality" of tone or *timbre*, as Piorry imagined, peculiar to the liver, the spleen, the muscles, the heart, or the solidified lung. One only of his delusive distinctions must, I think, be admitted—the kind of resonance which is produced on percussing a subcutaneous osteal surface, a solid but very elastic tissue. When three of the four characters of dulness above given are present, shortness, weakness, and high pitch, combined with one element of resonance—namely, the presence of "tone"—there results the so-called "tympanitic dulness" which may be easily imitated by tightening up a drumhead. The sound is then high-pitched, faint, and short, but it still has the musical quality due to regular overtones, and we instinctively infer that air is present in a tight cavity.

The practice of auscultation of the breathing has suffered even more than has that of percussion from needless refinements, inaccurate language, and vaguely descriptive or fancifully metaphoric terms. The healthy pulmonary murmur (wrongly called "vesicular," for whatever its mechanism its seat is certainly not in the alveoli) is, I am convinced, liable to considerable variation in healthy persons. It is loud when the chest is thin and faint when the walls are well clothed with fat and muscle. It is loud in children, and this "puerile" character is often mistaken for a morbid sign. Much of what is called "harsh" breathing is nothing but loud breathing, for a mere noise like the pulmonary murmur of health is apt to become harsh—i.e., unpleasant to the ear—when its loudness is much increased; and I would fain exclude the former epithet altogether. The distinction between a pulmonary breath-sound, however loud or harsh or "coarse" (another undesirable adjective) it may be, and bronchial, tubular, or tracheal breathing is one apparently difficult to catch. At least, most learners call puerile, exaggerated, or supplementary breathing "bronchial" and true bronchial breathing "amphoric."

I do not deny that there are gradations between vesicular and tubular which may if we please be recognised as "broncho-vesicular," "obscured," "veiled," or "transitional," but I am sure that they are rarely met with and that the less often such ambiguous terms are employed the better. Bronchial or tubular breath-sounds are almost always marked by prolonged expiration, but their distinctive character is what is called "blowing" or "puffing" or "whiffing"—i.e., the inspiratory and expiratory murmurs are more continuous, more equal in character as well as in duration, and have more tone than have those of vesicular breathing. Though often loud, tubular breath-sounds are often very weak. In fact, the loudness of the sounds heard over the larynx or trachea makes them somewhat misleading as an example of tubular breathing. In teaching this part of the subject I have always regarded the healthy "vesicular murmur" as the laryngeal murmur due to a fluid vein in the glottis modified by spongy lung, and not tubular respiration as the sound in the bronchial tubes transmitted by solid lung; and the same theory applies to bronchophony and vocal resonance, and also to tactile fremitus.

The adventitious pulmonary sounds were all described by Laennec as *râles* (in English, rattles) and the term is still used in this comprehensive sense by, I believe, all French, most German, and some American writers. But in England we have for half a century been accustomed to confine the word "râles" to "moist sounds" like the *râle muqueux*, and to use the term "rhonchus" for all "dry sounds," including the *râle sonore* or *rhonchus* of Laennec and his *râle sibilant*. "Moist" and "dry" are not happy descriptions of the râle and the rhonchus, for the mucous membrane of the trachea and bronchi are never dry, and it seems absurd to associate "dry" sounds with free expectoration. "Râle" and "rhonchus" as we use them are arbitrarily assigned, and the original meaning of the latter—"a snore"—would exclude sibilant rhonchus. Still the difference between the two kinds of adventitious breath-sounds is important and admits of exact definition, both as an auditory perception and as a physical phenomenon. Râles or moist sounds are interrupted, rhonchi or dry sounds are continuous; râles are caused by successive explosions of bubbles, rhonchi by a fluid vein. The loudness and the low pitch of a râle or a rhonchus are indicative of the larger size of tube, the trachea, or larger bronchi; faintness and shriller pitch lead one to refer them to the smaller bronchi. Moreover, in the case of râles a very few explosions give the impression of large bubbles in a large tube like the trachea, while a great number of them suggest to the listening ear small bubbles in a small bronchus. A much more important character and one which has been misapprehended by many writers is that between consonating and non-consonating râles. The former have a musical quality or at least some degree of tone, the latter are mere noises. The distinction is that felt by Laennec when he distinguished *râles crépitants* from *râles à grosses bulles*. The late Dr. George Barlow called the former "crackles" and the latter "rattles." Most writers speak of the former as "bright," "clear," "musical," or "metallic" râles, and the latter as "bubbling" râles. But all râles are bubbling, and the word "crepitant" does not in itself denote anything more definite than Laennec's comparison with the sound made by burning salt. No one who has auscultated with care can overlook the difference referred to, but it does not seem to be generally recognised that the difference between a "clear" or crackling râle and a bubbling râle is really that between more or less musical sounds with regular overtones, and mere noises without "tone." Moreover, the distinction is of great practical importance, which has not, I think, been clearly recognised by most writers on auscultation. The first kind, "non-consonating" or toneless râles, always imply a spongy condition of the lung, whereas râles with tone (consonating or crepitant) always point to solidification of the lung; the only exception being when they are rendered musical by the bubbles bursting in a large cavity filled with air, as in cases of a very large vomica or of pneumothorax. The peculiar and characteristic distinctions of true pneumonic crepitation are the large number—i.e., small size—of the detonations which compose it, and their eminently consonating and therefore wonderfully clear and distinct character.

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Fig. 1.

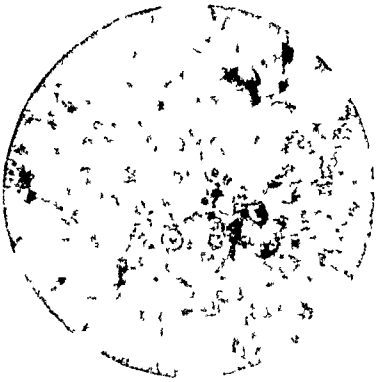


Fig. 2.

Fig. 3.

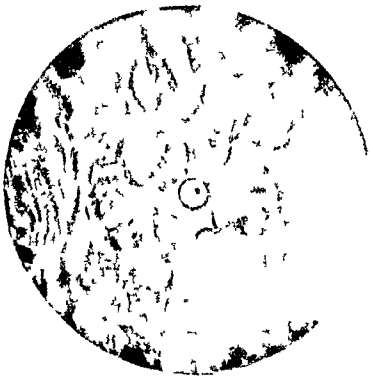


Fig. 4.

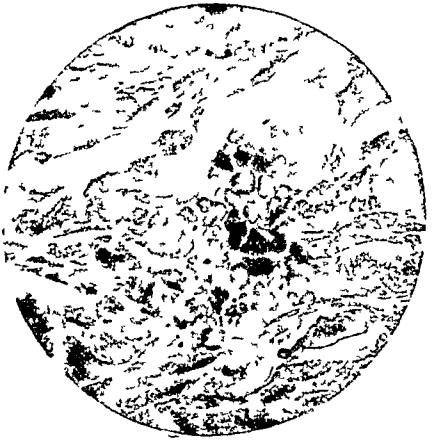


Fig. 5.

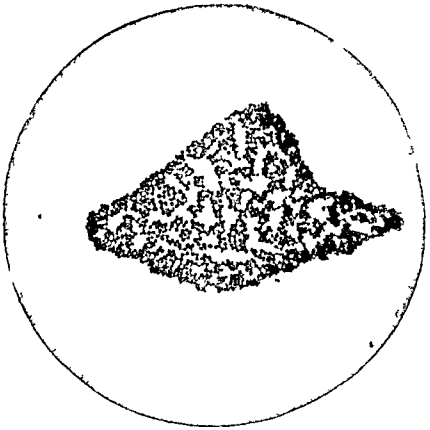
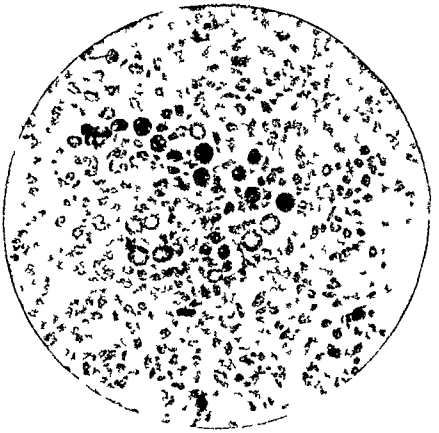


Fig. 6.



TO ILLUSTRATE THE LETTSOMIAN LECTURES ON CANCER OF THE BREAST,
BY SIR WILLIAM BANKS.

the physiology of disease, the perversion of functions; they do not even tell us the nature of the solidification of a pulmonary lobe or that of the liquid which causes bubbles in a bronchus. The former may be due to hepatisation, compression by pleural effusion, or infiltration by cancer; the latter to the mixture of moving air with mucus or blood or pus, or beef-tea. Physical signs point only to physical conditions, not to [illegible] hence it is undesirable to speak of "[illegible], of "bronchitic" râles, or "cavernous" breathing. This may be thought hypercritical, but I feel sure that I am right in deprecating the loose descriptive way of reporting the physical sounds of the chest by which each writer makes some new comparison or coins some new term. Nothing is more repellent to students and nothing makes reports of cases of pulmonary disease so tedious to read and so difficult to understand.

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capillary bronchioles or air-passages; but is there a form of bronchitis which spreads as far as the pulmonary lobules and no farther? I doubt it, and if I am right in the doubt does it not follow that capillary bronchitis of the aged is anatomically identical with lobular or catarrhal pneumonia (pulmonary catarrh) of children? The opportunities of seeing the lungs in the former case are much fewer than in the latter, but where I have had an opportunity I have seen some of the lobules hepatised in cases of suffocative bronchitis in old people. It is exceedingly rare for death to occur from bronchitis in early and middle adult life—twice only have I met with it. May we not say that (with similar rare exceptions) fatal acute bronchitis in children is lobular pneumonia with more or less collapse; that in age I patients also it is lobular pneumonia; and that in the periods between it is a secondary complication of acute miliary tuberculosis, of lobar pneumonia, or of phthisis? In cases of life assurance I have scarcely ever known a death reported as due to bronchitis between puberty and 60 years of age which did not on inquiry turn out to be phthisis or pneumonia, often disguised under the meaningless term of "congestion of the lungs."

With regard to the physical signs of phthisis, are we not too apt to look for the striking and interesting sounds which belong to its later stages, such as absolute subclavicular dulness, amphoric breathing, consonating râles, and the percussion note of the cracked pot? In early cases of the disease, when we are most concerned to detect and to treat it, do we often find decided dulness? I think not, and if we check our auscultation by our knowledge of anatomy we cannot expect it; for at this early period the tubercles and pneumonic patches affect only separate lobules or alveoli or inter-alveolar passages, and such an affected area (only observed after death when there are more advanced changes in other parts) does not sink in water. Moreover, even in chronic cases we often find so much vesicular emphysema at the necropsy that it is no wonder that small patches of consolidation fail to deaden the percussion note. For resonance spreads, but dulness does not. From observation on the lobular pneumonia (pulmonary catarrh) of children I am convinced that isolated lobules in a hepatised state do not appreciably affect the percussion note of the chest; it is only when three or four contiguous lobules are solidified that we recognise the dulness which they produce. Even in the later stages of phthisis I am convinced from post-mortem experience that the subclavicular dulness i ning and adhesions—no doubt ot to extensive consolidation of why we not infrequently find a flattening under the clavicle with deficient resonance, and yet the breath-sounds are not bronchial in character nor is the vocal resonance altered. Another cause of complete dulness at one apex is the presence of a large cavity. This never, I believe, gives a resonant note. Such large cavities are always surrounded by a dense thick capsule of fibrous tissue and are adherent to the chest wall. They can only form slowly and therefore they belong to the most chronic cases—i.e., to the most resistant and the most hopeful; whereas when there are very slight dulness and no other striking signs, only non consonating râles and prolonged expiration, if there are fever, wasting, and diarrhœa, we have to deal with a rapid and almost hopeless form of the disease.

Brook street, W.

THE SURGICAL TREATMENT OF DILATATION OF THE STOMACH.[1]

By LEONARD A. BIDWELL, F.R.C.S.ENG.,
SENIOR ASSISTANT SURGEON TO THE WEST LONDON HOSPITAL, DEAN OF THE POST GRADUATE COLLEGE, ETC.

THE following are the principal causes of dilatation of the stomach: (1) cicatrical contraction of the pylorus, due usually to old gastric ulcer; (2) malignant disease of the pylorus; (3) adhesions outside the pylorus; (4) gastroptosis; (5) spasm of the pylorus from ulcer or from excess of free hydrochloric acid; (6) atony (?); (7) various neuroses; and (8) floating kidney on the right side. It is only to the first three of these causes that I can refer in this paper.

With regard to diagnosis, the following are the principal methods of examining the stomach: (1) inspection; (2) palpation; (3) percussion; (4) auscultation; (5) intubation; (6) artificial distension of the stomach with gas; and (7) the chemical examination of the stomach contents. It would take too long to refer to these methods in detail, but I would point out that on inspection of a case of pyloric stenosis one often sees, not only a rounded tumour caused by the dilated stomach, but waves of peristalsis passing across the abdomen from left to right. The methods of palpation and percussion are so well known that nothing need be said on them. I might, however, mention that by auscultation we may hear splashing sounds within the stomach and bubbling of gas in the region of the pylorus. Intubation is a most valuable method, and its use should never be omitted in the examination of a case of dilated stomach, except where active ulceration is strongly suspected. A soft rubber tube is swallowed by the patient with practically no discomfort, the stomach contents can then be evacuated by expression of the stomach or by the attachment of a syphon tube. It is usual, half an hour before using the tube, to give Ewald's test breakfast, which consists of a plain roll and half a pint of warm water or weak tea; the fluid obtained after extraction is available for the application of chemical tests. To cause artificial distension of the stomach the two constituent parts of a seidlitz powder may be given separately in a little water. The carbonic acid gas thus generated causes dilatation of the stomach and enables one to define its limits with precision. This method, however, causes considerable discomfort to the patient, since carbonic acid gas produces spasm of the pylorus; less discomfort is experienced if the stomach be distended by air pumped into the stomach by means of the stomach tube. The chemical examination of the stomach contents is undertaken to determine whether there is an excess or absence of free hydrochloric acid and of lactic acid or acid lactates. The simplest test for hydrochloric acid is a solution of phloroglucin and vanillin in absolute alcohol. A few drops of this are placed in a china plate and a drop of the stomach filtrate is placed close to it, so that the edges of the two drops coalesce. The plate is then warmed, and if any free hydrochloric acid is present a red tinge appears; the amount can be estimated by making a control test with a 1 per cent. solution of the acid. The easiest test for lactic acid or acid lactates is to place a few drops of neutral ferric chloride solution in three drachms of 1 in 20 carbolic acid, and then add water until an amethyst-blue colour results; a few drops of the stomach filtrate added to this will produce a yellow colouration if lactic acid or acid lactates be present.

These tests are of importance in distinguishing between the various forms of dilated stomach; thus in malignant disease we usually get an excess of lactic acid and an entire absence of hydrochloric, and in gastric ulcer or cicatricial contraction due to this we find an excess of free hydrochloric acid, and in dilatation due to gastroptosis or to neuroses we find the amount of free hydrochloric acid fairly normal. The foregoing, however, is not absolutely correct, and I have obtained false information in two of my series of cases. In No. 13, which was advanced malignant disease, an excess of free hydrochloric acid was demonstrated, and in No. 12 there was an entire absence of free hydrochloric acid, although the dilatation was due to cicatricial contraction. The presence or absence of a tumour is not of much value in the diagnosis of a case, although in some cases one can be felt in the region of the pylorus; and when the stomach has been much dilated this tumour may be freely moveable and may be found even as low as the iliac fossa. As a general rule, however, in malignant disease, if a tumour can be felt, the case will prove to be too far advanced for radical treatment, and its absence is certainly no evidence against the existence of this disease; on the other hand, a distinct nodule can sometimes be felt in cicatricial stenosis, and a small moveable tumour was felt before operation in No. 10 and No. 11. Another well-recognised symptom of malignant disease—viz., coffee-ground vomit—is often not present till late in the case, and so its absence is of no clinical importance.

Briefly, then, the symptoms of malignant disease of the pylorus which would indicate surgical interference are: (1) pain, usually localised to the pyloric region and felt in

[1] A paper read before the West London Medico-Chirurgical Society on Jan. 5th, 1900.

OPERATIONS FOR DILATED STOMACH.

No.	Date.	Sex.	Age.	Place.	Disease.	Operation.	Result.	Remarks.
1	August 8th, 1893.	M.	69	Private.	Carcinoma of pylorus.	Gastro-enterostomy.	C.	—
2	Dec. 10th, 1894.	F.	31	West London Hospital.	"	"	D.	Death on the tenth day from broncho pneumonia.
3	July 7th, 1899.	M.	56	"	"	"	C.	Pylorectomy later, vide No. 15.
4	July 26th, 1899.	M.	34	"	"	"	C.	Pylorectomy later, vide No. 16.
5	August 21st, 1899.	F.	63	Private.	"	Gastro enterostomy for gastric fistula.	D.	Death on the seventh day from exhaustion.
6	Nov. 11th, 1899.	F.	50	Watford Cottage Hospital.	"	Gastro-enterostomy.	C.	—
7	Dec. 16th, 1899.	F.	56	West London Hospital.	"	"	D.	Death on the ninth day from peritonitis.
8	Jan. 3rd, 1897.	F.	39	"	Cicatricial stenosis of pylorus.	"	R.	Vide No. 12.
9	June 5th, 1897.	F.	40	"	Adhesions round pylorus after gastric ulcer.	Separation of adhesion.	C.	—
10	Feb. 7th, 1895.	M.	54	"	Cicatricial stenosis of pylorus.	Loreta's operation.	C.	—
11	May 19th, 1899.	F.	62	Private.	Cicatricial stenosis of pylorus.	Pyloroplasty.	C.	—
12	Nov. 15th, 1899.	F.	42	West London Hospital.	Cicatricial stenosis of pylorus.	"	C.	Same patient as No. 8.
13	June 28th, 1899.	F.	44	"	Carcinoma of pylorus.	"	D.	Death on the sixth day from exhaustion.
14	May 20th, 1899.	M.		"	"	Pylorectomy by Kocher's method.	D.	Death on the sixth day from kink of jejunum.
15	July 25th, 1899.	M.	56	"	"	Pylorectomy.	C.	Same patient as No. 3.
16	August 8th, 1899.	M.	34	"	"	"	C.	Same patient as No. 4.

16 cases—5 deaths { 11 malignant ... 5 deaths. Mortality = 45·4 per cent.
5 non-malignant ... no death.

the back; (2) signs of dilatation of the stomach; (3) retching and vomiting, usually only after solids; (4) peristaltic waves seen over the stomach area; (5) absence of free hydrochloric acid from the fluid obtained on passage of the stomach-tube or from the vomited matter; (6) progressive emaciation; (7) obstinate constipation; and (8) progressive anæmia. The age of the patient has also to be considered, for as a rule dilatation in patients under 40 years of age is due to cicatricial contraction, since malignant disease is uncommon under that age. However, in two of my cases, No. 2 and No. 4, malignant disease was present at the ages of 31 and 34 years respectively.

The surgical procedures which are undertaken for the relief of dilated stomach vary with the cause. In malignant disease they are either pylorectomy or gastro-enterostomy; in non-malignant stenosis they are either pyloroplasty, gastro-enterostomy, Loreta's operation, pylorectomy, or division of adhesions. In gastroptosis and neurotic cases lavage and massage will usually suffice, but in obstinate or long-standing cases, where the dilatation does not yield to these means, the following operations may be undertaken. In gastroptosis the stomach may be stitched to the parietal peritoneum (gastropexy), and in simple dilatation the capacity of the stomach can be diminished by folding in and suturing a portion of the anterior wall of the organ (gastroplication). I think that I can best illustrate some of these methods of treatment by a brief review of the 16 operations on the stomach which I have performed and which are set out in tabular form. Eleven of these were for malignant disease and five of the patients died within a fortnight, the remainder living some months, and five were operations for cicatricial stenosis, all of which were successful. Of the malignant cases seven operations were gastro-enterostomies with three deaths, three were pylorectomies with one death, and one was a fatal pyloroplasty. The causes of death were as follows: one patient (gastro-enterostomy) died from broncho-pneumonia on the tenth day; the second patient died from exhaustion from a gastric fistula, for which the operation had been done; and in the third case the patient died on the ninth day, the necropsy showing that, although all the stitches held firmly and no place could be found from which extravasation had occurred, a collection of pus existed behind the stomach. In the case of pylorectomy life was lost by an accident, death occurring on the sixth day from kinking of the jejunum produced by the adhesion of a coil of gut to the surface of the stomach; both intestinal and stomach wounds were water-tight and no extravasation had taken place. In the case of pyloroplasty the patient died from exhaustion on the sixth day and although the stomach wall had been sutured close to the growth the stitches had held perfectly and there had not been any extravasation.

The mortality of these cases appears large, but I must point out that the whole series of cases, with the exception of two, were suffering from advanced malignant disease with evident tumour, and were worn out by long-standing and frequent vomiting. In such cases the peptic glands seem to lose their power of secretion, and the long absence of food from the intestinal tract appears to destroy the patient's power of assimilating nourishment when it is given after a gastro-enterostomy. Finally, I would mention that I have made no selection of cases and have quite disregarded the effect on my statistics in considering the question whether an operation gave any hope of relief or comfort to the patient.

Of the patients who recovered one died two months later, but the patients in the other cases are still alive. All the gastro enterostomies were performed by Halsted's method for lateral anastomosis, by sutures alone without any apparatus, and in all but one the jejunum was attached to the posterior surface of the stomach so as to prevent regurgitation of bile and intestinal contents into the stomach. In the successful cases of pylorectomy a posterior gastro-enterostomy was performed a fortnight before the removal of the growth, the patient receiving plenty of nourishment by the mouth between the two operations. In the fatal case the operation was performed by Kocher's method and would have been successful but for the occurrence of a kink in the jejunum. I would like to refer in fuller detail to one of the successful cases of pylorectomy (No. 3 and No. 15 in the table).

A healthy-looking man was admitted into the West London Hospital, under the care of Dr. J. B. Ball, in July, 1899. He had been suffering for some months from indigestion and vomiting and on examination a dilated stomach was found. The vomiting became less frequent when the patient was kept in bed on a limited diet, but the dilatation of the stomach remained, the lower limit of the organ being two inches below the umbilicus; waves of peristaltic contraction also could be seen passing

excess of lactic acid. The stomach having been washed out previously to the operation the abdomen was opened in the middle line above the umbilicus and a small growth was found involving the pylorus, which, however, was freely moveable and no glands were affected. It was clearly a suitable case for pyloroctomy, but as the risk of this operation is lessened when the operation is performed in two stages it was decided to do gastro enterostomy only in the first instance; accordingly a hole was torn through the gastro colic omentum and the posterior surface of the stomach exposed; a piece of jejunum was then picked up and turned round on its axis and held to the posterior surface of the stomach by an assistant; the two pieces of gut were then united by a row of quilt sutures passing through the peritoneal, muscular, and submucous coats. A lateral anastomosis was then effected, all the sutures being passed before the opening in the stomach and jejunum were made; this opening was about two and a half inches in length. The abdominal wound was closed in layers. The patient made an uneventful recovery, and took plenty of nourishment by the mouth. 18 days later the scar was re opened and the pyloric tumour was brought out of the wound; an elastic ligature was placed round the duodenum and the stomach was compressed between the fingers of an assistant. The gastro-co[illegible] were then divided after the [illegible] g the portion to be removed, a[illegible] amps on each side of the tumour, the whole mass was cut away with scissors. The cut end of the stomach was invaginated upon itself and secured by a continuous suture going through all the coats, and then with another suture going through the peritoneal and muscular coats only. The end of the duodenum was treated in a similar way. The patient had no discomfort after the second operation, and commenced feeding by the mouth on the following day; he made an uneventful recovery and left for a convalescent home a month later.

Turning now to the non-malignant cases we have a series of five operations on four cases.

The first case (No. 8 and No. 12 in the table) was that of a woman, aged 39 years, whose stomach was enormously distended and extended down to the iliac fossa; she was not emaciated, and gave a vague history of previous gastric ulcer. On opening the abdomen a small hard mass was found at the pylorus and enlarged glands were felt extending up to the hilus of the liver. Under the impression that the disease was malignant and incapable of removal, a posterior gastro-enterostomy was performed. This was done in January, 1897. The stomach regained its normal size and the patient becoming quite well and plump. A couple of years later the stomach again began to dilate and as it was evident that the anastomotic opening was contracting another operation was advised. On re-opening the abdomen the growth at the pylorus was found to be smaller and the enlarged glands could no longer be felt. As the obstruction was evidently cicatricial in origin it was decided to perform a pyloroplasty. This was done and the patient made a perfect recovery.

The next case (No. 10 in the table) was that of a man, aged 54 years, who had very severe pain in the pyloric region, together with some dilatation of the stomach. Peristaltic waves could be seen passing over the stomach and a small moveable tumour could be felt in the pyloric region on deep palpation. On opening the abdomen a small hard tumour was found involving the pylorus, but as the evidence was against malignancy an incision was made into the anterior surface of the stomach and the pylorus was dilated [illegible] according to Loreta's method. The patient [illegible], I think, of sufficient [illegible] ount, and I will take this opportunity of describing the operation of pyloroplasty. A woman, aged 62 years, came under my care in May, 1899, with the following history. She had had good health till 15 [illegible] quantity of blood; [illegible] r trouble for about [illegible] of so called influenza, which left her very weak. She had lost weight (about three stone) during the last 14 months, and had suffered from gastric pain, flatulence, vomiting, and constipation. She regained one stone under diet and treatment, but continued to vomit an enormous quantity about once a days before, since when she had been vomiting daily, and had lost seven pounds in weight during the past month. On examination the stomach was found to be dilated, its lower border extending a hand's breadth below the umbilicus; a very moveable tumour of the size of a hen's egg could be felt about midway between the umbilicus and the right anterior superior iliac spine. The vomit was tested and found to contain an excess of free hydrochloric acid. The patient was anæsthetised by Mr. Stormont Murray on May 19th, 1899, and I operated with the assistance of my colleague, Mr. G. L. Cheatle. The abdomen was opened in the middle line above the umbilicus, and an enormously dilated stomach was found. The small moveable tumour felt before the operation proved to be the pylorus, and although a small gland could be felt in the gastro hepatic omentum, the tumour appeared to be cicatricial in nature, and the chemical examination of the stomach contents bore out this view. It was, therefore, decided to perform a pyloroplasty. An incision about two and a half inches long was made over the long axis of the tumour extending for one inch on each side into the stomach and duodenum beyond the stricture. The stomach was emptied by means of a large drainage-tube, and had to be emptied again before the close of the operation on account of the amount of mucus secreted. The pylorus was then completely divided with scissors in the line of the horizontal incision, and the extremity of the incision in the stomach was brought opposite to and united to the extremity of the incision in the duodenum, so as to convert the horizontal incision into a vertical one; the wound was sewn up first with a continuous suture, uniting all the coats, and then with two continuous quilt sutures involving the peritoneal, muscular, and submucous coats only. On completion of the operation the new pyloric opening admitted three fingers readily. The patient did not suffer from any shock and only vomited during the first 24 hours after the operation, during which time she had nothing but hot water by the mouth; on the following day she had half-ounce doses of barley-water or Valentine's meat-juice and water, together with nutrient enemata and suppositories. On May 21st the amount of nourishment was increased to two ounces at a time, and the nutrient enemata were discontinued; on the 22nd the nutriment was increased to five ounces and eggs and jelly were added; on the 23rd custard pudding was allowed and the nutrient suppositories were stopped. She was kept on slop diet till the 29th, when a sole was given, and a day later she had chicken. Her recovery was perfect, and I saw her three months ago, when she informed me that she was in perfect health.

The last case (No. 9 in the table) was that of a woman, aged 40 years, who had been admitted into the West London Hospital with a severe attack of hæmatemesis and pain. She was kept on a rigid diet and in bed, but at the end of a month she still complained of violent pain and there were sig[illegible] abdomen was opened in [illegible] was found that the [illegible] n the region of the [illegible] r ligature without [illegible] esult that the dilatation was relieved.

This series of cases, I think, shows that operations for non malignant stenosis of the pylorus are very successful, the mortality in my cases being *nil*, and unless the case be left too late and the patient become exhausted, with frequent vomiting, &c., there is no reason why the operation should not be absolutely successful. As an illustration of the safety of gastro enterostomy in non-malignant disease I would mention a series of 21 cases without a death reported by Doyen of Paris. The most desirable operation in non-malignant stricture is, I think, pyloroplasty, since the opening in gastro enterostomy seems to have a great tendency to contract. The same remark applies to Loreta's operation. The mortality of pyloroplasty is uncertain—it is stated by Michalicz to be 11 per cent., but I am inclined to think this too high in non-malignant cases.

In malignant cases there is absolutely no question that the fatal issue in nearly all the cases was due to the delay in seeking operative relief, and I am inclined to think that an operation undertaken in the early stages of malignant stricture will not be followed by a much higher mortality than a similar procedure in a cicatricial stenosis. The important point, then, is to make an early diagnosis. Unfortunately this

is a great difficulty, and so an exploratory operation is to be recommended in doubtful cases. With regard to the nature of the operation, in cases where no tumour can be felt by palpation and only a small one is found on opening the abdomen, pylorectomy should be performed, but I believe that the risk of this operation is gre[illegible] in two stages—viz., first do a [illegible] when the patient has been fe[illegible] ays so as to build up the strength, the abdomen should be reopened and the pyloric growth removed in the manner already described. In cases of advanced malignant diseases, where a large tumour can be felt beforehand, and when on opening the abdomen adhesions and glands are found, a gastro-enterostomy will give considerable temporary relief; the pain and vomiting being lessened and the dilatation of the stomach subsiding. I might mention that I should not do pyloroplasty in another case of carcinoma as it is most important to have a perfectly healthy stomach for the insertion of the sutures.

Finally, I would point out that after all these operations on the stomach the patients were fed by the mouth on the day following the operation, and the amount of nourishment was gradually increased till about the twelfth day, when ordinary diet was given; no bad result was traceable to early feeding.

Wimpole street, W.

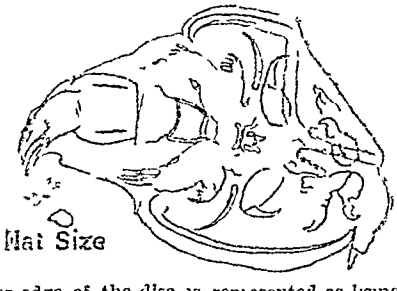
A PARASITIC CRUSTACEAN AS A FOREIGN BODY ON THE CORNEA.

BY RAYNER D. BATTEN, M.D, B.S. LOND,
SURGEON TO THE WESTERN OPHTHALMIC HOSPITAL.

THE patient, a fishmonger, came to me at the Western Ophthalmic Hospital, having had some irritation in his left eye, for which he had been under treatment for some days without improvement. He had been told that he had an ulcer on the cornea. He had no recollection of having got anything into his eye.

On examination I found a small oval vesicle about two millimetres in diameter situated at the upper margin of the cornea. The condition of the cornea, I may say, completely puzzled me. I was unable to make any diagnosis beyond "a growth on the cornea." I give the description of the appearance as I noted it at the time, although it is obviously wrong in some points: "At the upper margin of the cornea there is a small clear vesicle; its central portion is slightly prominent, forming a low round-topped 'kopje' surrounded by a shallow trench. The mass appears to contain small white flakes enclosed in a capsule." I thought that there was no loss of corneal surface, but, rather to my surprise, on applying fluorescin, the whole vesicle appeared to stain green. The appearance of a trench or depression round the vesicle was, I suppose, caused by the light-reflex from the edge of the suctorial disc of the animal. The staining with fluorescin may have been due either to the animal itself staining, or to the roughened surface of the cornea below the animal accepting the stain.

I prescribed some perchloride lotion and other treatment, but without any effect. A week later, thinking that it might



The upper edge of the disc is represented as being turned down, though, as the whole animal is transparent, the edge there was not actually discernible. In all other respects the drawing is accurate.

be a vesicle containing lymph, I decided to scrape it, but on applying a spud for this purpose the whole mass lifted off the cornea, leaving only a slightly roughened surface. The patient had no further trouble. I sent the specimen to Mr. S. F. Harmer, D.Sc., F R S, of Cambridge, who very kindly examined it and reported as follows: "The parasite is a very obvious crustacean, belonging to the order copepoda, which includes many fish parasites. It certainly comes within the family caligidæ, and I think in the genus caligus. It is most probably caligus curtus.[1] The case is a very interesting one. The animal is certainly a fish parasite and I think it almost incredible that it should have got on to the eye in any other way than the one you suggest—namely, by the man rubbing his eye after handling a fish, or in some similar manner. The species I think it belongs to is common on turbot, various species of cod, and so on. Did you notice if it was dead when you removed it? You have, of course, noticed that it has strong hooks for attachment to its host. These might have got fixed in the cornea and remained so after the death of the parasite. I hardly think a marine crustacean could really live on a man's eye."

I was unable to determine whether the animal was alive, as at the time I removed it I had not got a microscope by me; but I thought it had slightly shifted its position during the week I had it under observation.

Harley-street, W.

THE USES OF OXYGEN INHALATION.

BY PERCY G. LODGE, L S A. LOND.

OF late I have frequently tried this plan of treatment. The few cases enumerated will give a fair idea of the practical side of the question. Perhaps some of those gentlemen whose experiences are greater than my own may be persuaded to record them from the perusal of this short article. In health we can get all the oxygen we require from the air, but with pathological changes the supply is obviously interfered with. The respiratory quotient will generally be altered and theoretically the increased percentage of oxygen which can be brought into the chest by inhalation ought to be often of great value. The observations of changes in pulse, temperature, and respiration have been carefully noted. The table inserted will graphically show the method employed. The figures are from a case of empyema not completed and still under treatment.

Changes in Pulse, Respiration, and Temperature in a Case of Empyema.

Before the administration of oxygen.			
Nov. 11th, 1899	Pulse beats per minute.	Respirations per minute.	Temperature
5 A.M.	88	24	100 4° F.
8 A.M.	80	30	99 8° F.
1 30 P.M.	84	28	99 4° F.
8 P.M.	88	24	100 4° F.
9 P.M.	84	28	99 6° F.

Just after the administration of oxygen				Quarter of an hour after.
Nov. 11th, 1899.	Pulse beats per minute	Respirations per minute.	Temperature	Temperature.
5 A.M.	88	22	100 0° F.	100 4° F.
8 A.M.	76	24	98 8° F.	99 8° F.
1 30 P.M.	80	24	98 6° F.	100 0° F.
8 P.M.	80	23	99 6° F.	99 8° F.
9 P.M.	80	24	99 2° F.	99 4° F.

CASE 1.—The patient, a man, aged 67 years, was first seen on Jan 10th, 1899. He was a rheumatic patient and was subject to bronchitis. The temperature was normal. When seen he was suffering from a very bad cold with râles and rhonchi. There were pains in the back and limbs and the lips and finger-tips were slightly blue. Stimulants and other remedies were ordered. Oxygen inhalation was recommended on the third day. As the expectoration was very slight

[1] See Proceedings of the Zoological Society, 1899, p 447.

apomorphine (⅙ gr.) was injected under the skin. This improved the [illegible] enabled the patient to sleep on th[illegible] the oxygen was very marked. Th[illegible] and the breathing were all improved and better rest was obtained. Dr. A. Gray verified the figures and expressed himself as being much struck with the alteration produced by the gas. The temperature dropped from 103·5° F. to 101° and the pulse from 93 to 80; the respirations ranged from 30 to 24. The patient was discharged at the end of February.

CASE 2.—I was suddenly called on April 1st, 1899, to see a child, aged three years, who was in a fit, suffering from double pneumonia. The temperature was 104° F. and the pulse and respiration were very rapid. The patient was totally unconscious. No ordinary remedies were of any avail. Oxygen inhalation appeared to do much good for a time, but the case proved fatal on the fourth day.

CASE 3.—On the evening of April 9th, 1899, I was sent for to see a patient whom I found in bed with livid face and who was breathing rapidly (25 respirations per minute) The pulse was 100 per minute and the temperature was 102° F. The patient wore an anxious expression of countenance and suffered from pains about the chest. He complained of shivering attacks and of headache. The chest signs were medium sized rales and a few rhonchi. The expectoration, which was thick and white, was scanty. He had some bronchial breathing at the base of the left lung. Oxygen inhalation was commenced on the third day of treatment for two minutes every three hours. He was so much improved after three days' treatment that it was discontinued. He remained under ordinary treatment until August 13th.

CASE 4.—The patient was a man, aged 57 years. I was called in on March 14th, 1899, during an influenza epidemic. The patient complained of pains in the head, the back, and the limbs. The pulse was 70, the respiration was 23, and the temperature was 99° F. He had passed [illegible] coryza with pains in the che[illegible] menced on the fifth day of [illegible] he felt warmer and more natural after each inhalation and his appearance was improved at the time. (The notes of this case are very similar to those of Case 1.) His further progress was very slow and there was considerable nervous depression. He remained under my care until April 22nd, 1899.

CASE 5.—*The patient, a female, aged 22 years, came under my care on Jan. 18th, 1899.* She suffered from severe anæmia. An examination of the blood was made. It contained 2,000,000 red cells and 3000 leucocytes to the cubic millimetre; and hæmoglobin only 30 per cent. of normal. The red cells exhibited microcytes, macrocytes, and slight poikilocytosis. The patient's complexion was of a lemon tinge. She was fat and well nourished, but terribly weak. She often fainted after sitting up for half an hour. All the latest preparations of iron had been tried unsuccessfully and arsenic seemed of little use. Oxygen inhalation was commenced in February. The first result was very peculiar. The stream of oxygen was kept flowing for five minutes I was called up at midnight and was told that she was dying. On arriving she was in a paroxysm of respiratory activity. I controlled this by the use of chloroform vapour On the next day she was much better but still somewhat excitable in her breathing. Oxygen was only used now for one or two minutes at a time, twice daily. The milk and other cool drinks which the patient took were oxygenated by the passage of a stream of the gas through them. From this time onwards she steadily began to improve. At the beginning of June the blood contained 4,000,000 red cells to the cubic millimetre. The hæmoglobin and leucocytes were now nearly normal. She still complained much of her attacks of nervous breathing. Dr. Wells of Leeds saw her about this time. He agreed with me that this was probably functional. In July she could sit up, and from this time she improved rapidly. She was sent to Harrogate and returned well after a few weeks.

CASE 6.—The patient in this case had four years ago a very narrow escape from capillary bronchitis. He had suffered continually from chronic bronchitis for years. On Oct. 21st, 1899, I found him suffering from an unusually severe attack. His features were bloated and cyanosed. His extremities were cold and livid, respiration was laboured, and the temperature was 97° F., the pulse soft and full, about 70 per minute. I ascertained that the patient had been taking appropriate remedies and that he was in the habit of taking a proper quantity of stimulants. I ordered oxygen inhalation, three or four minutes at a time, to be administered every hour. Under its influence the cyanosis became less marked, the pulse stronger, and the breathing somewhat quieter. Even up to the fourth day good results were obtained by its use. It became, however, increasingly difficult for him to expectorate. His strength failed him and he died on Oct. 25th.

In Case 2 and Case 6 the patients were already *in extremis*, the beneficial effects were transient, and the treatment was of no ultimate avail. In Case 5 it is very difficult to say whether the oxygen was or was not a powerful factor in the recovery of the patient. I think it shortened the duration of the illness. In Case 1, Case 3, and Case 4, which were all serious, I saw from the first that every means available must be employed. The oxygen appeared to give moments of respiratory rest, very beneficial to the patients and very saving to their bodily strength. They were all over 50 years of age and each had marked nervous depression. None of these had any marked chest obstruction and in all these special treatment was begun early. The question arises as to whether this last consideration had anything to do with warding off further complications.

The beneficial action of the gas on the nervous centres and in the lungs can only serve us by improving the purity of the air breathed or by increasing the oxygen obtainable where this is interfered with by processes of disease in the lungs or tubes; neither must one lose sight of the antiseptic action of the gas on anaerobic microbes. My reason for using the oxygen in an intermittent manner is so as not to set up a dangerously protracted state of apnœa. A very nice apparatus for this purpose is similar to the one used for nitrous-oxide gas, failing it a piece of rubber tubing with vulcanite mouthpiece can be used but is very wasteful, having no bag or facepiece. I would like to suggest to the makers of cylinders that smaller ones which could be carried about with ease containing about three cubic feet of the liquefied gas would be a boon in cases of emergency to general practitioners.

Bradford.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

CONCURRENT PNEUMONIA, DIPHTHERIA, AND TYPHOID FEVER.

BY DAVID HARRIS, M.R.C.S.ENG., L.R.C.P.IREL., J.P.,
ASSISTANT SURGEON, TRANSPORT "UMBRIA"; FORMERLY MEDICAL OFFICER OF HEALTH, DIAMOND FIELDS, SOUTH AFRICA.

THE following case, which was under my care on the homeward journey of the transport *Umbria*, which arrived at Southampton on March 13th, may be of some interest.

The patient was a sergeant in the Northumberland Fusiliers. On Feb. 22nd he complained of shivering and general malaise, and owing to the prevalence of influenza in Cape Town he was promptly isolated. His temperature was 102·4° F. in the morning and 104° in the evening. Upon examining the chest I found crepitation over the left base posteriorly and double pneumonia developed next day. On Feb. 23rd his temperature was 102·6° in the morning and 104° in the evening. Two days later he complained of sore-throat and upon examination diphtheritic ulceration with membranous exudation was discovered beginning over the left anterior pillar of the fauces and subsequently attacking both pillars of both sides, the uvula, and the back of the pharynx, but not spreading beyond. On Feb. 25th his temperature was 104° in the morning and 101·4° in the evening. On the 26th it was 103° in the morning and 105° in the evening. It remained high for five or six days with morning remissions and as he now complained of abdominal tenderness examination revealed two rose coloured spots. There was pain in the right iliac fossa (not very marked, however), together with distinct enlargement of the spleen. There was also some relaxation of the bowels with hæmorrhagic stools. The patient convalesced gradually, the first normal morning temperature occurring on March 7th. The treatment was at first carbonate of ammonium (two and a half grains) every three hours, with a powder consisting of 10 grains of sodium

salicylate and five grains of antipyrin whenever the temperature rose to 103°. The throat was painted four times with peroxide of hydrogen at the suggestion of my colleague, Dr. Charles Burland, a chlorate of potassium mouth wash being used also. On the diagnosis of typhoid fever being established liquor sodæ chlorinatæ (for which hint I am indebted to my brother, Dr. F. Harris, Cape Town) was given in 10 minim doses every three hours. Brandy was given throughout the whole course of the illness, half an ounce every two hours at first and subsequently half that quantity. A very interesting feature of the disease was the excellent pulse maintained throughout which I attribute to a stimulating treatment having been adopted from the first. It rose to 96 once, but for the most part it remained little above normal. Other circumstances of scientific interest were the non-antagonism of the various bacilli to each other and the rapidity with which the spleen resumed its normal size. Typhoid fever was doubtless present from the beginning, but was masked at first by the more prominent symptoms of the other affections.

Birchington-road, West Hampstead.

TYPHOID FEVER OF PROLONGED DURATION.

By HENRY EDWARD BELCHER, L.R.C.P. LOND., M.R.C.S. ENG.

THE patient was a joiner and was perfectly well on July 25th, 1899. On the 26th he was seized with vomiting and diarrhœa, but he kept at work until the 31st, when I saw him sitting up at home. He had then (at 6 P.M.) a temperature of 104·2° F. and all the signs of typhoid fever. During the next week he had a very copious rash, mild delirium, about six stools daily, a temperature ranging between 103° in the morning and 104° at night, and a pulse of 108, only occasionally dicrotic. For the next fortnight his temperature stood most regularly at 102° in the morning and 103° at night until August 18th (the twenty-fourth day of the disease), when he passed about half a pint of dark blood-clot, and the temperature fell to 100°. For the next four days he passed abundant offensive flatus and tarry motions. He talked incessantly, and though his temperature touched 98·8° on August 22nd it quickly rose to 103° by 6 P.M. of August 27th (the thirty-third day of the disease) and 102° in the morning. At these points it kept until Sept. 11th (the forty-eighth day of the disease), when more clots and offensive flatus passed, with a recurrence of the incessant talking and shouting and tympanites, and followed on the 13th by the passage of a chamber-potful of blood-clot and fæces. In two days the morning temperature was normal and the high evening temperature subsided gradually, reaching the normal on Oct. 1st. At this point it kept during cautious increase of diet until Oct. 16th, on which date it again began to climb up, reaching 103° on the 21st, being accompanied with a return of rash, delirium, and all the other signs of typhoid fever. I then determined, at all hazards, to remove the patient to a more healthy house some distance off. The attack ran an ordinary course, but no hæmorrhage occurred, and the temperature reached normal for the third time on Nov. 5th (the one hundred and fifth day of the disease).

I cannot say that the case teaches much except, perhaps, the marvellous resistance to disease possessed by some patients. The medical treatment was *nil;* the patient had neither brandy, nor cold baths, nor skilled nursing; he lived almost entirely on eggs and milk which he took well throughout. He had a most copious rash over the chest, the abdomen, the back, and the thighs, but otherwise his symptoms and signs were not of extreme gravity. Neither he nor I at any time despaired of ultimate recovery. To any who would criticise the absence of active treatment I can at least say, "*Si monumentum requiris, circumspice.*"

West Bridgford, Notts.

A RAPID RESULT OF REVACCINATION.

By WILLIAM GRADDON MORTIMER, M.B. LOND.

A MAN, 23 years of age, came to me last November to be revaccinated and this was done successfully with calf lymph in two places on the left arm. He had been vaccinated only once before—namely, as an infant. Eight months previously I had treated him for a curious warty condition of the skin around the edges and base of the nails of the index finger and middle finger of the right hand and of the thumb as well. It was only on the right hand; the left hand and the feet were free. This condition had existed for six years and had been steadily getting worse. All treatment employed by myself and others was of no use whatever. The warty condition always commenced underneath one of the side edges of the nail. The growths caked up underneath and slowly destroyed the edges of the nail. The nails were eventually left hard, uneven, cracked, and discoloured. For quite one-eighth of an inch the skin surrounding them was nothing but a large U-shaped wart. The discomfort and disfigurement were great. There were also three pedunculated warts beneath the chin. Among the remedies tried were ointment of tar, ichthyol, oleate of tin, acetic acid, and silver nitrate externally and sulphate of magnesia, arsenic, iodide of potassium, and solution of perchloride of mercury internally. Four days after the revaccination the warty condition began to diminish; within a week it had entirely disappeared and the warts beneath the chin disappeared as well. The man is now quite well.

Thorne, Doncaster.

A Mirror of HOSPITAL PRACTICE, BRITISH AND FOREIGN.

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ST. MARY'S HOSPITAL.

TWO CASES OF RESECTION FOR HIGH RECTAL CARCINOMA.

(Under the care of Mr. PAGE.)

THE results of the various forms of the trans-sacral operation for the radical cure of carcinoma of the rectum vary to no small extent in different sets of statistics. In 1897 Kraske[1] gave the results of his 80 cases; of these 15 died, a mortality of 18 7 per cent., but the mortality was diminishing, for in the first 29 cases it was over 34 per cent., but in the last 51 cases it had fallen to less than 10 per cent. This latter figure may be considered to represent the average mortality of the operation at the present day. Opinions vary greatly as to the advisability of a preliminary colotomy; if it is performed, it is better that it should be done a few days before the proctectomy, so that the colon has time to empty itself fully of the accumulated fæces. It is certainly unnecessary in some cases, but it is always useful, though the increase to the risk of the operation is well worthy of being considered.

CASE 1.—A married woman, aged 34 years, was admitted into St. Mary's Hospital on June 8th, 1899. She had enjoyed good health until the previous November when after a miscarriage she began to suffer pain in the back, and especially during defecation, with occasional traces of blood from the bowel. She also lost flesh. Dr. W. S. Whitcombe of Aldermaston, under whose care she came in April, 1899, detected a lump by rectal examination, and after some objections he ultimately persuaded her to go to St. Mary's Hospital for operation No doubt was felt as to the correctness of his diagnosis of carcinoma, for having anæsthetised the patient it was possible to feel that just within reach of the finger there was a hard mass encircling the lumen of the bowel, being freely moveable and, although the finger could not get beyond it, seemingly most favourable for excision. Accordingly, on June 13th, with the invaluable help of Mr. H. S. Collier, the pelvis was opened by Mr. Page by the following method. The sphincter having been widely stretched, an incision was made eight inches in length along the left margin of the sacrum, diverging across the upper part of the coccyx and ending an inch beyond the coccyx on the right side. The coccyx itself was then removed, and by incision through the

[1] Brit. Med. Jour., Oct. 16th, 1897, p. 1069.

[illegible] grains of antipyrin whenever the temperature [illegible]. The throat was painted four times with [illegible] suggestion of my colleague, Dr. [illegible] chlorate of potassium mouth wash being [illegible] the diagnosis of typhoid fever being established [illegible] chlorate (for which hint I am indebted [illegible] Dr. F. Harris, Cape Town) was given [illegible] every three hours. Brandy was given [illegible] whole course of the illness, half an ounce every [illegible] at first and subsequently half that quantity. [illegible] feature of the disease was the excellent [illegible] throughout which I attribute to a stimulating [illegible] been adopted from the first. It rose [illegible] for the most part it remained little above [illegible]. Other circumstances of scientific interest were the [illegible] of the various bacilli to each other and the [illegible] which the spleen resumed its normal size. [illegible] was doubtless present from the beginning, but [illegible] by the more prominent symptoms of the [illegible].

[illegible] West Hampstead.

TYPHOID FEVER OF PROLONGED DURATION.

By [illegible] EDWARD [illegible], L.R.C.P. LOND., M.R.C.S. ENG.

THE patient was a joiner and was perfectly well on July [illegible]. On the 20th he was seized with vomiting [illegible], but he kept at work until the 31st, when I saw [illegible]. He had then (at 6 P.M.) a temperature of [illegible] F. and all the signs of typhoid fever. [illegible] the next week he had a very copious rash, mild [illegible] daily, a temperature ranging between [illegible] in the morning and 104° at night, and a pulse of [illegible], only occasionally dicrotic. For the next fortnight [illegible] regularly at 102° in the morning [illegible] at night until August 13th (the twenty-fourth day [illegible]) when he [illegible] about half a pint of dark [illegible] and the temperature fell to 100°. For the next [illegible] he passed abundant offensive flatus and tarry [illegible]. He talked incessantly, and though his temperature [illegible] on August 22nd it quickly rose to 103° by [illegible] (the thirty-third day of the disease) [illegible]. At these points it kept until [illegible] day of the disease), when more [illegible], with a recurrence of the [illegible] and tympanites, and followed [illegible] of a chamber-potful of blood-clot [illegible] the morning temperature was normal [illegible] temperature subsided gradually, reaching [illegible] Oct. 1st. At this point it kept during [illegible] until Oct. 10th, on which date it [illegible] reaching 103° on the 21st, being [illegible] with a return of rash, delirium, and all [illegible] of typhoid fever. I then determined, [illegible] the patient to a more healthy house [illegible]. The attack ran an ordinary course, but [illegible], and the temperature reached [illegible] on Nov. 5th (the one hundred and [illegible].

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[illegible] OF REVACCINATION.

By [illegible], M.B. LOND.

[illegible]

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1 Brit. Med. Jour., Oct. 16th, 1897, p. 1007.

opened, the tumour was found to be of the size of a small Tangerine orange and completely to surround the gut. At
ot covered by peritoneum. There
t no point had the external coats
The resection of the bowel and
Czerny-Lembert sutures presented
little trouble
the growth
cous coat of
inches in a
longitudinal direction. The lumen was pervious to the tip of the little finger. There was no ulceration. The patient bore the operation well. In the course of the evening the house surgeon found it necessary to change the dressings because of hæmorrhage, and failing to find any bleeding points he had to plug the wound, in the lower part of which a drainage-tube had been inserted. There was no further trouble from bleeding, but on the 15th a wholly unexpected and copious evacuation of the bowels did not tend to make things more comfortable, and thereafter followed much trouble, for the bowels took upon themselves to discharge the accumulated collection of previous weeks in lumps of ancient fæces commingled with diarrhœa. Nothing could have been more inopportune, and there was no surprise when on June 19th fæcal matter was found escaping from the wound. The intestinal suture, at one point at any rate, had given way—at some place outside the peritoneum it was hoped. This fæcal flow continued unabated for several days, and on July 1st enemata had to be given to remove impacted lumps of hard fæces. For a day or two the patient was better but on the 8th Mr. Page thought it well to give her an anæsthetic and to wash out the lower bowel more effectually. Quantities of fæces were removed and it was then found that the fistula involved a very small part of the posterior wall of the bowel where, in fact, it was free of peritoneum, and that in all other parts the suturing held sound. Hopes, therefore, were entertained that the fistula might close spontaneously, and so, happily, it turned out, for as the flow of fæces lessened so also did the escape by the fistulous route, and by the end of July the bowels were acting naturally, the fistula was closed, and the wound was perfectly healed. The wound had indeed caused no trouble and save at the site of the drainage-tube had united by first intention. The patient left the hospital on Sept. 1st, 1
in addition
plugging of
a severe cas
by Dr. Whi

CASE 2.—A married woman, aged 43 years, was admitted to St. Mary's Hospital o
facts of importance in h
before admission she had
after two days she vomita
on, there was no action of the bowels, and the passage of flatus even had ceased. The abdomen was much distended, but nothing was to be felt by abdominal palpation and rectal examination was also negative. The patient was singularly free from constitutional disturbance considering that she had had complete obstruction for a week and had been frequently vomiting. Operation was clearly indicated immediately, and the peritoneum having been opened in the middle line a hard lump of the size of a large chestnut was found at the lower part of the sigmoid loop. It was freely moveable and there was no difficulty in bringing it out of the wound, and resection with end-to-end anastomosis by the Czerny-Lembert method was undertaken forthwith. The growth was precisely the same as was found in the first case, but its longitudinal extent was not so great. Contraction, on the other hand, was much more marked and the lumen of the bowel would not admit even a small probe. The ultimate occlusion had been brought about by a small pellet of hardened fæces which was found lying immediately above the stricture. Recovery was uneventful and the patient left the hospital early in December. When seen in the
rfect health and free from
o two cases afforded good
in which a stricture of the bowel due to epithelioma may first manifest itself. In the one there had for some time been premonitory symptoms of bowel disease and in the other complete obstruction of
other a median laparotomy
cause of the obstruction. It would be anatomically more correct, perhaps, to speak of the second case as one of carcinoma of the lower end of the sigmoid loop, for the term "rectum" ought to be limited to that part of the bowel which is below the level of the third segment of the sacrum and which is free of any meso-colon.

There is good reason to hope that both patients may be free from recurrence, for the malignant disease was of limited extent and had been discovered early. From causes given in the history recovery in the first case was protracted and troublesome, and it occurred to me at the time that it might have been well had a preliminary colotomy been the means of getting rid of the accumulated fæces, the passage of which over the recently sutured gut so nearly led to disaster. Every preparation for the resection had been made by enemata to evacuate the bowel, but it is quite clear that in this instance, at any rate, there had been so much obstruction before the patient attended at the hospital that no treatment of this kind could have put the bowels into a condition of quietude so essential for perfect success. Colotomy would have effected this, and had removal of the growth been found impossible the value of this procedure would have been enhanced. The need for colotomy is, of course, lessened if the surgeon intends or finds it possible to suture the proximal end of the bowel at the site of resection to the anal margin, for after this ideal operation the passage of fæces can do little harm; but it is far otherwise when fæces in large volume, especially if old and hard, have to pass the seat of recent resection and union. The colotomy wound, moreover, enables the surgeon to examine the growth from above as well as from below and may afford him valuable information as to the propriety and chances of removal of the sigmoid growth. For these reasons I have performed inguinal colotomy on a patient at this moment in the hospital and have thereby been able to determine that a high rectal growth apparently suitable for removal on rectal examination had much better be left alone. There is, therefore, a good deal to be said in favour of preliminary colotomy, but no hard-and-fast rule can be laid down, and the record of the second case is enough to show that recovery need not necessarily be interfered with by undue action of the bowels, for the after-course of the case was free from all trouble of the kind.

I am indebted to Mr. H. C. Wilson and Mr. Huelin for the notes of these cases.

GOVERNMENT CIVIL HOSPITAL, HONG-KONG.

TWO CASES OF MALIGNANT PUSTULE; RECOVERY.

(Under the care of Mr. J. BELL.)

THE methods of treatment which have been adopted in malignant anthrax vary greatly. The best results probably follow early and free excision with the application of a strong antiseptic to the surface of the wound. In warmer climates the death-rate appears to be much less than in this country, for Woolmer[1] has only met with two deaths in 500 cases, a mortality of only 0·4 per cent. The mortality in this country is said to be mod
the diagnosis may be from
to make a bacteriological
bacilli are so very easily
ment of the Home Office
medical practitioners for such bacteriological examinations.

CASE 1.—A Chinese youth, aged 16 years, was admitted into the Government Civil Hospital, Hong-Kong, on Jan. 1st. There was an indurated mass in the upper lip with a central black scab. The right side of the face was much swollen and both eyes were closed. The temperature was 101° F. The patient looked and felt very ill. The pustule was incised with a long tenotomy knife and bled freely. Perchloride fomentations were applied. Carbolic acid (eight grains) was given every four hours. The inflammation slowly subsided though the temperature kept between 99° and 105° (105° twice on the same day) till the tenth day, when a large abscess on the cheek was opened. The

[1] Brit. Med. Jour., vol. ii., 1888, p. 1912.

fourth day the right knee-joint was very painful and full of fluid. Lead and opium fomentations were applied, the knee was put at rest on a splint and quinine was given internally, alternately with iodide of potassium and tonics. As the general health improved the pain and fluid disappeared, but the joint still remained puffy and much swollen when the patient left the hospital against advice on the fifty-second day.

CASE 2.—A Chinese girl, aged 17 years, was admitted into the hospital on Jan. 16th with a temperature of 104·8° F. and a hard brawny swelling in the upper lip with several small pustular spots. The inflammation extended to both sides of the face and both eyes were closed. The urine was normal. The swelling was freely incised and fomented with perchloride of mercury and the patient was given carbolic acid (six grains every four hours). She slowly improved and the temperature fell to normal on the thirteenth day after an abscess was opened under the left eyelid. Under tonics and diet the general condition improved and she was discharged cured on the fiftieth day.

Remarks by Mr. BELL.—In view of the report of a series of cases of this disease, which appeared in THE LANCET of Jan. 20th, 1900 (p. 164), traceable to skins from China I thought that these cases might be of interest. The pyæmic infection of the knee-joint in the first case was interesting and is, I believe, rare. I may mention that no other cause was present to account for it. The carbolic acid did not produce any symptoms though continued for over a week in both cases, but it did not seem to affect the disease to any extent. No history was obtainable of contact with skins in either case.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

The Changes of the Blood in Disease.

A MEETING of this society was held on April 3rd, Mr. A. PEARCE GOULD, the acting President, being in the chair.

Dr. SIDNEY MARTIN opened the discussion with a paper on the Changes of the Blood in Disease. The subject would be considered, he said, under three headings: (1) changes in coagulability; (2) changes in corpuscles, red and white; and (3) the presence in the blood of various toxic substances and the relation of the blood to infection. In regard to the first of these, Schmidt's simple statement that the formation of fibrin was due to the interaction of fibrin ferment on fibrinogen did not explain the whole matter, for it did not take into account the closer relation between the formation of fibrin and the presence of lime salts. By simply adding sodium oxalate (1 to 1000) to the blood as it was shed clotting was slowed considerably. On the other hand, by the addition of calcium chloride clotting was accelerated. These and other experiments went to show that coagulation could be ascribed to the interaction of lime salts with one another and the proteids of the blood. Their knowledge had been advanced by the study of late years of the nucleo-proteids, bodies containing phosphorus, and fibrin ferment was considered by some as a lime compound of a nucleo-proteid. Referring to the experiments of Wooldridge on intra-vascular clotting, this phenomenon had been produced without any injury to the vessel-wall by the intra-vascular injection of tissue fibrinogens which were in reality nucleo-proteids. Intra-vascular clotting frequently occurred without damage to the vessel-wall in infective disorders, and it was suggested that it might be due to the liberation of nucleo-proteids in the blood by the infective agents themselves. The fluidity of the blood was increased by the injection of albumoses, malt diastase, emulsin, and other bodies. Turning next to the changes of corpuscles in disease, the number as well as the character of both red and white varied between only small limits in health. The red cells were mesoblastic in origin and during the growing period of adult life were constantly being formed mainly from the marrow. The changes which the developing red corpuscles underwent were of importance in relation to the changes found in disease, and it was suggested that the alterations observed might be due to an arrest of development from the erythroblasts—i.e., the nucleated red marrow cells. This might account for the changes in shape and size observed in some forms of anæmia. Some were too small (microcytes) and some were too large (macrocytes), but Dr. Martin deprecated the use of Greek names for these simple changes. The chief alteration in structure consisted in nucleation. Vacuolation was sometimes observed in profound anæmias. The pale watery blood of chlorosis coagulated rapidly, but that of pernicious anæmia very slowly. In the latter the corpuscles showed no rouleaux formation, exhibited great variations in size and shape, and nuclei were frequently observed. Such a condition of blood could not arise spontaneously and appeared most likely to be induced by an intoxication of the body. There was some evidence to show that this intoxication might result from bacteria in the alimentary tract. As regards the white corpuscles normal variations in their number were greater than in those of the red. Their number was increased in some infective disorders, by gas poisoning, and under quinine and salicylates. There was no leucocytosis in typhoid fever, malaria, and tuberculosis. Leukæmia presented a very great increase and here myelocytes appeared in the blood derived from the marrow. A marked leucocytosis also occurred in connexion with a definite infective process which appeared to arise in the mouth. Turning in conclusion to the effect of certain toxic substances in the blood it was impossible to study some of the conditions just mentioned without feeling that their explanation lay in an auto intoxication. All toxic substances had both a general action which might lead to death of the body and a specific action selecting certain tissues for their effects. In small repeated doses they led to the formation of two kinds of substances, one which was inimical to the life of the bacterium (anti microbic), and another which counteracted the effects of the poison (antitoxic).

Professor C. S. SHERRINGTON (Liverpool) also read a paper on the same subject. He commenced by referring to the histology of the red corpuscle. The monotonous uniformity of these bodies was one of their leading features, a remarkable fact when it was remembered how active were the processes both of destruction and reproduction of these important little structures. Hamburger had used the red corpuscle as an index for the osmotic tension of various fluids. It was found that the different corpuscles were destroyed by different degrees of dilution. Probably nucleated corpuscles had a greater resistent power than the non-nucleated, and probably the newer or younger corpuscles had a greater resistance. The origin of red corpuscles was still a mystery. In malaria the corpuscles were broken up, but there was no evidence of excretion of hæmoglobin. The study of the resistance of the red corpuscles might be fruitful. A good method for estimating the alkalinity of the blood was still wanting. The leucocytes had been more thoroughly investigated especially during the last 15 years by the late Professor Kanthack. One of the outcomes of this was a more natural classification of leucocytes. There were two kinds. The finely granular or polynuclear variety was the most characteristic and most common; the coarsely granular, oxyphil, and eosinophilous corpuscle was the other, and these latter only formed 4 per cent. of all the leucocytes in normal blood. In regard to the first variety there was no definite evidence of excretion. The second kind had indubitable powers of excretion, though their function of phagocytosis was still in dispute. He had never observed an undoubted instance, though Durham and others had observed the phenomenon. Passing to the oxyphil corpuscles, among these was the large hyaline cell which undoubtedly possessed the power of phagocytosis, though it had not very active amœboid movements. For the purposes of diagnosis of the different forms of leukæmia these data did not advance their knowledge very much. There were still many questions to answer. Where did the leucocytes come from? Were they different cells—i.e., of different origin—or only phases in the life-history of the same cell? What were their uses in the body? He would also like to know more about the nature of the granulation, especially the oxyphil granulation. The coarser granular cells were rich in phosphorus and iron, but beyond this but little was known. The leucocytes had been regarded as carriers of glycogen, but he was not satisfied on this point. One aspect of the function of leucocytes related to inflammation. The hæmic leucocytes might be looked upon as a mobilised force which could be drafted off to some focus where their power of phagocytosis was brought into play, and they then became valuable defensive agents. These hæmic leucocytes did not themselves

share in the reparatory process and did not remain as part of the tissues involved. In regard to methods Professor Sherrington thought it was very important to be able to count the white and the red corpuscles in one specimen. The differentiation of all the various kinds of white cells could be seen quite well without staining. Blood films could be preserved by an oil seal in a cool room for 24 hours. Tinting them with methyl blue was a great advantage. As to the nature of the blood platelets much difference of opinion existed. He rather inclined to the view that they were not living elements of the blood at all. They were, he believed, of the nature of a precipitate containing proteids shed from the corpuscles or the plasma. The various clinical methods of examining blood were increasing and were ahead of physiological methods. The "drop-methods" were a great advance, especially the method of taking double measure—that is, the specific gravity of blood corpuscles and plasma together and then of the plasma alone. A routine practice of carrying out such observations would be useful. As an instance he had shown how large were the variations in short periods. An extensive operation, especially on the abdominal cavity, or severe local inflammation was accompanied by very rapid alterations in the volume of the blood and these alterations fell on the plasma. Roy and Cobbett had found that the volume of the blood was sometimes reduced by one-third in the course of a short time. He (Professor Sherrington) had seen the density increased 20 per cent. in a few hours, and this must be a very great strain on the heart; 99 per cent. of the force of the heart was used in overcoming the friction of the walls and this was regulated mainly by the viscidity of the blood. It must influence the work which had to be performed. In cholera it was the inspissated blood which overtaxed the heart.

The discussion was adjourned to the meeting on May 1st.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Congenital Bullous Eruption—Simulated Gastric Ulcer.—Exhibition of Cases.

A MEETING of this section was held on March 9th, Dr. J. W. MOORE, the President, being in the chair.

Dr. R. H. KENNAN read a paper on a Fatal Case of Congenital Bullous Eruption. He discussed the two great classes of cases in which bullæ appeared on the infant—the so-called pemphigus neonatorum and the pemphigoid eruption of hereditary syphilis. He also referred to Dr. Wallace Beatty's paper on Epidermolysis Bullosa.[1] The principal points of interest in his case were the fatal termination, the remarkable localisation of the bullæ, the complete absence of history or sign of syphilis in either parent or surviving child, and of evidence of this taint post mortem, though the organs, [illegible] scopical [illegible] was obli[illegible]

Dr. W. J. THOMPSON read notes on a case Simulating a Perforating Gastric Ulcer. The patient, a female, aged 23 years, had a distinctly tuberculous family history, but had never herself been seriously ill until five or six weeks previously when she commenced to suffer from stomach trouble. In the beginning of the attack she had discomfort and flatulency after food with a tendency to nausea and a failing appetite. Later she complained of pain, at first localised to the pit of the stomach and afterwards extending to the back; it commenced shortly after food, lasted a couple of hours, and was frequently followed by vomiting. She never suffered from constipation. About one hour after having bread-and-milk for supper, which was followed by the usual pain and discomfort, the pain in the epigastrium suddenly became agonising and was followed by vomiting. The vomited matter was said to be dark and reddish in colour, otherwise there was no evidence of hæmorrhage. The pain was worse during the night and became more diffuse. The patient looked thin and anæmic and seemed to be suffering great pain. The epigastrium and upper portion of the abdomen extending towards the left was distended, rigid, and tender on percussion. The liver dulness was not affected. She was admitted to the Jervis street Hospital and it was decided to operate. Just before operation and about 14 hours after the supposed perforation all the abdominal symptoms became aggravated, the temperature was 102° F., the pulse was feeble and 140 per minute, the respiration was shallow and thoracic, and 34 per minute.—Mr. CONWAY DWYER described the operation. The abdomen was opened by an incision extending from the ensiform cartilage to a point slightly to the left of the umbilicus. Owing to the great rigidity of the left rectus muscle, which persisted even under deep ether narcosis, it was found necessary to enlarge the incision transversely before sufficiently free access could be obtained for exploration. The anterior wall of the stomach was then examined and presented nothing abnormal. Before examining the posterior wall it was deemed advisable to explore the abdominal cavity lower down. The incision was accordingly enlarged in a downward direction and a coil of jejunum was brought into view in an [illegible] and having on its surface two [illegible] losely together and involving a [illegible] vel. No perforation had as yet taken place, but such a result was inevitable had the operation been delayed. The coil was drawn out and isolated by gauze (iodoform) strips, the contents of the loop were gently pressed downward, a clamp was applied, and the portion of bowel was resected; the junction of the divided intestine was effected with a Murphy's button and the abdominal cavity was flushed with sterile saline solution. The wound was closed all but the lower angle, through which was carried a gauze drain and placed close to the sutured bowel. The subsequent history was uneventful. The bowels moved five days after the operation and the button came away on the eighteenth. The case was of interest as exhibiting the liability to error in interpreting the precise conditions that produce severe abdominal symptoms. The previous history, the sudden nature of the attack, the localisation of the pain, all pointed to a perforating gastric ulcer—in fact, the physical signs and symptoms of this condition were present in their due sequence and severity, with the single exception of unaltered area of liver dulness; the absence of this last has, however, frequently been noticed. The lesion present was presumably due to infarction, but unfortunately the portion of intestine removed was mislaid.—Dr. R. TRAVERS SMITH, Dr. CRAIG, and others discussed the case.

Mr. CONOLLY NORMAN showed some cases illustrating the Relations of Insanity to Tabes Dorsalis.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A clinical [illegible] March 23rd, Professor C[illegible] chair.—Mr. Mayo Robe[illegible] Rupture of the Bladder.—Dr. A. G. Barrs showed: 1. A case of Chylous Pleural Effusion in a woman. The case began as one of ordinary pleurisy and the effusion was clear in the first instance. There was no obvious cause to explain the chylous character of the effusion. 2. A case of Congenital Cardiac Defect.—Mr H. Littlewood showed: 1. Pyloroplasty for Simple Pyloric Stenosis. The patient was a man, aged 49 years. The operation was performed in January, 1899. The patient had for three years suffered from frequent vomitings and had experienced great loss of weight. He was now quite well. 2. A case of Dilated Stomach due to bands extending from the under surface of the Liver to the Colon. An operation was performed in November, 1898, the bands being divided. The patient had been ailing for three years. The chief symptoms in the case were wasting, vomiting, and palpitation. He was now quite well. 3. Excision of the Rectum for Columnar Epithelioma in a man, aged 43 years. About four inches of the rectum were removed. The divided ends of the gut were sutured and primary union was obtained. No colotomy was done. The operation was performed in October, 1898. There was no recurrence. 4. Laminectomy for Spinal Caries with Paraplegia. The patient, a girl, aged 19 years, was operated upon in November, 1898. An abscess was found to be pressing on the spinal cord. There were no signs of improvement for six months. The patient could now walk without any support.—Dr. T. Wardrop Griffith showed: 1. A case of Cyanosis with Signs of Pulmonary Stenosis in a lad, aged nine years. The aspect was strongly suggestive of congenital malformation, but the history pointed to the stenosis having come on at the age of three years. 2. A well-marked example of general Ichthyosis Hystrix in a woman. Much comfort could be obtained by alkaline baths. 3 Two cases of General

[1] British Journal of Dermatology, vol. ix., p. 331, August, 1897.

Paralysis of the Insane in one of which arrest lasting about 12 months occurred. 4. Cases of Exophthalmic Goitre. In these cases Dr. Griffith had upon the whole got the most satisfactory results by using the old and somewhat discredited treatment by iron and digitalis.—Mr. B. G. A. Moynihan exhibited (1) a series of cases illustrating the Surgery of Simple Ulcer of the Stomach and Duodenum; and (2) a case of Achondroplasia, with photographs of several other cases.—Dr. A. L. Whitehead showed (1) a case in which a Plastic Operation had been performed after the Removal of a Rodent Ulcer of the Inner Canthus; (2) a case in which Epithelial Grafts had been used to Line the Cavity remaining after an Operation for Extensive Mastoid Disease; and (3) a case of Microphthalmos.—Dr. T. Churton showed: 1. A boy, apparently about 13 years of age, but who was really 19 years old, the sole survivor of a family of nine congenitally syphilitic children, with slow scanning speech, tremors, &c. He had improved under mercurial treatment, rest, &c. 2. A boy with a loud rough presystolic bruit with thrill, *apropos* of the present dispute as to the time of the sound, whether it occurred during the auricular or the ventricular systole. It was regarded by all who examined the case as pre-ventricular—i.e., auricular-systolic. 3. A child, aged six months, with Excessive Retraction of the Head, without other signs, except some varied oculo-motor movements, of meningitis. The retraction had existed for five weeks; it could now be completely overcome without much force and without pain and did not recur for some minutes. The fingers were flexed and one thumb was in the palm, but these were readily straightened.—Mr. Secker Walker showed: 1. A case of Chronic Mastoid Disease in a child, aged three years. There had been facial paralysis for some weeks before the operation with great wasting. On opening the mastoid its posterior wall was found to be absorbed, the dura mater was ulcerated, and the sigmoid sinus was obliterated. The complete post-aural operation was performed and subsequently epithelial grafts were employed. The facial paralysis passed off and the wound had entirely healed. 2. A case of Chronic Otorrhœa of the Right Side in a youth aged 18 years. Four years ago the left lobe of the cerebellum was trephined for abscess secondary to left mastoid disease, the mastoid being operated upon at the same time. Complete recovery followed. A month ago the right mastoid was opened and extensive caries was found. The complete post-aural operation was performed, the incision was closed, and the dressing was applied through the enlarged meatus. The patient was recovering well. 3. A case of Entropion of the Outer Half of each Upper Eyelid treated by a modification of Spencer Watson's operation with good result.—Mr. Lawford Knaggs showed a case of Tuberculous Disease of both Hip-joints and of the Upper Epiphysis of one Humerus.—Dr. E. F. Trevelyan exhibited:—1. Five cases of Infantile Paralysis—one of the upper arm type, three of paraplegia, and one with a long-standing monoplegia. 2. Two cases of Athetosis in a boy aged six years and a man aged 21 years respectively. The infantile hemiplegia came on in both cases at the end of the first year of life and affected the right side. There was no affection of speech in either case but the intelligence was defective in the adult. 3. A case of Incoördinate Movements in the Right Arm and Hand in a woman, aged 59 years, suggesting Senile Chorea. 4. A case of Tabes Dorsalis with some Exaggeration of the Knee-jerks. The symptoms present were myosis, loss of the light reflex, bladder symptoms, and the usual pains. There was a history of syphilis. 5. A case of Ataxic Paraplegia in a man aged 35 years. 6. A boy, aged 10 years, with some Weakness in the Arm of Unexplained Origin. When he was told to extend the hand on the arm the flexors of the forearm were often put into marked action. 7. A girl, aged 22 years, who had attacks of Sweating of the Right Hand and Forearm. The attacks came on at irregular intervals and lasted for an hour or even for the whole day. The longest interval between the attacks had been three months and the affection had existed for four or five years. One such attack was actually seen. 8. A child the subject of Aortic Disease. 9. A woman with Recurrent and Multiple Papilloma of the Larynx.—Mr. W. H. Brown showed:—1. A case of Resection of Part of the Clavicle. Some time after the injury the patient was unable to raise his elbow to a higher level than his shoulder. The outer end of the clavicle was sawn through and removed. 2. A case of Compound Depressed Fracture of the Frontal Bone. The depressed pieces of bone was of the size of a crown-piece. A part of the depressed bone was elevated and a part was removed. 3. A case of Amputation of the Leg for Diabetic Gangrene three years after the operation.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—An ordinary meeting of this society was held in the library of the Medical School, Thoresby-place, Leeds, on Friday, March 16th, the President, Dr. J. B. Hellier, being in the chair. The meeting was devoted to a discussion on the Treatment of Fibro-myoma of the Uterus. The special points selected for discussion were: (1) operative route; (2) myomectomy; (3) total *versus* supra-vaginal hysterectomy; (4) treatment of the appendages; (5) technique; (6) drainage; and (7) after-results of operations. A large number of specimens and drawings were exhibited by Mr. Stanmore Bishop, Dr. H. Briggs, and the President. Dr. T. B. Grimsdale (Liverpool), in opening the discussion, referred to the recent paper of Dr. Champneys on the Natural and Operative Mortality of Fibroids and considered that though the figures quoted by him were misleading in some respects still the mortality from fibroids which were left to themselves was low, and it behoved practitioners to be watchful that their methods of treatment did not become more dangerous than the disease. The indications for operative interference might be divided into relative and absolute. The relative indications comprised all the various well-known symptoms of these tumours, including the mere presence of a tumour. The absolute indications covered all the possible accidents which might happen calling for immediate operation. Of these Dr. Grimsdale had met with tumours [illegible] of a child, torsion of the pedicle of [illegible] tumour causing acute peritonitis, suppurating fibroid tumours, which might result sometimes from thrombosis of the vessels, and ascites from chronic peritonitis, especially in calcifying tumours. The relative indications might be divided into vaginal and abdominal. Amongst these might be: (1) rapid growth of the tumour, due sometimes to cystic degeneration; (2) pain due to pressure and often to accompanying disease of the appendages; (3) size and weight, incapacitating a patient; (4) pressure symptoms, especially on the bladder, the rectum, or the uterus; (5) severe hæmorrhage; and (6) fœtid vaginal discharge which usually indicated a tumour protruding into the vagina. As to choice of route, generally speaking vaginal symptoms required the vaginal route, while abdominal symptoms indicated the selection of the abdominal route. The combined method, Dr. Grimsdale considered, was often a confession of failure to complete the operation undertaken in the first place. In the choice of route various questions must be considered. The mortality after either abdominal or vaginal operation was mainly due to sepsis, and experience had seemed to show that it is easier to avoid infection from without by operating per vaginam, but now the results of abdominal operation are so good that it may be considered as safe as the vaginal route. The avoidance of hernia and the absence of a scar in vaginal operations are not factors of great [illegible] the vaginal route were these drawb[illegible] diagnosis in some cases; (2) the tediousness of the operation; and (3) the fact that myomectomy could rarely be carried out efficiently. Dr. Grimsdale preferred the method of Baer for abdominal hysterectomy, and did not use any drain. Myomectomy, which could be performed either through the mucosa of the uterus or through the peritoneum, had enormous possibilities of usefulness. In conclusion Dr. Grimsdale referred to the value of oöphorectomy and ligature of the uterine arteries in certain cases.—Mr. Stanmore Bishop (Manchester) considered that the combined method of operation was of great value in certain cases and that it might be adopted as a method of choice. It was easy to separate the vaginal mucosa and to ligature the uterine arteries from below. This made the abdominal section and removal from above a much simpler proceeding. He attached great importance to careful suturing of the peritoneal surfaces to avoid any possibility of a coil of bowel becoming adherent, and to avoidance of drainage after the operation.—Dr. H. Briggs (Liverpool) exhibited a series of Water-colour Drawings selected from 133 cases of Uterine Fibroids treated by him. By the vaginal route he had operated on 45 cases with uniform success. By the abdominal route the mortality had only exceeded 5 per cent. in old-standing broad ligament tumours placed deeply in the pelvis and often very adherent. Errors in diagnosis also (ovarian tumours, &c.) occurred and increased much the sufferings of patients

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glands which was followed by swellings of both parotid and submaxillary glands, the enlargements being nodular and of almost cartilaginous hardness. There was a slight tenderness on deep pressure over the enlarged glands. There was some dulness on percussion over the sternum suggesting enlargement of the thymus. The temperature was from 100° F. to 101° for three weeks and there was very slow remission of symptoms. The case had now been going on for two months; the temperature was normal, but the pulse was 120. Dr. Kerr suggested that the condition might be chronic mumps.—Dr. Campbell showed a marked case of Hodgkin's disease which was steadily getting worse. Administration of arsenic had been followed on each occasion by a sudden rise of temperature, the temperature falling when the arsenic was discontinued.—Dr. Lankester showed the heart from a case of Ulcerative Endocarditis affecting the aortic valve only. The patient, a lad aged 18 years, had been in good health till the receipt of a blow on the chest, after which he developed symptoms of heart disease. Post mortem the heart showed hypertrophy and dilatation of the left ventricle, together with ulceration and agglutination of the cusps of the aortic valve. The mitral valve was healthy.—Dr. Jason Wood showed a specimen of Cancerous Peritonitis secondary to disease of the ovary.—Dr. J. Metcalfe read notes of a case of Appendicitis. The fever showed intermissions several times. During the fourth week of the illness and when the temperature had been normal for some days the patient had a sudden attack of pleurisy on the right side; signs of fluid were present, but none was obtained by exploratory aspiration. The patient was quite well at the end of seven weeks. Dr. Metcalfe considered that surgical interference was only advisable in cases of recurrent appendicitis or in cases where there was direct evidence of pus being present.—Mr. Althorp read notes of a case of Arterio-venous Aneurysm of the Cavernous Sinus and showed the patient. The trouble had supervened on an injury causing a fracture of the base of the skull. Marked proptosis came on with rapidly increasing defect of vision in the only remaining eye. Ligature of the common carotid artery was performed with a very satisfactory result.—Dr. Angus showed a specimen of Embolism of the Left Common Iliac, Left External Iliac, and Left Femoral and Right External Iliac Arteries from a patient who had suffered from double mitral disease. He had a sudden attack of paraplegia affecting the left leg more extensively than the right. Pulsation was at first absent in both femoral arteries, but returned in the artery on the right side on the day following the attack. The patient died ten weeks later from heart failure. The heart weighed 26 ounces. The left auricle was dilated and the mitral orifice was contracted. A firm clot extended from the bifurcation of the aorta to beyond the origin of the deep femoral artery on the left side, and another occluded the right internal iliac artery. Efficient collateral circulation appeared to have been established, as there was only a small superficial patch of necrosis on the left heel.—Dr. Eurich read notes of a case of Disseminated Sclerosis.

IPSWICH CLINICAL SOCIETY.—A meeting of this society was held on March 15th, Mr. Branford Edwards being in the chair.—Mr. A. W. Paterson read notes of a case of Hyperpyrexia occurring in a man suffering from acute rheumatism with endo- and peri-carditis. On June 6th the evening temperature was 103° F. At 4 A.M. Mr. Paterson found him comatose with a temperature of 109·4°. Towels wrung out of cold water were applied and in an hour the temperature had fallen to 108·4. A cold pack was then applied and the temperature fell to 106°. The chest and arms were rubbed with pieces of ice and an ice-water enema was given, and by 8·30 A.M. the temperature had fallen to 99·2°. Injections of ether and strychnine were given repeatedly, but the profound coma persisted. During the two following days the condition of the patient improved. The conjunctival reflex and the pupil reflex to light, which had been absent, returned. The patient's condition improved so that there seemed to be some hope of recovery, but on the fourth day from the hyperpyrexia he became worse, a considerable quantity of blood came from the bladder, and at 11 P.M. he died. The temperature had been kept down to from 99° to 101° by repeated ice-rubbing. The case was interesting from the failure to recover consciousness after the temperature was reduced, and from the considerable interval with partial improvement which elapsed between the hyperpyrexia and the fatal ending.—Mr. Paterson also read notes on a case of Hysteria in which the patient, a woman, produced a number of small pebbles daily from the vulva and urethra.—Mr. J. F. C. Hossack showed a case of Malignant Cystic Disease of the Breast. There was great enlargement of the breast and on aspirating two and a half pints of clear amber-coloured fluid were drawn off. Adenoma-like nodules could be felt. The patient refused operation. The cyst filled up rapidly after being aspirated.—Mr. W. W. Sinclair read a paper on Sympathetic Disease.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—A meeting of this society was held at 20, Hanover-square, W., on March 28th, Dr. H. Radcliffe Crocker being in the chair.—Dr. Crocker showed a girl suffering from a second attack of Dermatitis Herpetiformis. He was treating her with salicin.—Dr. C. F. Marshall showed two cases of Pemphigus, a brother and sister. The woman was aged 19 years and the man 39 years. The disease dated from birth in both cases. The nails in both patients were uplifted from their beds. There were six other brothers and sisters in the family, all of whom were free from either skin or nail disease.—Dr. D. Walsh showed a case of Acne with Varioliform Characters.—Dr. A. Eddowes showed a case of Lupus of the Nose in a girl, the disease having started from within the nose cavity. He also showed a girl with Bazin's Disease. There was no ulceration. She had a good family history so far as tubercle was concerned.—Dr J. H. Stowers remarked upon the good effects produced by the local application of bisulphuret of mercury ointment, six grains to the ounce.—Dr. T. D. Savill showed a peculiar case of Acne of the Face in a girl.—Dr. Crocker considered it to be a sweat follicular eruption, what he had termed sweat acne rosacea. He treated such cases with ichthyol internally and remarked upon the possible disfiguring effects if lead applications were used locally during the treatment.—Mr. G. Pernet read notes of a case of Multiple Cancer of the Skin by Dr. Allworthy of Belfast. Mr. Pernet specially pointed out that on section occasional melanotic patches were visible. No melanosis was observable on the surface of the skin or tumours.—Dr. D. Walsh read notes of the progress and end of a case of Mycosis Fungoides previously shown to the society.

Reviews and Notices of Books.

Report of the Malaria Expedition of the Liverpool School of Tropical Medicine and Medical Parasitology. Memoir II. By MAJOR RONALD ROSS, I.M.S., Lecturer in Tropical Medicine, University College, Liverpool; Dr. H. E. ANNETT, Demonstrator in Tropical Pathology; and Mr. E. E. AUSTEN, of the Zoological Department of the British Museum. With Supplementary Reports by Major G. M. GILES, I.M.S., and Dr. R. FIELDING-OULD. Illustrated with Maps and Plates. Liverpool: University Press. 1900. Pp. 58. Price 10*s* 6*d*. net.

THE introductory remarks of the above report deal with the discovery of the hæmamœbidæ, a group of unicellular parasites of the red blood corpuscle found in man and in certain kinds of monkeys, bats, birds, and frogs, a description of which was given in Memoir I. which was published in THE LANCET of Feb. 3rd. Some alterations have been made in the terminology of Memoir II. For instance, the word "mosquito" has been discarded for its English equivalent, "gnat," which is looked upon as a synonymous term. The terms "malaria" and "malarial fever" are also stated to be unsound, while "paludism" is inexact. The authors venture to suggest the appellations "hæmamœbiasis" or "gnat fever" for the disease which is the subject of the report, which, they consider, will at least serve to popularise more correct notions of the malady than are implied in the word "malaria." Chapter II. includes a description of Freetown, the capital of the British colony of Sierra Leone, which contains a population of upwards of 30,000 persons and has an excellent water-supply which is brought from the adjacent hills in pipes. There is neither sewage drainage nor removal system for night-soil. Deep pits, or rather

granular kidney—still remains undecided, many authorities maintaining that an acute parenchymatous nephritis never actually passes beyond the contracting white stage, whilst others believe that the process may be traced further until the contracted red kidney is produced.

The relation of granular kidney to arterial disease is discussed at some length and the following conclusion is arrived at—that, "whether primarily arterial or primarily renal, granular kidney is a disease *sui generis*, and ought on that account to be treated, in writing upon the subject, under a separate heading and not split up, as it generally is, between diseases of the arteries, on the one hand, and diseases of the kidneys on the other." The author speaks quite as definitely on the relation of gout to granular kidney; he admits the frequent co-existence of the two conditions but maintains that this does not establish the relation between them, "for in the one case an elderly person who has long suffered from gout may, as a consequence, develop atheromatous changes in his vessels, which may lead to interstitial changes in the kidney; while a younger person with granular kidney develops gout in consequence of the renal disease." In other words, it is stated that gouty kidneys and granular kidneys are not necessarily identical. If Dr. West's contention receives general recognition the synonymous employment of these expressions, which appears in most text-books, will need alteration.

The remarks on Thickening of the Arteries and on High Tension will well repay perusal. Dr. West believes that there is presumptive evidence in favour of regarding certain cases of high pulse-tension or thickened arteries in the young as the initial stages of granular kidney.

An important section of the book is the one dealing with albuminuria. There has been much discussion during recent years regarding "physiological albuminuria," especially in relationship with life assurance. Dr. West considers no albuminuria as being, strictly speaking, physiological; "it is always pathological, though not necessarily renal." A great deal of interest lies in trying to ascertain the courses which these cases run in after life, and for details of the discussion we refer our readers to the work now under notice. Considerable stress is naturally laid on the age of the patient yielding the phenomenon of albuminuria. All cases must be carefully watched for a long time before nephritis can be positively excluded; the more constant and persistent the albuminuria the greater is the probability of renal disease, and the longer it continues the more serious is the outlook. Before 25 years of age many cases may be curable, after 25 years of age the chances of the albuminuria being due to renal disease increase rapidly and these facts have to be especially borne in mind in relation to life assurance.

Dr. West enters very fully into the description and consideration of albuminuric retinitis and draws a sharp distinction between the two forms, the degenerative and the exudative.

The clinical description of the symptoms of granular kidney is excellently portrayed. Two groups are described: the cardio vascular and the toxæmic, and the introduction of numerous illustrative cases adds to the interest of the descriptions.

The chapter on Treatment should prove most helpful to all practitioners; a more hopeful tone is adopted than is generally the case with authors discussing the subject. Dr. West maintains that the great difficulty to be contended with is the belief that granular kidney is an incurable disease and that nothing can be done for the patient. When the disease is properly recognised and treated it "is compatible with a fairly long life and with a fairly comfortable life too." The earlier the diagnosis is made the better is the prognosis. The dangers that threaten the patient can then be guarded against and so life can be greatly prolonged.

The whole book is written in a style that is very readable. At the end of each section or sub-section the subject-matter is summed up under the head of "Conclusions." This renders reference more easy and also enables the reader to refresh his memory with regard to what he has already read. Dr. West may be congratulated on having produced a valuable and instructive book on a disease which is very common and yet very imperfectly understood.

Dictionary of National Biography. Edited by SIDNEY LEE. Vol. LX. Watson—Whewell. London: Smith, Elder, and Co. 1899. Pp. 469. Price 15*s*.

THE most important figure in this volume, from the general reader's point of view, is the first Duke of Wellington. The biography of him is by Colonel E. M. Lloyd, R.E., extends to 35 pages, and concludes with an extract from Lord Roberts's "Rise of Wellington," in which his military talents and those of Napoleon are compared as follows: "It may be conceded that the schemes of the French emperor were more comprehensive, his genius more dazzling, and his imagination more vivid than Wellington's. On the other hand, the latter excelled in that coolness of judgment which Napoleon himself described as 'the foremost quality in a general.'"

The biographies of medical men are 26 in number. Of the individuals thus commemorated one was a president of the Royal College of Physicians of London, one a president of the Royal College of Surgeons of England, and one a president of the Faculty of Physicians and Surgeons of Glasgow; of the whole number only six were born during the present century (i.e., later than 1800). Thomas Watson was born in Devonshire in 1792, entered at St. John's College, Cambridge, in 1811, graduated B.A. as tenth wrangler in 1815, and was elected a Fellow in 1816. After studying medicine at St. Bartholomew's Hospital and in Edinburgh he again resided at Cambridge, where he was junior proctor in 1823-24 and graduated M.D. in 1825. In 1826 he was elected a Fellow of the Royal College of Physicians of London and in 1827 physician to the Middlesex Hospital which was then connected with University College. He was professor of clinical medicine and lectured from 1828 to 1831. In 1831 he became lecturer on forensic medicine at King's College, London, and in 1835 professor of medicine, an office which he held till 1840. He continued to be physician to the Middlesex Hospital till 1843. In that year he published his "Lectures on the Principles and Practice of Physic," which had first been printed in the *Medical Times and Gazette*, and continued to be for 30 years the chief English text-book of medicine. "It contains no discoveries, but is based upon sound clinical observations, gives a complete view of English medicine of its period, and is remarkable for its good literary style." In 1859 he was appointed physician extraordinary to the Queen and in 1870 physician in ordinary. He was one of the physicians who attended the Prince Consort in his last illness. In 1862 he was elected president of the Royal College of Physicians of London and was re-elected for five successive years. He was created a baronet in 1866, retired from practice soon after 1870, and died in 1882. Thomas Spencer Wells was born in Hertfordshire in 1818 and after being a pupil to practitioners in Barnsley and Leeds proceeded to Trinity College, Dublin, in 1836. In 1839 he entered as a student at St. Thomas's Hospital in London, in 1841 became qualified as M.R.C.S. Eng., and in 1844 was admitted a Fellow. After six years' service in the navy, passed at a hospital in Malta, followed by a visit to Paris and Egypt, he settled in London in 1853 and in 1854 was elected surgeon to the Samaritan Free Hospital for Women and Children, then situated in Orchard-street,

Portman-square. At the same time he was editor of the *Medical Times and Gazette* and in 1857 he became lecturer upon surgery at the Grosvenor-place School of Medicine which eight years later was merged in the medical school of St. George's Hospital. Spencer Wells completed his first successful ovariotomy in February, 1858, and in 1880 he performed his thousandth ovariotomy. For exactly 20 years he operated at the Samaritan Free Hospital where he resigned his position as surgeon in 1878. "Wells was the originator of modern abdominal surgery. He found *ovariotomy a discredited operation, but even before the* introduction of antiseptics his success was sufficient to render its performance justifiable." He filled all the principal offices at the Royal College of Surgeons of England, being president in 1883 and receiving a baronetcy in the same year. Spencer Wells was an ardent advocate of cremation and on his death in 1897 his remains were cremated at Woking, the ashes being interred in the Brompton cemetery. William Watson was born in London in 1715, followed the profession of an apothecary, and was elected a Fellow of the Royal Society in 1741, between which date and his death in 1787 he contributed to the "Philosophical Transactions" more than 58 papers on natural history, electricity, and medicine. In 1759 he was admitted L.R.C.P. Lond., and in 1762 was chosen physician to the Foundling Hospital. In 1784 he was elected F.R.C.P. Lond., was censor of the College in 1785 and 1786, and was knighted in the latter year. John Webb, born in Dublin in 1772, was appointed an assistant surgeon in the army in 1794, and rose to be inspector-general in 1809 and Director-General in 1813. It is stated that he had the degree of M.D., but of what university is not known. He received the diploma of M.R.C.S. Eng. in 1817, and was made a Fellow in December, 1843, being one of the first batch of 300 Fellows created at that date. He was knighted in 1821, retired on full pay in 1850, and died in 1852. John Wedderburn was born at Dundee in 1599, graduated at St. Andrews University in 1618, was appointed physician to the King, was knighted, and obtained a pension from Charles I. He was incorporated M.D. of Oxford University in 1646 and died in 1679. John Forbes Watson was born in Scotland in 1827, studied medicine at the university of Aberdeen, and graduated there as M.D. in 1847. Appointed assistant surgeon in the Bombay army in 1850 he afterwards became lecturer on physiology at the Grant Medical College, where for a time he also acted as professor of medicine and lectured on clinical medicine. He returned to England in 1853, and in 1858 was nominated by the Secretary of State reporter on the products of India and director of the India Museum, appointments which he held till the transference to South Kensington of the India Museum in 1879. He was the author of several works on subjects relating to India. He retired from the India Office in 1889 and died in 1892. Robert Watt was born in Ayrshire in 1774, studied medicine in Glasgow, and in 1799 received the diploma of L.F.P.S. Glasg., to which was added the degree of M.D. from King's College, Aberdeen, in 1810. In 1814 he was elected president of the Faculty of Physicians and Surgeons and physician to the Royal Infirmary of Glasgow. He was also a founder and the first president of the Glasgow Medical Society. He was the author of several works, but the one on which his reputation rests is the "Bibliotheca Britannica," which began to appear shortly before the author died in 1819, and finally left the press in 1824. The writer of the notice says of this work that it "is still one of the hardiest tools of the librarian and bibliographer." Francis Cornelius Webb was born in London in 1826, studied medicine at University College, received the diploma of M.R.C.S. Eng. in 1847, and graduated as M.D. at Edinburgh University in 1850. In 1857 he was nominated to the chair of medical jurisprudence in the Grosvenor-place School of Medicine, and subsequently he was lecturer on natural history at the Metropolitan School of Dental Science. He published several original works, and contributed notes to John Hunter's treatise on the teeth. "Hunter's Natural History of the Human Teeth," with notes by Webb and R. T. Hulme, appeared in 1865. A few years later Webb became one of the editors of the *Medical Times and Gazette*, and for the last years of his life he was editor-in-chief. He died in 1873. William Charles Wells was born of Scottish parents in Charlestown, South Carolina, in 1757, studied medicine in Edinburgh and graduated there as M.D. in 1780. About 1785 he settled in London. In 1795 he was elected assistant physician to St. Thomas's Hospital and in 1800 physician, which office he held till his death in 1817. In 1814 he published "An Essay on Dew" which has made his name familiar to meteorologists. For this, the first exact explanation of the phenomena of dew, he was awarded the Rumford medal of the Royal Society. Friedrich Martin Josef Welwitsch, born in Austria in 1807, and M.D. of the University of Vienna, was a distinguished botanist, most of whose work was done in Portugal and tropical Africa. He lived in England, studying and arranging his collections, from 1863 till his death in London in 1872. Thomas Wendy, a member of a Suffolk family, was born in 1499 or 1500, studied medicine abroad, graduated as M.D. at Ferrara, and was incorporated in this degree at Cambridge in 1527. He was physician successively to Henry VIII., Edward VI., and Queen Mary. He died in 1560. Charles West was born in London in 1816, studied medicine in London and on the continent, and graduated M.D. of Berlin University in 1837. In 1845 he became lecturer on midwifery to the Middlesex Hospital; in 1848 he was appointed lecturer on the same subject to St. Bartholomew's Hospital and held office for 12 years. In 1852, largely owing to his exertions, the Hospital for Sick Children was opened in Dr. Richard Mead's house in Great Ormond-street, London, and he became its senior physician, an office which he held for 23 years. He died in Paris in 1898. Nathaniel Thomas Wetherell was born in 1800, studied medicine at the Middlesex Hospital, and after passing the examinations of the Royal College of Surgeons of England settled at Highgate. He formed important geological collections which were ultimately acquired by the British Museum and the Jermyn-street Museum. He died at Highgate in 1875. Henry Thornton Wharton was born at Mitcham in 1846 and studied medicine at Oxford and at University College, London. He took the degrees of B.A. and M.A. at Oxford in 1871 and 1874 respectively, and the diploma of M.R.C.S. Eng. in 1875. He practised for some years at South Hampstead and died there in 1895. He is best known for an admirable book on Sappho, which has passed through four editions. He was also one of the joint compilers of the official list of British birds issued by the British Ornithologists' Union (1883).

Among the non-medical biographies, reference may be made to that of James Watson (1703-1774), "radical publisher," of whom it is said that Thomas Walley, the Founder of THE LANCET, was "among his comrades in the most active period of his life." The present volume also contains a biographical notice of Benjamin Robert Wheatley (1819-1884), bibliographer, well known as a compiler of catalogues and indices. In 1855 he was appointed assistant librarian of the Royal Medical and Chirurgical Society.

LIBRARY TABLE.

Medical Index Guide. By D. G. M. SCHLEIFER, M.D. London and Edinburgh: Williams and Norgate. 1899. Pp. 18. Price 3s. net.—This work gives simple

instruction for the practice of gymnastic exercises without the aid of any apparatus other than a stick or light dumb-bells. Dr. Schreiber's instructions show plainly how very simple exercises may be easily within the reach of all. We are glad to see a warning against the use of heavy dumb-bells.

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A NEW INCUBATOR.

DR. C. TONZIG, senior assistant to the Istituto d'Igiene of the University of Padua, has sent us a photograph and description of a new incubator for gelatin cultures which is said to be very satisfactory in its action. It consists of a wooden case of which the horizontal measurements are 22 inches by 15 inches, and the height 23 inches. A tube of sheet zinc three inches in diameter passes vertically through the middle of the wooden case and projects both above and below. At the lower end it is expanded into the shape of a flat-bottomed cone, beneath which a gas flame is placed. At the upper end there is a thermometer and a thermo-regulator for the gas supply. The zinc tube is filled with water which is heated 10° C. above the temperature required in the incubator. Observations made in the bacteriological laboratories of the Istituto d'Igiene showed that the temperature thus produced in the incubator was constant and uniform, and that when regulated to 20° C. it did not rise over 22° C., so that there was no melting of the gelatin even when the temperature of the room rose to 19° C. (66°F.). These observations were made with several thermometers placed at different levels in the incubator, and also with a Richards registering thermometer.

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Arrangements have therefore been made in order to give facilities to medical practitioners for bacteriological examination in cases of suspected anthrax in which the infection is believed to have been contracted in a factory or workshop. The conditions are that the approval of the medical inspector of factories (Dr. T. M. Legge, Home Office) be obtained in each instance, that upon receipt of such approval the material be taken and packed by the practitioner without delay in accordance with certain directions appended and sent forthwith to the bacteriologist appointed for the purpose by the Home Office with a full statement of particulars in the prescribed form, of which a copy is appended. Where the practitioner considers this course advisable he should report the case (under s. 29, 1895, in the ordinary way) as probably due to anthrax contracted in a factory or workshop, adding that the diagnosis is doubtful and is not being followed up by bacteriological examination and that he is prepared to forward samples.

The following directions are laid down in the Memorandum from the Factory Department of the Home Office to be observed in the collection and despatch of material:—

External anthrax.—If excised the pustule is to be placed untreated, wrapped in a little cotton-wool or lint that has been boiled, in a small glass bottle.

If the pustule is not excised lymph from a vesicle or from the exudation, should be collected in sterile capillary vaccine tubes, the ends of which should then be sealed in a flame in the usual way.

Cover glass preparations, made by smearing with a small quantity of exudation and then dried without staining, may also be sent with advantage.

Internal or fatal external anthrax.—Portions of the lungs and spleen and the pustule itself (if the case be one of external anthrax) and samples of pleuritic, pericardial, or peritoneal fluid collected in tubes, as already described, should be sent.

The regulations of the General Post Office concerning the forwarding by post of deleterious liquids for medical *examination or analysis must be observed.* They will be found on p. 28 of the current Post Office Guide.

The approval of the medical inspector, whether in the form of letter or telegram, should be forwarded to the bacteriologist named therein (as his authority for proceeding with the examination), with the samples and the particulars of the case.

THE LANCET.

LONDON, SATURDAY, APRIL 7, 1900

WE have good reason for believing that the further stages of the Midwives Bill will not be taken till after Whitsuntide. The circumstance may encourage the opponents of the Bill to hope that their turn has come, and that as the chapter of accidents has so far favoured the Bill it may in the future have an opposite effect. There is little foundation for the view, but if they wish to use every advantage which it suggests to them it behoves them to take good note of all the facts of the situation. They must realise the undoubted existence of a large Parliamentary feeling in favour of some such measure being passed. If they are of opinion that the faults of this Bill are gross and incapable of amendment it is their duty even after a triumphant second reading to place every obstacle in the way of its passing. Above all things they should define exactly their objections, and this we are glad to know is beginning to be done. Sheer opposition to the Bill simply because it is a Midwives Bill will ensure no attention, but opposition on grounds which can be clearly defined and justified will always command respect even if it is unsuccessful.

A considerable responsibility rests upon the General Medical Council and the probable delay in the further progress of the Bill should be satisfactory to that body, inasmuch as it may give them an opportunity of considering in session the changes in the Bill since its passage through the Standing Committee on Law. They will be able to judge how far the promoters of the Bill have conformed to the demand of the Privy Council that certain points should be conceded by them in deference to the strong views of the General Medical Council. The chief of these views may be summarised as follows:—

The unlicensed practice of midwifery for gain as well as the false use of titles should be made illegal.

The functions of the Midwives Board should include the framing of the regulations for the conduct and practice of midwives, especially for restricting such practice to normal cases.

The rules of the Midwives Board should be subject to the approval of the General Medical Council.

Provision should be made by Act of Parliament for reimbursing the General Medical Council for any expenditure which they may incur in performing their duties under the Act.

The conditions under which licences to midwives are granted should include satisfactory evidence of character as well as of training and experience in the conduct of natural labour and in the after-care of lying-in women and newly born infants.

Provision should be made securing that the midwife in cases of abnormality shall seek qualified medical assistance.

Such are the main points insisted upon by the General Medical Council, and they have stated themselves opposed to the passing of any Bill which does not contain them. It is for the Council to say how far these points are safeguarded in the Bill now emerging from the Standing Committee on Law. We believe that the Midwives Committee of the General Medical Council are closely watching the progress of the measure with a view to obtaining the insertion of provisions in accordance with their views. But it will be a question for them and for the President of the General Medical Council to consider whether it would not be justifiable to antedate the meeting of the Council, so that the Government may have the benefit of the opinion of the entire Council before giving its last decision on the measure. We recognise that at several critical points Mr. HEYWOOD JOHNSTONE, representing the promoters of the Bill, has complied with the requirements of the General Medical Council. But there is necessity for care on the part of the Council, if not excuse for suspicion. One alteration of the Bill by the Standing Committee on Law is most unsatisfactory. We refer to the definition of the word "midwife." According to the definition the word midwife "means a woman who undertakes for reward to attend women in childbirth where no registered medical practitioner is engaged or employed." Where is the superiority of this definition over that of the General Medical Council defining the term "midwife" as meaning a woman who undertakes for gain to attend cases of natural labour and who is not registered under the Medical Acts? The new definition, proposed by Mr. HEYWOOD JOHNSTONE himself, seems to make the midwife's practice cover all cases of childbirth, normal or abnormal. It comes, too, at the end of the Bill instead of at the beginning, where it should be placed so as to dominate and guide the interpretation of the Bill. We miss, also, in the Bill in its present form any treatment—thought "imperative" by the General Medical Council—that the midwife on the occurrence of any irregularity shall seek medical assistance. The very essence of the conditions on which a medical body can consent to legislation licensing the midwife is that as far as possible in abnormal cases the attendance of the medical man shall be secured in addition to that of the midwife. The point that evidence of character shall be forthcoming in regard to all applicants for a licence, whether on the score of being in practice or on that of training, has been starred. The Bill only requires such evidence in the case of those eligible to be licensed on the ground of being in practice at the time of the passing of the Act.

One other conspicuous omission from the Bill which should have the attention of the General Medical Council is that of any allusion to an important part of the midwife's duty—the after-care of the lying-in woman and child. Is this function now to cease and is the lying-in woman to be at the mercy of any untrained and dirty nurse? The General Medical Council will not think so in their communication to the Privy Council on the subject. The Council of nursing duties in the case of attendance at childbirth tends to recall to the public a recognition of the midwife and also to emphasise the financial problem of the working man. We hope enough to show that the General Medical Council will take steps to cover the Bill [illegible] which they might well feel [illegible] in delivering [illegible]

instruction for the practice of gymnastic exercises without the aid of any apparatus other than a stick or light dumb-bells. Dr. Schreiber's instructions show plainly how very simple exercises may be easily within the reach of all. We are glad to see a warning against the use of heavy dumb-bells.

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Arrangements have therefore been made in order to give facilities to medical practitioners for bacteriological examination in cases of suspected anthrax in which the infection is believed to have been contracted in a factory or workshop. The conditions are that the approval of the medical inspector of factories (Dr. T. M. Legge, Home Office) be obtained in each instance, that upon receipt of such approval the material be taken and packed by the practitioner without delay in accordance with certain directions appended and sent forthwith to the bacteriologist appointed for the purpose by the Home Office with a full statement of particulars in the prescribed form, of which a copy is appended. Where the practitioner considers this course advisable he should report the case (under s. 29, 1895, in the ordinary way) as probably due to anthrax contracted in a factory or workshop, adding that the diagnosis is doubtful and is not being followed up by bacteriological examination and that he is prepared to forward samples.

The following directions are laid down in the Memorandum from the Factory Department of the Home Office to be observed in the collection and despatch of material:—

External anthrax.—If excised the pustule is to be placed untreated, wrapped in a little cotton-wool or lint that has been boiled, in a small glass bottle.

If the pustule is not excised lymph from a vesicle or from the exudation, should be collected in sterile capillary vaccine tubes, the ends of which should then be sealed in a flame in the usual way.

Cover glass preparations, made by smearing with a small quantity of exudation and then dried without staining, may also be sent with advantage.

Internal or fatal external anthrax.—Portions of the lungs and spleen and the pustule itself (if the case be one of external anthrax) and samples of pleuritic, pericardial, or peritoneal fluid collected in tubes, as already described, should be sent.

The regulations of the General Post Office concerning the forwarding by post of deleterious liquids for medical examination or analysis must be observed. They will be found on p. 28 of the current Post Office Guide.

The approval of the medical inspector, whether in the form of letter or telegram, should be forwarded to the bacteriologist named therein (as his authority for proceeding with the examination), with the samples and the particulars of the case.

THE LANCET.

LONDON, SATURDAY, APRIL 7, 1900

WE have good reason for believing that the further stages of the Midwives Bill will not be taken till after Whitsuntide. The circumstance may encourage the opponents of the Bill to hope that their turn has come, and that as the chapter of accidents has so far favoured the Bill it may in the future have an opposite effect. There is little foundation for the view, but if they wish to use every advantage which it suggests to them it behoves them to take good note of all the facts of the situation. They must realise the undoubted existence of a large Parliamentary feeling in favour of some such measure being passed. If they are of opinion that the faults of this Bill are gross and incapable of amendment it is their duty even after a triumphant second reading to place every obstacle in the way of its passing. Above all things they should define exactly their objections, and this we are glad to know is beginning to be done. Sheer opposition to the Bill simply because it is a Midwives Bill will ensure no attention, but opposition on grounds which can be clearly defined and justified will always command respect even if it is unsuccessful.

A considerable responsibility rests upon the General Medical Council and the probable delay in the further progress of the Bill should be satisfactory to that body, inasmuch as it may give them an opportunity of considering in session the changes in the Bill since its passage through the Standing Committee on Law. They will be able to judge how far the promoters of the Bill have conformed to the demand of the Privy Council that certain points should be conceded by them in deference to the strong views of the General Medical Council. The chief of these views may be summarised as follows —

The unlicensed practice of midwifery for gain as well as the false use of titles should be made illegal.

The functions of the Midwives Board should include the framing of the regulations for the conduct and practice of midwives, especially for restricting such practice to normal cases.

The rules of the Midwives Board should be subject to the approval of the General Medical Council.

Provision should be made by Act of Parliament for reimbursing the General Medical Council for any expenditure which they may incur in performing their duties under the Act.

The conditions under which licences to midwives are granted should include satisfactory evidence of character as well as of training and experience in the conduct of natural labour and in the after-care of lying in women and newly born infants.

Provision should be made securing that the midwife in cases of abnormality shall seek qualified medical assistance.

Such are the main points insisted upon by the General Medical Council, and they have stated themselves opposed to the passing of any Bill which does not contain them. It is for the Council to say how far these points are safeguarded in the Bill now emerging from the Standing Committee on Law. We believe that the Midwives Committee of the General Medical Council are closely watching the progress of the measure with a view to obtaining the insertion of provisions in accordance with their views. But it will be a question for them and for the President of the General Medical Council to consider whether it would not be justifiable to antedate the meeting of the Council, so that the Government may have the benefit of the opinion of the entire Council before giving its last decision on the measure. We recognise that at several critical points Mr. HEYWOOD JOHNSTONE, representing the promoters of the Bill, has complied with the requirements of the General Medical Council. But there is necessity for care on the part of the Council, if not excuse for suspicion. One alteration of the Bill by the Standing Committee on Law is most unsatisfactory. We refer to the definition of the word "midwife." According to the definition the word midwife "means a woman who undertakes for reward to attend women in childbirth where no registered medical practitioner is engaged or employed." Where is the superiority of this definition over that of the General Medical Council defining the term "midwife" as meaning a woman who undertakes for gain to attend cases of natural labour and who is not registered under the Medical Acts? The new definition, proposed by Mr. HEYWOOD JOHNSTONE himself, seems to make the midwife's practice cover all cases of childbirth, normal or abnormal. It comes, too, at the end of the Bill instead of at the beginning, where it should be placed so as to dominate and guide the interpretation of the Bill. We miss, also, in the Bill in its present form any enactment — thought "imperative" by the General Medical Council—that the midwife on the occurrence of any irregularity shall seek medical assistance. The very essence of the conditions on which a medical body can consent to legislation licensing the midwife is that as far as possible in abnormal cases the attendance of the medical man shall be secured in addition to that of the midwife. The point that evidence of character shall be forthcoming in regard to all applicants for a licence, whether on the score of being in practice or on that of training, has been slurred. The Bill only requires such evidence in the case of those claiming to be licensed on the ground of being in practice at the time of the passing of the Act.

One other conspicuous omission from the Bill which should have the attention of the General Medical Council is that of any allusion to an important part of the midwife's duty—the after-care of the lying-in woman and child. Is this function now to cease and is the lying-in woman to be at the mercy of any untrained and dirty nurse? The General Medical Council did not think so in their communication to the Privy Council on the subject. The divorce of nursing duties from those of attendance at childbirth tends to revolutionise the whole conception of the midwife and also to complicate the financial problems of the working man. We have said enough to show that the General Medical Council should take steps to amend the Bill in several directions, and they might well insist somewhat upon deferring [illegible]

their views. For Parliament has been explicitly assured that the existing Bill has their approbation, while it appears that in many directions this is not the case. And if the Midwives Committee does not feel strong enough to act, it would be advisable to call the Council together.

THE council and members of the Chelsea Clinical Society are to be congratulated on the success of their recent annual clinical debate. The subject selected was "The Treatment of Rheumatism, with special reference to Prophylaxis and Cardiac Complications." We have published in THE LANCET full reports of three of the principal speeches and also lengthy abstracts of the others, so that our readers will be able to follow in detail the remarks of the speakers who took part in the debate.

It was unavoidable that in discussing the treatment of acute rheumatism some allusion should be made to the pathogeny of the disease. In the most modern text-books on medicine acute rheumatism is removed from the section on "general diseases" and placed amongst the specific fevers, Professor OSLER, for example, defining "rheumatic fever" as "an acute non-contagious fever, dependent upon an unknown infective agent and characterised by multiple arthritis and a marked tendency to inflammation of the fibrous tissues." Amongst the various definitions proposed by speakers at the Chelsea Clinical Society perhaps the most apt was the one suggested by Dr. ARCHIBALD GARROD: "a systemic disease with arthritic and cardiac manifestations." Dr. D. B. LEES's contention that it is a "cardiac disease with arthritic complications" did not meet with such general acceptance. The microbic origin of the disease was frequently referred to although it was admitted that a pathogenic organism had not at present been demonstrated; yet the supposition that such exists forms a working hypothesis as was granted by some of the speakers, or, as Sir RICHARD DOUGLAS POWELL pithily expressed it, "the profession are certainly prepared to accept, if not to welcome, the arrival of a microbe as representative of the rheumatic disease provided that it be duly accredited to us by scientific investigation."

The main interest of the debate centred in the treatment of acute rheumatism by the salicylates. Dr. W. EWART, who opened the discussion, remarked that "this form of treatment is now a routine, hardly questioned from a critical standpoint by the prescriber." Such is probably the case amongst the vast majority of practitioners, but the remarks of Dr. DONALD HOOD and Dr. BURNEY YEO showed that doubt still existed in their minds. Both these speakers advocated a larger use of the "alkaline treatment," and probably a remark of Sir R. DOUGLAS POWELL may prove correct: "The effect of the discussion will be to rehabilitate alkalies in our good graces"; but concerning the opinions generally held as to the good effects of the salicylates there could be no doubt. Dr. ISAMBARD OWEN said that his observations had led him to believe in the truth of the hypothesis which Dr. T. J. MACLAGAN had put forward for a score of years that rheumatic fever was a specific disease produced by a specific germ and that the action of the salicyl compounds was specific. Dr. C. C. GIBBES maintained that sufficient importance had not been given to the nature of the salicylate compound prescribed, and he advocated that the natural form should be used instead of the artificial which was the British Pharmacopœia form; larger doses of the former could be given with less ill effects. This point is worthy of further investigation. The general opinion expressed was that the salicylates should be given in large and repeated doses at first, any indications of idiosyncrasies on the part of the patient being watched for, and after the pain and temperature had subsided the dose should be gradually decreased, but that the use of the drug should be maintained for some time. This is the method of practice usually adopted and with great success, but one reason why the salicylates have fallen somewhat into disrepute is owing to the relapses which not infrequently manifest themselves. It is very difficult to convince patients that when the active symptoms have abated the disease is not yet at an end. Consequently the patients get up and about too quickly and suffer the penalty of a relapse. It should be insisted that there should be absolute and prolonged rest after the subsidence of the symptoms. This method of treatment relieves the pain and lowers the temperature, but does not cure the rheumatic illness and it does not shorten the duration of that illness. Therefore a period of from four to six weeks is required before convalescence can be established, and should complications arise this time may be greatly prolonged. The statistics quoted by Sir R. DOUGLAS POWELL and procured from the records of the Middlesex Hospital supported the favourable claims made for salicylates.

The effects of the salicyl compounds on the heart were, as might be expected, discussed by nearly all the speakers. Dr. A. E. SANSOM laid especial stress on the slow evolution of the morbid process involved; remarking that whatever the nature of the primary agency, the resulting toxic effects must be very subtle in their early manifestations and very protracted in their course. More especially is this the case in the earlier years of life when diseases, undoubtedly of rheumatic form, occur unnoticed and unrecorded, and endocarditis with resulting valvulitis causing persistent and increasing lesions of the cardiac structures may ensue. He pointed out that there were so many difficulties in estimating the occurrence of heart lesions that this part of the subject was taken out of the range of statistical inquiry. Dr. T. J. MACLAGAN, who was the first in England to substitute salicin for the salicylates, doubted whether cardiac complications were more frequent with this form of treatment than before, but Dr. EWART and other speakers maintained that statistics proved that, at any rate, cardiac disease following on rheumatic fever has not been lessened by the introduction of the salicylates. It was evident that opinion in this matter was undecided and that further statistics are necessary before a definite conclusion can be arrived at. With regard to the treatment of rheumatic endocarditis it was agreed that digitalis did no good and the rest and continuance of the salicylates were the main points to be observed, although, as Dr. SANSOM pointed out, the imposition of complete rest may be overdone, and in some of the more chronic cases valuable help may be obtained from gradual muscular exercises and baths, but

considerable judgment and experience are necessary in their employment. Dr. R. CATON's remarks on the application of small blisters along the course of the first, second, third, and fourth dorsal nerves excited considerable interest. He maintained that this treatment materially lessened the cardiac complications and he adduced remarkable evidence in favour of his views; doubtless other physicians will make a trial of his methods.

The members of the Chelsea Clinical Society have performed a good service in bringing about this discussion, for as one speaker observed "it is of a distinct value that we should at certain periods—the intervals being not too short—take stock of our therapeutic resources." The salicylates have now been in use for many years, and other methods of treating acute rheumatism have perhaps fallen somewhat into abeyance; therefore the opportunity afforded by the Chelsea Clinical Society of "taking stock of our therapeutical resources" with regard to rheumatism was very timely. The result on the whole has been to justify the confidence with which the salicylates have been so largely used.

IN an action that was tried last week a gentleman named SMITH and his wife recovered damages from the Inns of Court Hotel Company for injuries suffered by them from negligence of the hotel proprietors in supplying to them at the hotel poisonous and deleterious food on June 17th, 1899, in consequence whereof they became seriously ill. This case arose out of an incident which attracted considerable attention during last summer, a large number of persons, two of whom died, becoming ill after having partaken of the table d'hôte dinner provided by the hotel in question. The evidence on behalf of the plaintiffs at the trial was that of themselves and of medical men who had attended them or other patients, or to whom the viscera of the persons deceased had been submitted. It pointed to the presence of some irritant poison and proved the presence of ptomaines, but for obvious reasons the plaintiffs were unable to put in the witness-box anyone to prove that the hotel cooks were careless in examining and preparing the food provided. At the conclusion of the plaintiffs' case Sir EDWARD CLARKE, Q.C., pressed the judge to say that there was no evidence of negligence to go to the jury, submitting that the principle involved in the Latin phrase, "*res ipsa loquitur*," did not apply. Mr Justice GRANTHAM did not accede to this view, basing his ruling apparently on the fact that a very large number of guests, about 40 out of 90, became ill, and holding that the jury might lawfully infer from this that the food must have been affected to such an extent that its condition should have been discovered. The question whether there was evidence before the jury may be raised again on appeal, but it is a purely legal one and will not be affected by anything that we may say here. It was, in any case, not surprising that as the case was allowed to go on the jury should have found a verdict for the plaintiffs. Members of the public naturally sympathize with their fellow men who are, to a large extent, at the mercy of those who make a profit by catering for them in hotels and restaurants, while their customers have no means of inspecting and judging for themselves the precautions taken in order that the food provided may be wholesome. The jury, moreover, in considering the case of the Inns of Court Hotel had before them evidence adduced on behalf of the defendants as well as that of the plaintiffs, Sir EDWARD CLARKE having called witnesses on the judge refusing to stop the case after the plaintiff's witnesses only had been heard. The head cook of the hotel, while testifying to the general care exercised by him in supervising the preparing of the meals of the hotel, had been obliged to admit that on the date in question there were used for the dinner preserved apricots from tins which had been opened on the previous day. It is always safer to remove at once all food from tins that have been opened, and some prudent housewives in the case of tinned fruits throw away the liquid found with them and make a fresh syrup in which to serve them. The medical evidence went to show that the persons affected at the Inns of Court Hotel suffered from eating animal food in an improper condition rather than from metallic poisoning, but the jury may have thought this evidence inconclusive or may have considered that if in the matter of tinned fruits the care exercised was not of the highest order a similar state of affairs might have existed with regard to other comestibles as well. They had before them evidence that it was possible for ptomaines to be present to some extent and for their presence to be undetected even by those exercising considerable care. On the other hand, they also probably had before their minds the fact that it may be possible to discover that meat is in an improper condition while it is in the cooks' hands, and that it may yet reach the table in the form of soups or made dishes so disguised that the most careful consumer will detect nothing wrong. In short, if there was from a legal point of view evidence on which the jury might base their verdict their verdict was not surprising, and if it tends to cause extra care to be taken in hotels and restaurants its result may be beneficial. At the same time it cannot be said that conclusive proof was adduced as to what was wrong with the dinner in question or with what individual the responsibility lay, nor is it likely that such proof will often be forthcoming in such cases.

Annotations.

"Ne quid nimis."

THE ATTEMPT UPON THE LIFE OF THE PRINCE OF WALES.

ON Wednesday last, the day when Her Majesty the Queen was receiving in Ireland the most significant demonstration of personal affection that ever she has received in the course of her extended and beneficent reign, the Heir Apparent to her throne was made the subject of a crazy attack which came near to cost him his life. "*Fuoco fuoco!*" the Prince of Wales is reported to have said of the unhappy lad who fired at him in the Brussels railway station, and poor madman of course the boy is; but the power for mischief of such madness is well nigh incredible, a terrible fact that must be locked by all governments squarely in the face. Providence has willed that Royalty should not secure for itself the infamy of Sacred Majesty and Inviolability, but the escape of the Prince of Wales was an exceedingly narrow one and Europe must, with a new fear for

a state of things which makes such crimes feasible. For the possibility that they can take place is an insult to modern sociology. How can the resources of civilisation more conspicuously be found wanting than when, as in the sad deaths of President Carnot and the Empress of Austria, the measures taken for the protection of the meanest citizens from the pettiest acts of oppression fail to protect the ruling head from the assassin? The direction, however, in which to look for a remedy is rendered obscure because where a crime is apparently motiveless it is difficult to legislate for the removal of motive. Where the criminals are willing to lay down their lives in the accomplishment of their crimes it will always be difficult to check their furious designs. A more intelligent and better informed international detective system would do something—and we trust, in view of the congregation of notable persons who will shortly assemble in Paris, that measures to this end have already been arranged—but no police espionage can take cognisance of the vapourings of every crazy lad and prevent his crimes by a premature treatment of him as a criminal. One thing can certainly be done—drastic punishment can and should be meted out to the authors and publishers of seditious and inflammatory prints. Sipido was obviously inspired to kill the Prince of Wales by reading the vile personal attacks upon our Royal Family made by certain continental prints subsidised to misrepresent British foreign policy. The providers and purveyors of such poison as is contained in these journals, and in the printed propaganda of anarchistic rabble, should be treated with something of the severity that they desire to mete out to the makers of law and even to all law-abiding folk. Such penal measures are particularly indicated because it must be noted that most of the recent criminal anarchists have been quite young—many, like Sipido, mere boys. Bred in misery and nurtured in hopelessness they have their eyes persistently fixed upon their own sad plight to the exclusion of all softening or enlightening sentiment. To their unbalanced imaginations the wicked railings of the anarchist orator and writer against authority of whatever kind come as revelations of a future where they may play a larger part on the world's stage, and they plunge into crime, not by conviction, but drunk with maniacal vanity. We do not acquit these *pauvres fous* as irresponsible or take any mawkish view of their villanies; but it is the lying propagandist who is the head and front of the evil, and if his sinister business is made an impossible one the juvenile political desperado will cease to exist.

FOOD ADULTERATION AND THE MEANS TO PREVENT IT.

MUCH has been done to prevent as far as possible food adulteration and the selling of food stuffs "not of the nature, substance, and quality demanded," and several Acts have been passed to enable authorities to put down such frauds on the public. But the old adage that a coach and four can be driven through any Act of Parliament seems still to be applicable to the various enactments referred to. In many towns in Lancashire—such as Wigan, Bolton, Oldham, St. Helens, and Blackburn—there are numerous shops carrying on business under various styles signifying that they are limited liability concerns which are well known to the official inspectors as selling regularly and constantly to the public margarine for butter. All sorts of devices are adopted to prevent a conviction being obtained and the apathy of the magistracy in respect of the importance of preventing such imposition being practised on the public is in some cases lamentable. Every obstacle appears to be thrown in the inspector's way, every technical objection that can be found is allowed to influence the magistrates, although it is proved beyond doubt that a fraud has been perpetrated. A device adopted by these fraudulent dealers to prevent the penalties being imposed is frequently to change the name of the tenant of the shop. The inspector may be successful through his agent in getting a sample of butter which turns out to be margarine, and he has a name given to him as that of the tradesman. A few weeks later perhaps he does the same thing and then issues a summons against the tradesman, but only to find that although the same persons are in the shop the ownership is said to have changed. The proprietor of yesterday is only the manager of to-day, and the greatest technical difficulty arises in bringing home the guilt to the guilty, the magistrates being averse to fine more than one person for the same offence. The Wigan sanitary inspector has been conducting of late a series of prosecutions of tradesmen for selling margarine for butter, and although there has been no doubt about the analysis he has not obtained the amount of penalties which would help to stop the nefarious practice. What are fines of £10 and costs, £5 and costs, and 40*s*. and costs worth as deterrents considering the enormous profits realised? The defence has been that the salesman is not a responsible owner, but only a manager. Why a manager is not a dealer under the Margarine Act it is difficult to conceive, for there is no doubt that he knows of the fraud and lends himself thereto. The Food and Drugs Act of 1899, which was the result of a long sitting of a Select Committee and was intended to protect agricultural products, apparently does not help inspectors, and until the "shop" or "place" of business and the manager and servants are included as dealers there is little hope of fraud being stopped. To one more point we must make reference; it is very important. Any officer interfered with in the discharge of his duties should be protected and an assault upon him, although no grievous bodily harm may have been done or intended, should be so punished that the offence will not be repeated by others. A payment of costs is not an adequate penalty and does not afford encouragement to a public officer to discharge his duties, especially when it is remembered that if he takes the law into his own hands he runs the risk of severe censure both from the magistrate and from the authority employing him. It is strange that despite our great advance in sanitary matters we as a nation should be so far behind when it comes to protecting the food-supply of the people. In Denmark offences of this description are punished by imprisonment, and such a fraud as selling margarine for butter is seldom heard of. The offence is practically a robbery, and in Denmark is treated as such.

THE MIDWIVES PROBLEM IN NEW YORK.

IT is a coincidence that the problem of legislating for midwives should press for solution in the United States as it does here. Needless to say, it gives rise to almost exactly the same differences of opinion. In the *Medical Record* of March 3rd there is an editorial account of a Bill for the Regulation of the Practice of Midwifery and Provision for the Licensing of Midwives in New York City that will repay reading just now. The editor says that many physicians think that the licensing of midwives would be by no means a step in the right direction, but that a parturient woman is likely to receive more beneficial treatment from a skilled medical practitioner than from a midwife. He takes objection to the Bill that he is discussing for some very good reasons. The Board that is to examine midwives is to be appointed by the Mayor of New York. It would be as reasonable to ask his worship to preach a sermon or to take the first violin in an orchestral concert. Then the examiners are to serve without remuneration. Surely it is the climax of demoralisation in regard to

gratuitous work to create an inferior order of practitioners and to give them a start by requiring the medical profession whose work they are in a measure to take away to put an *imprimatur* upon them. We trust that the medical profession in the United States will give early notice that its coöperation is not to be obtained so cheaply. A third objection found to the Bill by the editor is its limited application. It is only to affect the city of New York, whereas the Medical Society of the State of New York has always strongly opposed Bills to create separate [illegible] for midwives in separate cities and [illegible] that if midwives are to be licensed [illegible] the whole State. Our contemporary [illegible] the general tendency of medical opinion is against such Bills. "There has been but little convincing testimony that the Midwives Bill is called for." While admitting that the services of a midwife who has undergone an examination testifying that she possesses some knowledge and experience would be preferable to those of one who has been put to no such test, the writer observes that it must be obvious that even a licensed midwife cannot be expected to grapple with all the complications which may occur. On these grounds he argues that the public should be educated to realise the advantage of medical attendance as distinguished from that of ignorant midwives who would in the natural course of things pass away. If all this be so perhaps the *Medical Record* is a little inconsistent in regretting that the Bill does not include the State, as well as the city, of New York, for surely, if such Bills are wrong, the more limited their scope the better.

SANITARY WORK IN THE PORT OF LONDON

THE recently published report of Dr. William Collingridge, medical officer of health of the Port of London, shows that during the half year ended Dec. 31st, 1899, a total number of 16,384 vessels were inspected by the sanitary officers in the docks and in the river. The majority of these vessels were of British nationality—namely, 81·52 per cent., Swedish and Norwegian coming next as usual with 8·6 per cent.; according to the table which gives these particulars only one American vessel was inspected during the half year. There were 34 sick seamen referred to hospital over and above the cases of infectious disease dealt with under the Public Health Act. In the course of the medical inspection of arrivals at the port, 5236 vessels were visited by the medical officers stationed at Gravesend, this involving the medical examination of 5412 passengers and crews to the number of 19,916. At Sheerness 135 vessels from foreign ports were visited by the medical officer. The result of such medical inspection was the discovery and removal to hospital of two cases of plague, six of smallpox, one of scarlet fever, 15 of enteric fever, two of erysipelas, 22 of measles, and two of other diseases. The two cases of plague were reported on board the s.s. *Eastbourne* from Alexandria on July 25th; they were isolated in the port sanitary hospital, all the usual precautions being taken with regard to the vessel. The patients recovered, but no further details are given regarding them. The system of medical inspection at Gravesend and Sheerness obviates the necessity for any extraordinary measures being taken with respect to plague. All the passengers and crews of all vessels arriving from any port either known or suspected to be infected are mustered for inspection, and the addresses to which they are about to proceed are given. The owners of such vessels are also asked to arrange for the capture and destruction, so far as possible, of all rats found on board. Dr. Collingridge devotes a paragraph to the space allotted to Lascars on board ship, and in referring to the great difference between the requirements of the Indian and the British Merchant Shipping Acts he mentions that it has already been strongly contended by the Port of London sanitary authority that the present legal minimum of 72 cubic feet is insufficient. At the infectious hospital of the authority 22 cases were admitted during the half year and the same number were discharged recovered, the patients being detained for an average period of 18 days. Mention is made of a case in which rags forming a cargo arrived from Egypt "were found to be in a filthy condition, containing fæcal matter, blood, and swarming with animal life." These rags were disinfected by superheated steam before being landed.

WISE BENEVOLENCE.

A FREE convalescent home has lately been built at Castle Hill, Bletchingley, by Mr. Partridge to the memory of his daughter. It is intended for the benefit of patients of both sexes of the better class but in poor circumstances, primarily for those recovering from acute rheumatism; but other cases are occasionally admitted. The Home is absolutely free and is under the charge of a trained nurse. The house, which is on sandy soil, faces south and looks across the Weald of Sussex away to the Isle of Wight. It is an exceedingly favourable site—high, breezy, dry, and warm—and is admirably suited for the kind of patients whom it is intended to benefit. The appointments are hygienic and yet artistic; there are a good piano, a nice collection of books, games, and every home comfort. Patients are admitted from hospitals, or direct from the physician in charge of the case. All applications should be made to the Matron, Convalescent Home, Castle Hill, Bletchingley, Surrey.

THERAPEUTIC USES OF OREXIN.

DR. J. W. SMITHWICK[1] found orexin tannate of special benefit in the dyspepsias of functional character or in those occurring during convalescence from the acute specific fevers. In his own individual case, the trouble being functional dyspepsia with a disagreeable saline taste in the mouth in the morning and with a tendency to constipation, orexin proved more efficacious than bitter tonics or the combination of pepsin with hydrochloric acid. In 18 cases it was found very effective as a curative agent, and these cases were as follows: functional gastric atony, five cases; anæmia, three; tuberculosis, four; dyspepsia of convalescence, six. "In all cases the body-weight increased, and this was especially noticeable in phthisical patients." The length of time required was [illegible] variable, being three weeks or longer for simple atonic dyspepsia, from four to six weeks for anæmic dyspepsia, and six weeks or more for phthisical patients. The following illustrative clinical cases bear out various interesting features in the treatment. Case 1. A man, aged 34 years, had been subject to atonic dyspepsia for one and a half years. His epigastrium was sore and tender to pressure and the bowels were inclined to constipation. During this period he lost 33 pounds in weight. After unsuccessful treatment with nux vomica and hydrochloric acid he was put on orexin tannate in doses of six grains taken one hour before meals. In two days there was improvement of appetite and of digestive power. The bowels became regular, the assimilative powers were [illegible] increased, and his weight began to increase. He progressed satisfactorily and was cured, his weight having increased by 16 pounds. Case 2 was that of a young woman, aged 17 years, who was anæmic and was subject to [illegible]. Appetite and digestive powers exceedingly poor and she had lost during the three months of her present illness about 30 pounds in weight. She was pale, weak, and [illegible] completely. Orexin tannate was given in a capsule three one hour before meals and two drops of [illegible] were given half an hour after meals. While [illegible] began

[1] [illegible]

abdomen a red, painful, crepitating, gaseous abscess appeared. It contained viscid, inodorous pus and the bacillus perfringens. In the standard works MM. Soupault and Guillemot could not find any similar cases, but they have collected from different sources the following observations. After the intramuscular injection of ether a huge gaseous abscess formed.[2] Two other cases in which ether was injected are recorded by Lautaret.[3] Frankel has published two cases.[4] In one ether and camphorated oil were injected successively and in the other morphine. He found a microbe in both cases which he termed the "bacillus phlegmones emphyematosus" and which seems to be identical with the bacillus perfringens described above. Numerous other microbes produce gas in living tissues. The bacillus perfringens has been found frequently in the pus of appendicitis. It has also been found in cases of fœtid otorrhœa, fœtid pleurisy, and pulmonary gangrene. In almost all the cases of gaseous abscesses the patients were affected with grave disease—phthisis, typhoid fever, pyloric cancer, cholera, &c. Cachexia seems therefore to be a predisposing cause. The liquids injected have almost all been irritant: possibly this property also plays a part, favouring the development of the bacillus in injured tissues. Whether the bacillus is inoculated by the hypodermic needle in consequence of neglect of antiseptic precautions or whether it reaches the skin by the circulation from some intestinal or other lesion has not been determined.

THE EYESIGHT OF BOARD SCHOOL CHILDREN.

AT the annual general meeting of the supporters of the Royal Eye Hospital, Southwark, held on March 28th, an energetic protest was made against a line of policy recently pursued by the London School Board. Mr. Malcolm McHardy, the senior surgeon, who occupied the chair, complained that the system in question had threatened to disorganise the entire out-patient work of the hospital. It was very important that the eyes of children subjected to the strain of compulsory education should be systematically examined as to their powers of vision, and he considered that the London School Board ought to have from the first arranged to ascertain the fitness of the children's eyes and eyesight for the tasks imposed upon them. Compulsory education of the young [illegible] on without regard to the fitness of the children's [illegible] must cause deterioration of the eyesight and [illegible] eyes of the young in a ratio increasing with [illegible] advancing age and the educational standard [illegible]. The truth of this proposition was [illegible] last year the board directed that the [illegible] should be examined by the teachers, [illegible] power appeared to be below a [illegible] report on the subject to the child's [illegible], recommending that skilled advice [illegible] should be [illegible] purpose the [illegible] the ophthalmic department of [illegible] and hours for attend- [illegible] on the paper. The con- [illegible] the Christmas holidays, [illegible] surgeons concerned, [illegible] defective eyesight [illegible] ophthalmic out-patient [illegible] patient machinery [illegible] and the [illegible] by the short- [illegible] year. At the [illegible] such [illegible] the board [illegible]. By [illegible] statement to this effect having been ma[illegible]

prolonging the hours for the attendance of the staff until as late as 7 P.M., 8 P.M., and even 9 P.M., and by abstaining from all attempts at clinical instruction, it was possible to see every new case, but Mr. McHardy maintained that this very important work should be done systematically by specially trained examiners, not at the expense of charity but at the cost of the London School Board, and that the ophthalmic out-patient departments of the hospitals should offer the consultation advantages which might be desirable for a selected minority of cases.

PLAGUE IN THE ARGENTINE REPUBLIC.

LETTERS received from Buenos Ayres show that since the end of January the plague has made but feeble progress in that city and in Rosario and has not manifested itself in any fresh place. The extreme measures taken by the Government,[1] which included the isolation of an important city like Rosario and many vexatious limitations of railway and river traffic, have been and are still being severely criticised. The contention is that while the few cases which have occurred are undoubtedly of the nature of bubonic plague, inasmuch as the specific bacillus has been identified in them, in no way can these few sporadic cases be described as "epidemic," enough time having now elapsed to prove that the bacilli have not found favourable soil for development. Official circles now tacitly admit that they were too "precipitate" in proclaiming a state of "true Oriental epidemic plague."

TEMPERAMENT AND TENDENCY TO CRIME.

IN a recent issue of the *Archives d'Anthropologie Criminelle* Dr. J. Marty publishes an important communication on the above subject which, based as it is on extensive and careful observations and supplemented by statistical tables, throws an interesting light on the subject of temperament and the tendency to crime and moral delinquency. The diagnosis of temperaments is a difficult and delicate affair. Dr. Marty has brought together, after long observation, the records of several delinquents whom he classifies as belonging to the sanguine temperament, of an equal number of the lymphatic temperament, of 119 of the nervous and 20 of the bilious temperament, of 200 of the lymphatic-sanguine, 171 of the lymphatic-nervous, and 200 of the nervous temperaments. The conclusions which he arrives at are as follows. As regards precocity in crime the "lymphatics" belong to the first rank, while far behind and in the last rank are the "lymphatic-nervous." The "lymphatics" occupy the first rank in the crime of vagrancy, while for crimes and assaults against persons those of the sanguine temperament take first place. For crimes without violence against morals and propriety the "lymphatic-nervous" slightly surpass those of sanguine temperament. For habits and vices of idleness the pure lymphatics take the palm. Apart from crimes due to violent impulses such as characterise the sanguine other subdivisions of crime are hard to correlate with the other temperaments. "Police crimes against the safety of railways" were all met with among "lymphatics," but, as Dr. Marty points out, it is not legitimate to press such coincidences too far, as the various factors are highly complex and the nexus of the association between temperament and the specific nature of crime is not always demonstrable. Among soldiers Dr. Marty has found that the sanguine are the least criminal and that the nervous are the most given to "crimes of violence against persons or property" and to drunkenness. All these distinctions are fairly consistent and constant and imply correlations between temperament and tendency to crime.

SOME interest attaches to a Government notice recently published at the office of the chief secretary to the British South Africa Company at Salisbury. It runs as follows: "His Honour the Administrator has, with the consent of his Excellency the High Commissioner, approved of the appointment of Mr. Lionel Smith as Justice of the Peace for the District of Buluwayo." The case of Mr. Lionel Smith will be remembered by all readers of THE LANCET, as we had occasion several times to narrate it at some length. We congratulate him upon the success that has attended him in his new career.

WE are requested by the secretary to the Royal Commission for the Paris Exhibition to state that a Congress on Dermatology and Syphilography will be held in Paris from August 2nd to 9th. The secretary of the Congress is Dr. Thibierge, 7, rue de Surène.

A GOVERNOR of St. Thomas's Hospital, who remains anonymous, has contributed £1000 towards the expenditure incurred in re-organising the hospital to meet the wants of an increasing number of patients.

A NEW infirmary was opened at Hendon by Mr. Thomas Prescott, M.R.C.S. Eng., L.R.C.P. Lond., chairman of the board of managers of the Central London Sick Asylum District, on March 29th.

ON Saturday morning last, March 31st, H.R.H. the Duchess of York gave birth to a son. Her Royal Highness and the infant Prince are both doing well according to the daily bulletins.

AT a court of governors of the Seamen's Hospital Society (*Dreadnought* Hospital) Dr. Robert Barnes, consulting physician, was unanimously elected a Vice-President of the corporation.

A TELEGRAM sent by the Governor of Mauritius to the Colonial Office states that during the week ending March 29th there were six fresh cases of bubonic plague with five deaths.

THE *Times* announces, through Reuter's Agency, that 70 cases of plague have occurred at Sydney and 20 deaths. The quarantine area has been extended.

LORD MANSFIELD has accepted the office of chairman of the committee of the City Orthopædic Hospital in the place of the Earl of Aberdeen, resigned.

DR. ST. GEORGE MIVART, F.R.S., Ph.D., the well known zoologist, died somewhat suddenly at his London residence on Sunday last, April 1st.

ANNUAL REPORT OF THE REGISTRAR-GENERAL.

I

THE sixty-first annual report of the Registrar-General has just been issued. Like its many recent predecessors the report for 1899 is a well arranged and carefully written document; it is full of accurate statistical information which is of interest, not to the official sanitarian alone, but to every practitioner, member of our profession. The general mortality in England and Wales in 1899 was 17·6 per 1000 of the population at all ages, and only exceeded by a few tenths per 1000 the lowest rate hitherto recorded. At ages between five years and 20 years the death-rates of both sexes were lower than in any previous year since registration began, whilst amongst children under five years of age and amongst adults above 20 years of age the rates were rather higher than the average.

If the average mortality in the last three years be compared with the rates in previous years it will be found that from the year 1871 onwards there has been a continuous reduction among both males and females at the earlier ages—namely, the most valuable period of life—any increase that has occurred in recent years being limited mainly to the higher ages. Both in 1898 and in the preceding year there was a decided increase in zymotic mortality as compared with the average. This appears to have been due mainly to increased fatality from influenza and diarrhœa, especially the latter disease, the hot and dry summers of those two years having been exceptionally fatal to infants, who succumbed to diarrhœa in large numbers. The mortality from scarlet fever in 1898 was the lowest hitherto experienced in England, being below the average rate by as much as 42 per cent. It must not, however, be inferred from this that scarlet fever has been less prevalent than usual, for the returns of the Asylums Board show that scarlet fever has presented an exceptionally mild type for the last few years; the fall in the scarlet fever death-rate is thus readily accounted for. Enteric fever was more fatal than usual in 1898. Prior to the year 1898 the mortality from this disease had only once fallen below 180 per 1,000,000 living. During the 10 years ending with 1897 it only once exceeded this figure, but in the year 1898 the rate was equal to 182, or 10 per 1,000,000 above the average. The three Yorkshire Ridings, together with Lancashire and Norfolk, appear to have suffered more severely than other English counties from this disease. The excessive mortality in Norfolk was due to local prevalence in the districts of Norwich, Yarmouth, and King's Lynn. This had also been the case in 1897 and in several previous years. In Yorkshire a large and continuous area was notably affected during 1898; it consisted of the cities of Sheffield, Leeds, and Bradford, together with the registration districts of Rotherham, Doncaster, Barnsley, Wakefield, Dewsbury, North Bierley, Halifax, Todmorden, and Keighley. The subject of diphtheria prevalence has become an engrossing one in recent years, especially in relation to school attendance. In a recent article we dealt at some length with Mr. Shirley Murphy's report on diphtheria in London, giving special prominence to his views with respect to the effect of antitoxin in reducing the fatality of the disease. In the report before us there is contained in addition a carefully prepared essay on the Distribution of Diphtheria in Extra metropolitan England, in which the increase of mortality in various localities is traced from the year 1861 down to the present time. The deaths from diphtheria in the year 1898 amounted to 7000, more than nine-tenths of these occurring among children below the age of five years. The mortality among males was equal to 245 per 1,000,000 and among females to 243 per 1,000,000. There were 17 counties which showed excessive diphtheria mortality in the year under notice, as compared with the average in the country generally, the counties with the highest rates being South Wales, Kent, Rutland, Essex, and London. In South Wales there were five registration districts in which diphtheria mortality averaged 900 per 1,000,000, as compared with 240, the mean rate in England and Wales. The high average death-rate in Kent was largely due to excessive diphtheria prevalence in the three contiguous districts of Dartford, Strood, and Medway, and in the district of Tonbridge. These four districts contain only one third of the population of the entire country, but they contributed almost a third of the total number of deaths and experienced a mortality from diphtheria which was almost four times as high as that of England and Wales generally. In other parts of Kent, speaking generally, diphtheria was less fatal in the E. than in the Western districts. In addition to the deaths definitely ascribed to diphtheria in 1898 more than 2000 deaths were referred either to croup or to laryngitis. It is safe to assume that the greater part of the deaths referred to croup, as well as some of those referred to laryngitis or to ill-defined sore throat, were really due to diphtheria. At the present day the order of diseases of fatal diphtheria in various localities is nearly the same, whether diphtheria be or be not allowed or compulsory to be notified. This is especially the case in London, where the mortality from croup is only exceeds 3 per cent of that from diphtheria.

but when the present fatality from diphtheria is compared with that of earlier years considerable correction is required. In the 20 years 1861-80 the deaths ascribed to croup were more numerous by one-third part than those ascribed to diphtheria, but from 1881 onwards the proportion has grown less and less until in 1898 the deaths referred to croup did not exceed one-ninth part of those referred to diphtheria.

In the year under notice the mortality from diarrhœal diseases was unusually high—in fact, higher than it had been since the year 1884. In addition to the deaths specifically ascribed to diarrhœa in 1898 a very large number were referred to enteritis. There are good grounds for the opinion that many of the latter would have been more correctly returned as from epidemic diarrhœa, and the fact that the age distribution of the two diseases closely corresponds seems to support this view. In certifying deaths of this nature the habit of discarding the commonplace term "diarrhœa" in favour of less familiar synonyms has become very general amongst medical men in recent years. The terms "gastro-enteritis" and "gastric catarrh," for example, are now used very commonly in place of diarrhœa, and inasmuch as deaths so certified are classed among affections of the digestive system they do not appear amongst zymotics at all. Consequently, as has recently been urged in these columns, the statistics concerning a large and fatal group of epidemic diseases, which are exceptionally important to medical officers of health, are in danger of becoming vitiated to such an extent as to be worthless for preventive purposes. In certain parts of England the deaths of infants attributed to enteritis and gastro-enteritis are, in the aggregate, more numerous than those attributed to diarrhœa. In view of the foregoing considerations the recent pronouncement of the Royal College of Physicians of London on this subject may be regarded as particularly opportune. In a recent number of THE LANCET we mentioned that the Incorporated Society of Medical Officers of Health had appealed to the Royal College of Physicians of London for their guidance concerning the certification of deaths from diarrhœal diseases, and the College has now expressed an opinion which, if loyally adopted by medical men generally, will greatly improve the national records of mortality from this ailment. The College has agreed to authorise the use of the term "epidemic enteritis" (or, if preferred by the practitioner "zymotic enteritis") as a synonym for epidemic diarrhœa. The College has further decided to urge upon practitioners the complete disuse of such terms as "gastro enteritis," "muco-enteritis," or "gastric catarrh" as synonyms of epidemic diarrhœa. Passing now from the zymotic to the constitutional class of diseases we note that the decrease in mortality from tuberculous diseases and the concomitant increase in that from cancer, to which we have referred in previous years, has been steadily maintained in the year under present notice. In that year alone more than 25,000 deaths, or 802 in each 1,000,000 of the population, have been caused by malignant disease in one or other of its forms. A special feature in the last two reports has been the insertion of a table showing the various kinds of malignant disease which have proved fatal during these years respectively. In that table the various organs or parts of the body attacked by the disease are shown, as well as the relative frequency of fatal cases among males and females. The table shows, what is matter of common knowledge among medical men, that cancer is in the aggregate more prevalent among women than among men, but it would appear that the excess is entirely due to the fact that the female generative and mammary organs are exceptionally liable to attack. For when the deaths from malignant affections of the ovaries, womb, and breast are subtracted from the total deaths of females from malignant disease the remaining deaths give a mortality for females considerably lower than the rate for males.

(To be continued.)

GLASGOW INTERNATIONAL EXHIBITION, 1901.—It is officially notified that all applications for space at the Glasgow International Exhibition which is to be opened in May, 1901, must be lodged not later than June 1st with the general manager, Mr. H. A. Hedley. There are in all eight sections, embracing horticulture, mining, industrial design and manufacture, machinery and labour-saving appliances in motion, transportation and transport, marine engineering and shipbuilding, lighting and heating, science, education, [illegible] and sports and sporting appliances. Separate sections will be devoted to women's exhibits, archæology, and fine art.

"A HOSPITAL SHOULD BE GOVERNED BY THOSE WHO SUPPORT IT."

MR. C. B. KEETLEY, surgeon to the West London Hospital, read a paper with this title at the Hotel Victoria, at a meeting of the Council of the Charity Organisation Society, on April 2nd, when Lord STAMFORD presided.

Mr. KEETLEY said that the money difficulties of hospitals, as well as the abuse of out-patient departments, were to a great extent due to want of direct public interest in them. Their management drifted into the hands of cliques or of individuals often uninformed and lukewarm and always practically irresponsible. No London general hospital with which he was acquainted was governed by the people who found the money, the time, and the skill which carried it on. He described a typical annual general meeting of governors of a typical London general hospital. Year after year this meeting was summoned only by advertisements in the newspapers—advertisements which did not catch the eyes of the governors, who, therefore, never attended. Could any more effective way of injuring the finances of a hospital be devised than that of keeping its subscribers at arm's length? It was the interest of the hospital to use every means that ingenuity could devise to get subscribers to take a personal interest in the place. But even inside the board of a hospital a clique could almost disfranchise and quite disgust all zealous members outside the clique. Among the methods of doing this were: (1) meeting at an hour or on a day inconvenient to independent members; (2) discussing questions privately beforehand and then voting solid at the meeting as if impervious to, and indifferent to, argument; (3) re-opening questions which had apparently been settled at former meetings when the decision had been contrary to the wishes of the wire-pullers; and (4) buttonholing members who seldom attended and bringing them up pledged to vote for one side of a question of which they had never heard the other side.

Every act of generosity or of goodwill to a hospital should be welcomed with warmth. He had too frequently seen such acts received with apparent coldness and even with suspicion. Evidence of this was the asking of £2000 for the endowment of a bed in perpetuity. There should be no bargaining about such matters. When a benefactor gave £1000 a bed should be named after him; that was the way to encourage him to give £2000 and to leave £10,000 to the hospital. He knew an institution to which working men contributed more than all the committee of management put together. In return they receive a few life-governorships and were left to find out when the annual meeting of governors took place. They ought to have a seat or two on the board. Another influential class of persons who were sometimes kept at a distance by hospital boards were Nonconformist ministers. The base of support of a hospital depending on voluntary contributions could not be made too wide: it certainly should not be narrowed for sectarian reasons. By the stereotyped form of board which he was deploring the same man was generally elected chairman year after year. In time he lost his original zeal. Would the City of London be as active as it was in benevolence if the same man were Lord Mayor year after year for a quarter of a century? A chairman should not be re-elected unless his preceding year of office had been signalised by some special act of generosity, initiative, or energy for the benefit of the hospital.

Hospitals were carried on by money, skill, and time. The gratuitous time and skill were mostly given by the medical staff. He did not undervalue the services of lay committee men, with their knowledge of finance and of business, but an hour or two given monthly, or even weekly, could not compare with the 10 hours a week given by a zealous surgical officer. He knew of a hospital where most valuable services were given by the medical staff which until recently had only two members of the active staff on a committee of 50. And this committee sat at 11 A.M. on a Monday, when, of course, no physician or consulting surgeon could attend. Why were the medical staff thus treated? It might be thought that they were liable to be swayed by selfish interests and that the lay committee man was not—a baseless and, he might add, a base explanation. All alike, lay and medical, had occasionally axes to grind, friends to push, and fads to support; but the physician or surgeon to a hospital acquired an affection for it like that of a sailor for

his ship and was loath to spoil it. Medical electors had certainly more knowledge and they as certainly had not less impartiality than lay members. As an example of medical impartiality he said that as a youth he went to Birmingham to canvass for a house surgeoncy. The senior physician (the late Dr. Heslop) said: "My god-son, who is also the nephew of the chairman, is a candidate." "Then I had better go back," Mr. Keetley replied. "Not at all," said Dr. Heslop; "I glory in voting against my friends and relations." It was not, however, the great body of laymen who ruled the hospitals; it was a select few of the senior ones, sometimes a [illegible] the others had been nominated [illegible] d were their personal friends. The sham "annual general meeting" made the board self-elective. He had said that the present managing bodies of our London hospitals were practically irresponsible. When had they been removed from office? Why, whenever, a lay committee and a staff, or an important section of a staff, fell out it was always the medical men who had to go. The cruel thing about this was that at a certain time of life resignation of a hospital appointment might mean ruin to a medical man, while to the lay committee man it would mean simply parting with a hobby the place of which he could easily supply. It was no wonder, therefore, that our London hospitals had not that broad basis of support which they deserved and that they did not excite that universal and warm personal interest among well-to-do Londoners which they ought. He believed that a reform in these respects alone might suffice to sweep away the money difficulties of their hospitals. That reform would mainly consist in placing the government of each hospital in the hands, in fairly adjusted proportions, of all living persons who supported them by gifts of money, time, or skill. It would involve the substitution of real for sham annual general meetings for the election of officers, eager and grateful official acknowledgement of every kind of benefit, and a chairman only re-elected after a year of office signalised by special service and never re-elected for many consecutive years. It would involve also the recognition of the fact that a member of the acting medical staff on the board of a hospital differed from his lay colleagues, not in being less trustworthy, but in being better informed.

A discussion followed.

Mr. HOLMES said that he had listened to the paper with the greatest possible interest and he agreed most heartily with nearly every one of Mr. Keetley's conclusions. The paper seemed to him to be a sort of panegyric on the management of St. George's Hospital. In that hospital with which he was connected each governor was entitled to take the same share in its management as any other governor. There was no elected chairman. Failing the President or Vice-Presidents the senior governor present took the chair and no person in the hospital was excluded from the management because he was a medical officer so far as he was aware. The same arrangements had prevailed during the 170 years that the institution had existed and they had worked quite satisfactorily. He agreed that annual general meetings were usually shams and that they only met to register the decisions of an inner committee. At St. George's Hospital they had a quarterly court which met for the purpose of altering the rules of the hospital if necessary, but that court was usually attended by those who were present at the board meetings. The working of his own hospital showed that the scheme suggested by Mr. Keetley was not only practicable, but had actually been in practice for more than a century and a half with most perfect success.

Mr. C. W. THIES (Royal Free Hospital) was afraid that Mr. Keetley's paper would have the effect of leading people to suppose that there was a great reluctance to have medical men on the committees of hospitals. At his hospital there was a special medical committee, before which were laid all medical matters, and the lay committee always sought the advice of medical men in everything that concerned the medical staff or the patients. The annual meeting was not a useless institution, but, on the contrary, an exceedingly useful one. The work of a hospital was very largely the work of women and he found that women governors were most desirable. Where a number of matrons were concerned and where a great number of women were patients the advice of intelligent women was invaluable. With respect to the endowment of beds a local sum was necessary. He also differed from Mr. Keetley with respect to the annual appointment of a chairman. If there was one thing necessary in the carrying on of the work of a hospital it was continuity. A chairman, provided the right man was found, improved in his value to the hospital each year of his office.

Other speakers followed, who expressed varied opinions with regard to the points raised by Mr. Keetley, and the meeting terminated.

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY.

DR. G. A. HERON (treasurer and chairman of council) presided on April 3rd at the annual general meeting of the London and Counties Medical Protection Society which took place at 12, New-court, Lincoln's Inn.

Dr. HERON moved the adoption of the annual report and balance-sheet and in the course of his remarks said that the point in the report on which he would like to lay most stress was in reference to the cases of alleged "infamous conduct" on the part of professional men which the council had reported to the General Medical Council after careful inquiry into the justice and validity of the complaints which had been submitted. Of these cases some did not go beyond the Penal Cases Committee, and the grounds on which these cases were refused a hearing by the General Medical Council was not known to the Council of the London and Counties Medical Protection Society. He thought that the General Medical Council, to put it quite plainly, was wanting in common courtesy in that matter. No reasons were given for ignoring the cases which had been sent up to them. The General Medical Council must have known perfectly well that if they had communicated with the council of the society what they said would be kept private and there was not the slightest chance of anything becoming the subject of gossip. He did not understand such conduct on the part of a body like the General Medical Council towards a society which took the trouble to do work that should be done by the General Medical Council itself. The society would still continue to do its work, but until the constitution of the General Medical Council was materially altered it would not be possible to do much in the direction which he indicated. In regard to amalgamation with the Medical Defence Union the society had suggested the appointment of an impartial arbitrator, but this was not accepted, why he did not know. The council had done as much as could be reasonably expected of them towards amalgamation, and it was as much as they intended to do. He, however, personally still held the opinion that it was a pity for two organisations to do the work which one could do just as well.

Mr. F. GREAVES formally seconded the motion which was carried.

Dr. H. P. LAWRENSON (Highgate) proposed and Mr. J. C. P. MUIR (Notting Hill) seconded the re-election of the council and the Vice-Presidents, which was passed. Dr. T. Colcott Fox and Mr. J. S. E. Cotman joining the council in place of Sir Hugh R. Beaton, Bart., and Dr. G. W. Potter, who had resigned. To the list of Vice-Presidents were added the names of Dr. C. E. Hoar (Maidstone) and Mr. T. Vincent Jackson (Wolverhampton). The treasurer, the honorary secretaries, and the auditors were re-elected on the motion of Dr. Lorimer Hart, seconded by Mr. Meir.

THE MIDWIVES BILL: A MEETING OF PROTEST.

AT Carlton-street Hotel on Wednesday, April 4th, a meeting of the medical and lay consultants of the boroughs of South-East London and adjacent parts of Kent and Surrey was held to consider and adopt measures to resist the Registration of Midwives and particularly the Bill now before Parliament. Two Members of Parliament out of the 17 invited were present, and a small number of medical men.

Mr. GEORGE PRYCE, who presided, [illegible] the reasonable call that the Bill now before Parliament would not have the effect that its promoters claimed.

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"A HOSPITAL SHOULD BE GOVERNED BY THOSE WHO SUPPORT IT."

MR. C. B. KEETLEY, surgeon to the West London Hospital, read a paper with this title at the Hotel Victoria, at a meeting of the Council of the Charity Organisation Society, on April 2nd, when Lord STAMFORD presided.

Mr. KEETLEY said that the money difficulties of hospitals, as well as the abuse of out-patient departments, were to a great extent due to want of direct public interest in them. Their management drifted into the hands of cliques or of individuals often uninformed and lukewarm and always practically irresponsible. No London general hospital with which he was acquainted was governed by the people who found the money, the time, and the skill which carried it on. He described a typical annual general meeting of governors of a typical London general hospital. Year after year this meeting was summoned only by advertisements in the newspapers—advertisements which did not catch the eyes of the governors, who, therefore, never attended. Could any more effective way of injuring the finances of a hospital be devised than that of keeping its subscribers at arm's length? It was the interest of the hospital to use every means that ingenuity could devise to get subscribers to take a personal interest in the place. But even inside the board of a hospital a clique could almost disfranchise and quite disgust all zealous members outside the clique. Among the methods of doing this were: (1) meeting at an hour or on a day inconvenient to independent members; (2) discussing questions privately beforehand and then voting solid at the meeting as if impervious to, and indifferent to, argument; (3) re-opening questions which had apparently been settled at former meetings when the decision had been contrary to the wishes of the wire-pullers; and (4) buttonholing members who seldom attended and bringing them up pledged to vote for one side of a question of which they had never heard the other side.

Every act of generosity or of goodwill to a hospital should be welcomed with warmth. He had too frequently seen such acts received with apparent coldness and even with suspicion. Evidence of this was the asking of £2000 for the endowment of a bed in perpetuity. There should be no bargaining about such matters. When a benefactor gave £1000 a bed should be named after him; that was the way to encourage him to give £2000 and to leave £10,000 to the hospital. He knew an institution to which working men contributed more than all the committee of management put together. In return they receive a few life-governorships and were left to find out when the annual meeting of governors took place. They ought to have a seat or two on the board. Another influential class of persons who were sometimes kept at a distance by hospital boards were Nonconformist ministers. The base of support of a hospital depending on voluntary contributions could not be made too wide; it certainly should not be narrowed for sectarian reasons. By the stereotyped form of board which he was deploring the same man was generally elected chairman year after year. In time he lost his original zeal. Would the City of London be as active as it was in benevolence if the same man were Lord Mayor year after year for a quarter of a century? A chairman should not be re-elected unless his preceding year of office had been signalised by some special act of generosity, initiative, or energy for the benefit of the hospital.

Hospitals were carried on by money, skill, and time. The gratuitous time and skill were mostly given by the medical staff. He did not undervalue the services of lay committee men; with their knowledge of finance and of business, but an hour or two given monthly, or even weekly, could not compare with the 10 hours a week given by a zealous surgical officer. He knew of a hospital where most valuable services were given by the medical staff which until recently had only two members of the active staff on a committee of 50. And this committee sat at 11 A.M. on a Monday, when, of course, no physician or consulting surgeon could attend. Why were the medical staff thus treated? It might be thought that they were liable to be swayed by selfish interests and that the lay committee man was not—a baseless and, he might add, a base explanation. All alike, lay and medical, had occasionally axes to grind, friends to push, and fads to support; but the physician or surgeon to a hospital acquired an affection for it like that of a sailor for

his ship and was loath to spoil it. Medical electors had certainly more knowledge and they as certainly had not less impartiality than lay members. As an example of medical impartiality he said that as a youth he went to Birmingham [illegible] senior physician (the [illegible] who is also the nephew [illegible] Then I had better go back," Mr. Keetley replied. "Not at all," said Dr. Heslop; "I glory in voting against my friends and relations." It was not, however, the great body of laymen who ruled the hospital; it was a select few of the senior ones, sometimes a single individual. Nearly all the others had been nominated by the "inner cabinet" and were their personal friends. The sham "annual general meeting" made the board self-elective. He had said that the present managing bodies of our London hospitals were practically irresponsible. When had they been removed from office? Why, whenever, a lay committee and a staff, or an important section of a staff, fell out it was always the medical men who had to go. The cruel thing about this was that at a certain time of life resignation of a hospital appointment might mean ruin to a medical man, while to the lay committee man it would mean simply parting with a hobby the place of which he could easily supply. It was no wonder, therefore, that our London hospitals had not that broad basis of support which they deserved and that they did not excite that universal and warm personal interest among well-to-do Londoners which they ought. He believed that a reform in these respects alone might suffice to sweep away the money difficulties of their hospitals. That reform would mainly consist in placing [illegible] hospital in the hands, in fairly [illegible] living persons who supported the [illegible] or skill It would involve [illegible] annual general meetings for [illegible] grateful official acknowledg[illegible] and a chairman only re elected after a year of office signalised by special service and never re elected for many consecutive years [illegible] the fact that a mer[illegible] board of a hospital [illegible] ing less trustworthy, but in being better informed.

A discussion followed.

Mr. HOLMES said that he had listened to the paper with the greatest possible interest and he agreed most heartily with nearly every one of Mr. Keetley's conclusions The paper seemed to him to be a sort of panegyric on the management of St George's Hospital. In that hospital with which he was connected each governor was entitled to take the same share in its management as any other governor. There was no elected chairman. Failing the President or Vice-Presidents the senior governor present took the chair and no person in [illegible] ment because he [illegible] The same arrang[illegible] that the institut[illegible] satisfactorily. He agreed that annual general meetings were usually shams and that they only met to register the decisions of an inner committee. At St George's Hospital they had a quarterly court which met for the purpose of altering the rules of the hospital if necessary, but that court was usually attended by those who were present at the board meetings The working of his own hospital showed that the scheme suggested by Mr. Keetley was not only practicable, but had actually been in practice for more than a century and a half with most perfect success

Mr. C. W. THIES (Royal Free Hospital) was afraid that Mr. Keetley's paper would have the effect of leading people to suppose that there was a great reluctance to have medical men on the committees of hospitals. At his hospital there was a special medical committee, before which were laid all medical matters, and the lay committee always sought the advice of medical men in everything that concerned the medical staff or the patients The annual meeting was not a useless institution, but, on the contrary, an exceedingly useful one. The work of a hospital was very largely the work of women and he found that women governors were most desirable. Where a number of nurses were concerned and where a great number of women were patients the advice of intelligent women was invaluable. With respect to the endowment of beds a fixed sum was necessary. He also differed from Mr. Keetley with respect to the annual appointment of a chairman. If there was one thing necessary in the carrying on of the work of a hospital it was certainly A chairman, provided the right man was found, improved in his value to the hospital each year of his office.

Other speakers followed, who expressed varied opinions with regard to the points raised by Mr. Keetley, and the meeting terminated.

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY.

Dr. G. A. HERON (treasurer and chairman of council) presided on April 3rd at the annual general meeting of the London and Counties Medical Protection Society which took place at 12, New-court, Lincoln's Inn.

Dr. HERON moved the adoption of the annual report and balance sheet and in the course of his remarks said that the point in the report on which he would like to lay most stress was in reference to the cases of alleged "infamous conduct" on the part of professional men which the council had reported to the General Medical Council after careful inquiry into the justice and validity of the complaints which had been submitted. Of these cases some did not go beyond the Penal Cases Committee, and the grounds on which these cases were refused a hearing by the General Medical Council was not known to the Council of the London and Counties Medical Protection Society. He thought that the General Medical Council, to put it quite plainly, was wanting in common courtesy in that matter. No reasons were given for ignoring the cases which had been sent up to them. The General Medical Council must have known perfectly well that if they had communicated with the council of the society what they said would be kept private and there was not the slightest chance of anything becoming the subject of gossip. He did not understand such conduct on the part of a body like the General Medical Council towards a society which took the trouble to do work that should be done by the General Medical Council itself. The society would still continue to do its work, but until the constitution of the General Medical Council was materially altered it would not be possible to do much in the direction which he indicated. In regard to amalgamation with the Medical Defence Union the society had suggested the appointment of an impartial arbitrator, but this was not accepted, why he did not know. The council had done as much as could be reasonably expected of them towards amalgamation, and it was as much as they intended to do He, however, personally still held the opinion that it was a pity for two organisations to do the work which one could do just as well

Mr. F. GREAVES formally recorded the motion which was carried.

Dr. H. F. LAWRENSON (Highgate) proposed and Mr. J. C. P. MUIR (Notting Hill) seconded the re-election of the council and the Vice Presidents, which was passed, Dr. T. Colcott Fox and Mr. J. S. E. Cotman joining the council in place of Sir Hugh B. Beaver, Bart. and Dr. G. W. Potter, who had resigned. To the list of Vice-Presidents were added the names of Dr. C. E. Hoar (Malborne) and Mr. T. Vincent Jackson (Wolverhampton). The treasurer, the honorary secretaries, and the auditors were re elected on the motion of Dr. Lorimer Hart, seconded by Mr. Muir.

THE MIDWIVES BILL: A MEETING OF PROTEST.

AT Carlton Street Hotel on Wednesday, April 4th, a meeting of the medical and lay consultants of the borough of South East London and adjacent parts of Kent and Surrey was held to consider and adopt measures to resist the legislation of Midwives and particularly the Bill now before Parliament Two Members of Parliament [illegible] of the 17 invited were present, and a small number of medical men.

Mr. GEORGE PIGOTT, who presided, in opening the proceedings said that the Bill now before Parliament would not have the effect that its promoters claimed [illegible]

He contended that every person who was not able to pay for midwifery services should be able to command the services of a medical man at the expense of the State. With regard to the way in which the present Bill had been rushed through Parliament he complained that while the Privy Council had received deputations from interested persons they had refused to hear deputations of the opponents of the Bill.

Letters and telegrams of regret for absence were read from Members of Parliament, Mr. Victor Horsley, and Mr. Campbell Boyd. A letter was also read from the General Practitioners' Union, expressing their approval of the meeting. Dr. Glover sent a letter in which he asked to be excused from attending the meeting and expressed the opinion that "the Direct Representatives should have been consulted before they were committed by public notice to such an attitude as your circular of invitation suggests." A letter from Dr. F. S. Toogood, who has acted as secretary to the meeting, was read denying that the circular in any way committed the Direct Representatives.

Mr. C. J. PARKE submitted the first motion, which was subsequently amended on the suggestion of Dr. WATT to the following effect:—

That this meeting of medical constituents of the boroughs and divisions of South-East London and adjacent parts of Kent and Surrey condemns the registration of midwives, and especially the Bill now before Parliament for that purpose, as a retrogressive measure, a reversal of the humane and enlightened policy of the Medical Acts, a violation of the statutory rights of medical practitioners, and a breach of public faith; and as mischievous and degrading class legislation endangering the health and lives of poor women and infants by providing attendance in midwifery of less efficiency than that now required under the Poor Law Acts and Orders.

Mr. Parke said that the women who would become midwives under the Bill would be drawn from the better class of servants, who would thus be raised to the position of qualified practitioners.

Dr. TOOGOOD, in seconding the motion, contended that the Bill was unnecessary, harmful, and would not meet or obviate the dangers for which it was ostensibly promoted. At the same time it was a betrayal and an infringement of the statutory rights and privileges of medical men.

Mr. H. W. FORSTER, M.P., said that he had attended this meeting with the object of gaining information on an admittedly difficult question. When the Bill again came before the House he should give the most careful consideration to all that he had heard, but he could not help thinking that some of the objections taken to the Bill were precisely of a class that the Bill would overcome. He instanced the objection to the limited amount of training which the licensed midwives would receive, and pointed out that the circumstances of the training lay with the discretion of the Board appointed for that purpose, so that the amount of training which the midwife would receive rested with the medical profession.

Mr. JOHN PENN, M.P., said that he, too, like Mr. Forster, had come to learn, and he wished particularly to get information on one point. In the second reading of the Bill a Member of Parliament said that the Bill had the approval of the General Medical Council and of the Royal colleges of Surgeons and Physicians. That statement carried weight in the House of Commons.

Dr. MYRTLE (Mayor of Harrogate) said that the General Medical Council had not given its consent to the Bill. With regard to the two other bodies they had given their consent by their councils which were the supreme courts of these two bodies, but which did not take into consideration the wants of the general practitioner.

Dr. MACNAUGHTON JONES said that he did not oppose the registration of obstetric nurses, but he opposed this Bill.

The motion was then carried, as were also the two following motions:—

That Members of Parliament for the boroughs and divisions represented by this meeting, and the Direct Representatives on the General Medical Council, are earnestly invited to unite with their constituents in resisting such registration, and particularly the Midwives Registration Bill now before Parliament.

That this meeting resolve itself into a Committee to cooperate with those who have organized this meeting and other medical societies [illegible] effect to the foregoing resolutions; [illegible] for a deputation to the Lord President of the Privy Council.

Mr. Brown then left the chair, Dr. TOOGOOD taking his place, when Dr. LOUIS HART proposed a motion calling on Dr. Glover to resign in view of his attitude towards the Midwives Bill.

Mr. JOSEPH SMITH seconded.

Mr. FRANK STURGES, rising to a point of order, said that it was not right to put forward such a motion as no public notice had been given of it, and, moreover, four-fifths of those who had composed the meeting had left the room.

The CHAIRMAN ruled the motion not out of order, and Dr. HART said that he had obtained the permission of the Chairman (Mr. Brown) to propose it at this time.

Mr STURGES moved the previous question, but there was no seconder, and the following was carried as a resolution, there being only 17 members present:—

That whereas the General Medical Council and others who support the registration of midwives on the mistaken expectation of "influencing important details" have signally failed to amend the worst provisions of the Bill before Parliament, it is time that honestly mistaken supporters of such registration should cease to trifle with a public danger, and in view of the plébiscite recently taken by THE LANCET indicating the sense of a great proportion of his electors this meeting, regretting Dr. Glover's attitude of indifference to these considerations, invites him by resigning his seat and seeking re-election to afford to his constituents a just opportunity of reconsidering their relations to him.

THE WAR IN SOUTH AFRICA.

THERE is not very much to be chronicled this week connected with the medical history of the campaign in South Africa. From a military point of view, however, the course of this war has been attended with a number of surprises, some of which, it must be confessed, have been the reverse of flattering to the military sagacity and foresight of our leaders or exhilarating for the British public to read. The bad news of the latest ambush into which our unsuspecting troops fell and by which seven guns were lost and 200 men were missing, to say nothing of the killed and wounded on that occasion, has, like most things in the world, some compensations, for it has revealed the presence of a large Boer force in the immediate vicinity of Lord Roberts's headquarters. It is very difficult to believe that the scouting could have been of an efficient kind or of a searching character when no indications of the presence of the Boers were discovered; but there remains the further difficulty of understanding how there was no knowledge apparently of the existence of so large a force as is reported in such close proximity to the Commander-in-Chief's main body. The discovery of that fact at the present time has a most important bearing, for presumably Lord Roberts's column cannot advance against Kroonstadt and onwards to Pretoria before the Boers massed and hanging about its rear and right flank have been previously disposed of. There was at any rate some meaning, after all, in Mr. Kruger's boast that the Boers would retake Bloemfontein, and it is clear that they have never altogether relinquished the idea of making the attempt to do so. We have heard too often of our troops having been entrapped or caught in an ambush, but we never hear of this in connexion with the Boers. People in this country are beginning to get tired of being afterwards assured about that of which they have no need of assurance—namely, that our soldiers behaved with indomitable courage and coolness; the fact only adds to the national regret at the needless loss of life among such brave men. In the list of those killed in the late lamentable affair we notice the name, we regret to say, of Lieutenant Francis Stephen Irvine, a young officer of the Royal Army Medical Corps, who was temporarily attached to the Royal Horse Artillery. Lieutenant Irvine only entered the service on Nov. 17th last and was immediately sent out to South Africa. A correspondent visiting Koorn Spruit soon after the occurrence found that the wounded were being attended to by Major Worth, R.A.M.C. A field hospital was established at the station buildings a few miles from the Waterworks whither the wounded, about 90 in number, were conveyed from the field and treated.

There has been a severe outbreak of fever—most probably enteric fever—among the Boer prisoners and the occurrence has given rise to a good deal of active and anxious work among the officials at Cape Town and Simons Town. The outbreak has proved to be of a severe and fatal character; quite a number of deaths have already occurred and some are still taking place. It is needless to say that the military authorities are doing all they can for the relief of the sufferers (who are sent off the transports to the hospitals on shore for treatment). Colonel Supple, R.A.M.C., is about to report officially on the subject. Meanwhile 1000 of the Boer prisoners are being sent to St. Helena. At

Simons Town deaths were occurring daily and there were, according to the latest account, 20 dangerously ill and 40 seriously ill. The diseases from which the Boer prisoners are suffering were contracted whilst serving against us in the field and are attributable to the terribly insanitary conditions under which they had been living and the hardships which they had undergone.

[illegible] Simons Town water [illegible] were responsible for [illegible] the Boer prisoners, the [illegible] inspected the transports with the result that such cases as could be removed were sent ashore to a special hospital. Arrangements have also been made to prevent overcrowding. The typhoid fever and measles from which some of the prisoners are suffering were contracted in the trenches at Paardeberg. Many of General Cronje's men were so worn out after their hardships that they had little strength left to fight disease. The prisoners have made no complaint as to their treatment or food. The water which they drink is from the Simons Town reservoir and is the same as that supplied to the whole of the fleet. The departure of the transports with the Boer prisoners for St. Helena had been delayed for a time owing to the increase of sickness among the prisoners.

Enteric fever, that scourge of modern armies, is unfortunately largely prevalent among our troops in South Africa, as may be seen from the number of fatal cases recorded in the Army sick returns, and we are afraid that it is bound to go on increasing until the cold season establishes itself and the troops are on the march and daily taking up new ground. Old camping grounds are almost invariably unhealthy from soil-soakage and fouling under even fairly good sanitary management, but where this has been altogether set at nought and dirt and surface pollution of all kinds have been allowed to take place and accumulate, as has been the case with sites occupied by the Boer troops, these are especially unhealthy and a plentiful crop of disease, enteric fever, dysentery, diarrhœa, and a pneumonia may be expected to follow their occupation.

A number of troops and horses are arriving weekly at the Cape from this and other countries. A complete hospital, "The Princess Christian's Hospital," the gift of Mr. Alfred Moseley, has arrived at Durban. It is to be erected at once near Pinetown. Major Mathias, R.A.M.C., is in charge. It is to be used as a relief base hospital to the hospital at Pietermaritzburg.

A return recently issued from the War Office shows that up to the end of last week the [illegible] the beginning of the war are [illegible] missing, and prisoners: offic[illegible] officers and men, 14,634. Of these the officers killed numbered 202 and non-commissioned officers and men 1915; wounded officers 655, non-commissioned officers and men 9324; missing and prisoners: officers 150, non-commissioned officers and men 3365. The total losses (exclusive of sick and wounded men now in British hospitals in South Africa) are returned as 12,200.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

St. Marylebone Sanitary District.—Mr. Wynter Blyth, referring in his current monthly report to the enormous mortality during the month of January, observes that influenza, which was in the main responsible for the increase, has never been more prevalent. At least 75 per cent. of the population have been, he affirms, more or less affected. This is a large proportion, and it would have been instructive if Mr. Blyth could have furnished the data or impressions upon which he founds his conclusion. The decision of the Lord Chief Justice as to the classing of Salvation Army shelters as common lodging-houses is warmly welcomed by Mr. Blyth, who evidently looks forward to the time when, under the provisions of the Local Government Act, 1899, the Borough Council of St. Marylebone will take steps under Section 5 for the transfer of the county council's power in this particular to the borough council. He thinks that the control of these institutions cannot be conveniently carried out by the central authority.

Poole Urban and Port District.—The general death-rate of Poole during 1899 was 17·47 and the zymotic death-rate 0·16 per 1000 in each instance, while the infantile mortality amounted to as much as 173 per 1000 births. In a population estimated at 18,603 there were during 1899 73 cases of scarlet fever, but out of this number no death took place, the disease, it appears, being of a very mild type. We do not gather from Dr. H. A. Lawton's report whether the sewerage system for Poole is complete, or if complete whether it is in all respects satisfactory, but as we note that the removal of night soil has been regularly and satisfactorily carried out we conclude that the water-carriage system is not yet general in Poole. The health of the port has been, we are told, satisfactory, there being but one case of infectious disease—enteric fever—which came to the notice of the sanitary authority.

Carlisle Urban District.—A system of voluntary notification of pulmonary phthisis, tabes mesenterica, and tuberculous meningitis is in force in this district in so far as parochial medical officers and the house surgeons at public institutions are concerned, and between Nov. 1st and Dec. 31st eight cases of phthisis and one each of tabes mesenterica and tuberculous meningitis were notified. We are not told what action was taken in these cases, but it may be assumed that good use was made of the information, though we are curious to know what method was adopted for dealing with the case of tuberculous meningitis. Carlisle is well to the front in that it has appointed a veterinary inspector to examine the cows in the district. There were diagnosed by this officer during 1899 eight cases of inflammation of the udder, seven of gastric derangement, three of tuberculosis, two of pneumonia and pleurisy, two of septic inflammation of the womb, two of septicæmia, and one each of milk fever, congestion of the lungs, and paralysis. The milk in each instance [illegible] ed to be destroyed. 177 newly-purchased cows [illegible] to be free from tuberculosis of the udder and nine showed signs of having suffered from previous inflammation of the udder; of these nine seven were tested with tuberculin and two reacted, the two which were not tested being re-sold. Mr. Craig Robinson, the veterinary inspector, reports that altogether 3775 examinations were made to ascertain the presence of disease likely to be prejudicial to milk. We are not told in this report what action is taken when a cow is found to react to the tuberculin test or whether any compensation is allowed. Perhaps Mr. Robinson will kindly intimate this in his next annual report.

Chesterfield Urban District.—There appears to be a hitch in the provision of an isolation hospital for the use of this district and certain portions of North Derbyshire. The provision was to have been made under the Isolation Hospitals Act, 1893, but the preliminary inquiry as to the loan has not yet been held and there is apparently some difference of opinion as to the constitution of the hospital committee. Perhaps the matter is being held over pending consideration by Parliament of the Isolation Hospitals (Amendment) Bill, which provides for the borrowing of money by the county councils for the assistance of local authorities anxious to provide hospital accommodation. The housing of the working classes has been to the fore in Chesterfield during 1899. Dr. Meredith Richards hesitates to close certain houses which he has reported as "unfit for human habitation" as there are no houses in existence suitable for quite the poorest classes. For this residuum of the population private enterprise cannot, Dr. Richards thinks, cater, and the town should, he urges, erect some artisans' dwellings. He condemns the practice of buying up insanitary areas since so much of the money which might otherwise be spent on building is swallowed up by compensating the ratepayers owners of insanitary property. But with decent houses provided by the sanitary authority the insanitary houses could be gradually closed without compensation. Experiments were continued during 1899 as to the precise effect upon the Chesterfield sewage of biological treatment by means of [illegible] and aerobic filters [illegible] that double filtration of the tank effluent is essential to the production of a satisfactory effluent. The average results of a series of experiments are as follows:

Tank effluent.	Aerobic effluent.	[illegible]
0·72	0·33	[illegible]

It is not quite clear from the report [illegible] is a degree in the tank.

period of incubation. Then constitutional symptoms showed themselves attended by a general rash of a slight character which soon disappeared. It will be seen that this is the course also of vaccinia and resembling it also in the anatomical structure of the vesicle. In small-pox obtained in the ordinary way the incubation period is sometimes double that of the inoculated form, the average time being twelve days; then febrile symptoms appear and after two more days a universal rash which takes another week to maturate. I might remark that the practice of inoculation was discontinued because the form produced by it was more or less contagious and therefore an important disease was being kept alive in our midst; also because occasionally death followed, which was a fearful thing to contemplate when the disease had been deliberately given to a healthy person, but time especially did the practice cease when the safer method of vaccination was coming into vogue. I will remark once more that the inoculated small-pox and vaccinia resemble one another very closely in their course as well as in their mildness and results. These two should be made subjects of comparison and not vaccinia and the small-pox as now ordinarily seen. The two latter are put side by side and the contrast is enormous.

I cannot think that those who are working at bacteriology and the subject of specific disease can have fully considered this question of inoculation and how the time of incubation and its consequences may vary according to the mode in which the virus is introduced. In writing these few lines I am intending to do no more than comment on the statement of Professor Ehrlich that the difference between the effects of small-pox and vaccinia were due to the dilution or attenuation of the virus. This may be true but it does not contain the whole truth. I should say that Professor Ehrlich continually alludes to the fact of some animals not being susceptible to particular kinds of virus and also that the system may be affected more markedly through some tissues than others.

The remarkable circumstance of the different character of small-pox according to the mode in which it was taken struck Dr. Gregory, and he says: "Why the inoculated should prove so much milder than the casual small-pox, why so much difference of effect should result from the morbid germs being received into the system through the medium of the cutaneous absorbents I do not know. The circumstance is truly inexplicable but it must not blind us as to the facts." I suggest that modern workers should find the answer.

I am, Sirs, your obedient servant,

Grosvenor street, March 31st, 1900. SAMUEL WILKS.

THE STATISTICS OF THE ANTITOXIN TREATMENT OF DIPHTHERIA.

To the Editors of THE LANCET.

SIRS,—The Hon. Stephen Coleridge, in a pamphlet he has recently issued, quotes the death-rates from diphtheria before and since the introduction of the antitoxin treatment and calls them the "informing though melancholy figures," and adds: "If these figures fill Mr. Paget with confidence in it as a cure it would seem that his prejudices are stronger than his arithmetic." It is really astounding that a man should come forward to instruct the public who has not grasped the elementary principles of medical statistics. The antitoxin treatment can only very indirectly diminish the number of cases of diphtheria, but what it can do is to diminish the proportion of deaths to cases. According to Dr. E. W. Goodall "the systematic introduction of the treatment into hospitals has reduced the case-mortality of diphtheria by nearly one-half," and Mr. J. L. Hague has shown that the mortality of post-scarlatinal diphtheria, formerly considered a most virulent form of the disease, has since the use of antitoxin become very slight. There has, unfortunately, been a steady increase in the number of cases of diphtheria and a consequent increase in the deaths, but to prove that antitoxin is a useless remedy Mr. Coleridge should supply us with the number of cases treated with antitoxin and those treated without and the number of deaths in the two sets of cases. The figures he brings forward have no bearing on the point in dispute and it may seem hardly necessary to draw attention to the fallacy involved in them, but if no answer be forthcoming it might be said that no answer could be given. My personal experience of antitoxin in hospital and private practice has been so satisfactory that whereas I formerly regarded diphtheria with the greatest apprehension I am now confident that if I see the case at an early period of the disease and if antitoxin be used the patient will almost certainly recover.

I am, Sirs, yours faithfully,

Wimpole-street, March 26th, 1900. F. DE HAVILLAND HALL.

THE JENNER SOCIETY.

To the Editors of THE LANCET.

SIRS,—I should like to draw the attention of public vaccinators to the advantages of becoming members of the Jenner Society, of which Dr. F. T. Bond of Gloucester is the honorary secretary. The literature of this society is most useful and I have vaccinated the children of several anti-vaccinationists who were "converted" after reading "A Plea for the Children." Surely it is about time that there was some definite law upon the subject of efficient vaccination. In my district, for the sum of 1*s.* each, hundreds of children are vaccinated annually in one small place and a certificate of successful vaccination is given. The advice of the Direct Representatives of the profession upon the matter would be interesting. Should public vaccinators vaccinate in less than three places? It seems to me that in cases of children who have reached the age of three years and upwards and whose parents will only allow them to be vaccinated in two places that we might be allowed to do so, especially as the parents in several instances have been already fined or have had conscientious objections granted to them.

I am, Sirs, yours faithfully,

J. DIBBLE STAPLE, M.R.C.S. Eng., L.S.A. Lond.,
Public Vaccinator for the Ashley District Bristol Union.

LARGE DOSES OF CARBOLIC ACID.

To the Editors of THE LANCET.

SIRS,—Having read with much interest the articles in THE LANCET of last year on the treatment of bubonic plague and influenza by large doses of carbolic acid I determined to try it in the latter disease. Although I did not find it necessary to use such large doses as those recommended by Mr. A. Wiglesworth it more than answered my expectations. I am not writing, however, merely to echo what has been said before in praise of this treatment, but to record a case in which an extremely large dose was accidentally administered without injury. The patient was a robust man, aged about 30 years. He was complaining of the ordinary symptoms of a mild attack of influenza and I ordered a mixture containing seven and a half grains of pure carbolic acid to two teaspoonfuls of water, flavoured with syrup of orange, to be taken, freely diluted, every two hours. When I called the next day the patient was about his business and it was not till three days later that his wife told me that she had at first misread the label and had given him two tablespoonfuls of the medicine at 8 P.M. and repeated it at 10. This means that he had taken a drachm of pure carbolic acid in two hours. Questioned afterwards he said he had felt no ill effects beyond a moderate feeling of heat in the pit of the stomach. The dose of carbolic acid which is to be looked on as poisonous apart from the action of the concentrated acid as a corrosive seems at present not to be determined.

I am, Sirs, yours faithfully,

EDWARD GOODDY, F.R.C.S. Eng.

Llandudno, March 28th, 1900.

THE BRITISH MEDICAL BENEVOLENT FUND.

To the Editors of THE LANCET.

SIRS,—Will you kindly intimate in THE LANCET my change of address in connexion with the Wardrobe Branch of the British Medical Benevolent Fund?

I am, Sirs, yours faithfully,

25, Linden-gardens, W., April 4th, 1900. EDWARD EAST.

"THE SURGERY OF THE STOMACH."

To the Editors of THE LANCET.

SIRS,—In the table of statistics of gastroplication published in THE LANCET of March 24th, p. 831, a case operated on by me is referred to. The writer of the table is incorrect in his statement that "stricture of the pylorus was noticed

but not treated." There was no stricture of the pylorus and therefore it was not treated. Knowing Mr. Mayo Robson's desire to publish accurate tables I shall be glad if you will publish this correction. I may add that I have recently seen the patient, who has increased four stones in weight and is now working as a domestic servant.

I am, Sirs, yours faithfully,
WILLIAM HORROCKS, F.R.C.S. Eng.

Bradford, April 1st, 1900.

"LEAD POISONING IN THE POTTERY DISTRICTS."

To the Editors of THE LANCET.

SIRS,—Dr. C. M. Allan writes under the above heading in THE LANCET of March 31st, p. 966, to express his disapproval of my paper read at Trentham recently. He complains that the bulk of the paper was taken up by what anyone acquainted with the rudiments of electricity could learn for himself by reading a good work on medical electricity. May I add another sentence, also in the conditional mood? If the medical men of the district would learn what Dr. Allan says they could, and if they would also act upon it, they would be spared the mortification of seeing their cases of lead poisoning sent to other parts of the kingdom, at the expense of private charity, to obtain treatment which they cannot find at home.

I am, Sirs, faithfully yours,
H. LEWIS JONES.

Wimpole-street, W.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Increase in the Plague Epidemic.—Its Development in the Cities of Bombay and Calcutta.

BENGAL is now experiencing the ravages of plague. Of the total deaths from plague in India last week 2383 occurred in the Presidency of Bengal and only 1363 were recorded for the Presidency of Bombay. There were 1581 deaths in the Patna district and 601 deaths in Calcutta. For the whol[illegible]
figur[illegible]
may[illegible]
in th[illegible]
death-rate in the city of Bombay is still enormously high—viz., 170 per 1000 per annum—while in Calcutta it is at present only half that amount. A feature in the returns of the latter city is that the plague deaths recorded account for the [illegible]y,
where ti[illegible]ns
only sho[illegible]

The small-pox outbreak still continues high in the city of Bombay, and there is rather more small-pox than usual in Calcutta.

The numbers under "famine relief" continue to increase and many of the plague officials have been transferred for these duties. I understand that many of the sisters and several of the medical men will not be retained for further plague duty. The change of policy adopted by the Government of India and the local Governments has rendered their services useless. The "do-little" policy which has characterised the Bengal Government seems to have been taken up, or rather gradually slided into, by the other authorities. The people fall sick and die in their homes. They prefer it, and after all there is little evidence to show that it is a worse system than active interference. Disinfection of houses after deaths is not so much objected to, but compulsion to go into hospital or to evacuate their houses meets with every possible form of concealment. The practice of inoculation continues to be carried on actively in the city of Bombay and a few minor places. It is at a stand-still in Calcutta.

March 11th.

HOSPITAL SUNDAY IN BRISTOL.—At the meeting of the committee of the Bristol Hospital Sunday Fund held recently it was stated that the total collections received amounted to £1362. There were 200 collections in churches and chapels, being 49 in excess of last year.

THE BATTLE OF THE CLUBS.

COWES.

(FROM OUR SPECIAL COMMISSIONER.)

THE conditions of medical contract work at Cowes are anything but satisfactory, and there has been a good deal of friction notably between the Foresters and their former principal medical officer. This gentleman in 1896 bought a practice at Cowes, which included some 1200 Foresters who paid 4s. a year for adults, and 3s for juveniles of from six years to 18 years of age. Such contract work makes the purchase of a practice a very risky affair. The newcomer may lose some of the private patients; but, if the practice depends in the main on clubs, the loss may be, not of a few, but of several hundred patients. Nor is such loss gradual and perhaps compensated by an increase of practice in other directions. It is sweeping and sudden. In 1898 Mr. Bernard Hoffmeister joined his father at Cowes and was naturally anxious to build up a practice. This coincided with a growing desire on the part of the Foresters to employ another medical officer. As they had many members this was quite [illegible]
mination which was co[illegible]
medical aid society wa[illegible]
interests of the profession. The new society was to consist of the wives, the children, the relatives, and the friends of the Foresters, and they would not be called upon to pay for any other form of insurance except medical aid. The medical officer of the Foresters objected strongly to this scheme. He pointed out that there was already too much contract work and that it was not beneficial either to the patient or to the medical officer unless it was strictly limited to the poorest sections of the population, and that even for this class there was a dispensary supported partly by charitable donations and partly by subscriptions collected on the provident system. Cowes has only a population of 10,620 inhabitants, and nearly 1000 are members of this dispensary. In 1899 the actual figures were 987 members. With the 1200 Foresters on the books in that year and the many other clubs which existed, it will be seen that very little scope remained for private practice, and now it was proposed to include the wives and relatives of the Foresters. Their medical officer refused to accede to the scheme, and the Foresters advertised for another medical officer, and received in response 14 applications. The result was that the Foresters brought a gentleman into the town and also appointed the two brothers, Dr. William Hoffmeister and Mr. Bernard Hoffmeister, as medical officers. They were to attend on the Foresters and on the members of the Medical Aid Society. The rules of this society (the Court Foresters Sale Medical Society) stated that the object of the society was the relief of the wives, the children, the widows, and the orphans of Foresters. All moneys received—subscriptions, entrance fees, fines—were to be employed only for the objects of the society. The medical officers were to be provided with the list of members quarterly, and members who needed to be attended in their own homes were to send notice to that effect before nine in the morning of the day on which they wished to be visited. The medical officers were to be selected by the Foresters and were to provide, not only medicine, but leeches, dressings, bandages, splints, and whatever else might be required for the proper treatment of the patients. There was, however, a considerate stipulation that the patients should return the splints when they were no longer required. In exchange for there extensive and expensive—services adult members were to pay 4s. per annum, juvenile members from 12 years to 18 years 3s. per annum, and children from one year old to 12 years old 2s per annum. Adults were to pay also 2s annually as a management fee. One child was charged 2s. annually but two or more children only paid 2s. annually to cover the cost of management. The entrance fee for adults was 1s. and for members under 18 years of age 6d. The Medical Aid Society had not been long in existence when Mr. Bernard Hoffmeister died and his brother, Mr. John Hoffmeister, was appointed in his stead. Some resistance, however, had been made to this extension of club practice. The medical officers of the Foresters had succeeded in retaining the old Foresters—that is, the adult males—and in persuading one of the oldest practitioners in the town not to

have anything to do with the new Medical Aid Society. Mr. Bernard Hoffmeister, however, would not give up the appointment, for he maintained that it was impossible to get into practice unless such appointments were accepted.

In 1896 the Foresters held a meeting at which it was urged that their medical officer must either be called upon to resign his post or to accept the post of medical officer to the Medical Aid Society. The members even went so far after this meeting as to assert that a resolution to that effect had been passed. By this statement they hoped to break down the resistance of the medical officer, but that gentleman declared that he preferred to resign rather than be connected with the Medical Aid Society. The following year the gentleman who had been brought into the town suddenly disappeared and was said to have died. A short time previously the Foresters had started a lodge for females, and he with Mr. Hoffmeister, jun., had been appointed as its medical officers. These female Foresters paid 5s. per annum, and when the former vanished from the scene the male Foresters again asked their medical officer to take the women members, but again he refused. By this time Mr. Hoffmeister, jun., was tired of the female Foresters, for they not only gave a great deal of trouble but several of them were in [illegible] and had no right to belong to such an [illegible] John Hoffmeister therefore called a meeting at his house, at which there were present Mr. John Hoffmeister, Dr. William Hoffmeister, Dr. Edgar Hoffmeister, Mr. H. W. Ewen (from East Cowes), Mr. P. Gibson, and Mr. W. S. Nockolds. Mr. P. Gibson argued somewhat in favour of the clubs even as to their inclusion of female members, but all the other medical gentleman present agreed that they would have nothing more to do with the Medical Aid Society which the Foresters had established. In March, 1897, Dr. Hoffmeister and Mr. Gibson wrote to the medical officer of the Foresters' lodge for males stating that the Medical Aid Society had offered new terms—viz., 6s. a year for adult women and 4s. a year for children, and extras to be paid according to the Poor-law tariff. A wage-limit was also to be imposed and fixed at £2 per week or a rental of £20 a year. They, however, ended by accepting lower terms, as shown by the following handbill which was printed and widely circulated:—

COWES 1822.—MEDICAL SOCIETY FOR WIVES AND FAMILIES OF MEMBERS.

MADAM,—The committee of the above society have pleasure in informing you that they have secured the services of the following gentlemen as medical officers: Dr. Hoffmeister, J. B. Hoffmeister, and Edgar Hoffmeister, also Dr. Percy Gibson. Their duties will commence July 1st, 1897.

Scale of charges.—Adults above the age of 18, 5s. 4d. per year; children from one to 18 years, 4s. 4d. per year. Entrance fees: adults over 18, 1s.; children, one to 18, 6d. each. Midwifery, £1 1s.; first cases, £1 5s.; over one mile 5s. extra, if over two miles 10s. extra.

Entrance fees will not be demanded of the present members.

Re-instatement by examination of present members. All wishing to join must write to the secretary before seeing the medical officers.

Wage limit.—An average of £2 per week and a house rental of £20.

Foresters' Hall, Cowes. BEO. J. JOLLIFFE, Secretary.

Though it is something to have secured the recognition of the principle of a wage-limit, this limit is very high and, of course, it only applies to the Medical Aid Society which was started by the Foresters and not to the Foresters themselves. A very good house can be obtained at Cowes for £20 a year and there is no security whatsoever that even the wage limit will be applied in practice. Nor is it easy to estimate correctly the income of members. For instance, many of the inhabitants are connected with yachts and ships. As a ship's steward a man may receive less than £2 a week regular salary, but the "tips" given to him by the passengers may more than double his income. Many persons in such positions are able to purchase freehold houses and should therefore be able to pay their medical attendants properly. Then, as the wage-limit, such as it is, applies only to the Medical Aid Society, if it deters any member of that society it is only necessary for him to become a full Forester to escape this restraint. Thus it is that many tradespeople belong to the Foresters and therefore enroll their wives in the Foresters' lodge for females instead of the Medical Aid Society and then when they are ill they receive sick allowance as well as medical aid. A great many freehold houses at Cowes belong to the working class. The owners of these houses are skilled mechanics and artisans engaged in yacht-building, or mechanical engineers, or skippers on board yachts. One of the largest yacht-builders and one of the principal yacht-painters in the town are both members of the Oddfellows' Friendly Society. There are entire rows of houses belonging to Oddfellows or Foresters. As some of these members live at a distance of three and four miles from the centre of the town the medical officer must keep a horse and carriage so as to be able to attend to them, and it requires a great many subscriptions at 4s. a year each to cover this outlay. Then the medical officer of the Foresters has to examine all candidates for membership and, whether accepted or rejected, he receives no pay whatever for this responsible duty. Many Foresters are on the Cowes list because the courts in that town are more than usually prosperous, and for this reason men who live at some distance seek to join them. This means a great loss of time for the medical officer, though it helps to ensure prosperity for the benefit society which he serves. At Cowes the Foresters allow 14s. a week during the first six months of illness, whereas courts in other places generally pay only 12s. During the second six months the allowance is 7s. a week and after that, and during the rest of the illness, 5s. a week is given. [illegible] named figure has been reduced to [illegible] not apply to th[illegible] some 1600 For[illegible] fellows. Then [illegible] Rechabites, and [illegible] of which pay 4s. a year for medical aid.

In 1898 the male Foresters made a final appeal to their medical officer. This time they definitely decided that he could not be allowed to retain only the male Foresters, but that he must also attend to the female members of their Medical Aid Society or withdraw altogether from their service. This, however, the medical officer with commendable consistency and courage refused to do. The Foresters therefore advertised for another medical officer; but by that time the "battle of the clubs" had spread throughout the country and the medical journals refused to insert their advertisement. Consequently only one application for the vacant post was made. The Foresters accepted his services, for they had not only lost the medical officer of their male lodge but the Hoffmeister family had also joined in the opposition and resigned. Had the members of the profession at that time practising at Cowes held closely together victory was within reach, for with but one imported medical officer to do their work the clubs must have broken down. But this, unfortunately, was not the case. The medical officer of the male Foresters by surrendering his post gave up an appointment which was worth about £250 per annum. That he was right in complaining of the prevalence of abuse is proved by the fact that many Foresters on finding that they could no longer obtain his advice on club terms very readily paid him his usual fees. From one of these patients he obtained £21 in the course of a year and from two others £28 each. Had he remained their club medical officer he would have ha[illegible] ers of the club and would [illegible] instead of £77. When t[illegible] from the widow of his [illegible] e was not appointed me[illegible] hould pay £200 less. He [illegible] the £200, nevertheless two years later the Foresters, as related above, wanted to increase their staff of medical officers and divide his practice with others. Thus the purchaser of such a practice has no control over it. He is at the mercy of the committees which manage the clubs and they may by a simple alteration of their rules destroy the value of a practice for which a heavy price has been paid perhaps only a short time previously.

There have also been difficulties with the Rechabites. They used to pay their medical officers by fees for attendance and not by a weekly sum, but when one of the gentlemen brought in went to Cowes he took them for a weekly sum and thus a good system was destroyed. He also allowed the introduction of women and children as members which his predecessor had refused to sanction. Some seven years ago an insurance company attempted to establish themselves at Cowes. After some refusals they succeeded in obtaining the services of Mr. Hoffmeister, jun., but when this gentleman found that they canvassed in his name he at once resigned. At East Cowes when the gentleman employed found that they canvassed in his name he likewise refused to have anything more to do with them. The canvasser of this company was more pushing than discreet. He called on a lady at East Cowes and inquired who was her usual medical attendant. On being told he said that this

[illegible]

that she had better join his [illegible] sequently the Cowes branch of [illegible] left without any medical officer [illegible] in one case at least the str[illegible] has proved successful.

I have found at Cowes some Foresters who sympathised with the griev[illegible]. Indeed, at one time, a [illegible] to do away altogether with [illegible] on. They would reduce their subscription by 4s. per annum and not employ any medical officers and thus leave their members to pay the usual fees to any practitioner whom they might select. This was certainly a most radical and most satisfactory solution of the difficulty. On considering their registered rules, however, they found that they were bound to pay the subscriptions in full and the only exception in these rules which was sanctioned was in regard to members who lived three miles from the town. They, and they only, could be exempted from the payment of the 4s. and consequently would not be entitled to medical aid. Thus the Foresters are obliged to continue the system whether they like it or not. Nor [illegible] them rec[illegible] been seen [illegible] have crea[illegible] establishe[illegible] debar ther[illegible] same diffi[illegible] refuse the [illegible] of his financial position. A local branch or lodge has not the power to alter the terms of admission; this reform must emanate from the central governing body. This applies not only to England but to foreign countries. Thus some time ago in the United States of America a number of emancipated slaves and black men wanted to join different courts of Foresters. It is well known that strong race prejudices prevail in America, and the white Foresters accordingly refused to admit black men as Foresters. The law and the constitution of Foresters, however, recognise no differences of creed or colour, and it was absolutely unconstitutional to refuse the black men. They were therefore admitted, with the result that secessions on a large scale took place and many courts were broken up. It is now argued that a court of Foresters can no more impose a wage limit than it can refuse to admit a negro. The Oddfellows are in the same position. A wage limit [illegible] and to bring this about the [illegible] inistrative body must ta[illegible] reme authorities of the gre[illegible] are not composed of the [illegible] bers. Members of the better or more prosperous classes—such as, fo[illegible] legated to these high f[illegible] to vote a reform which [illegible] rom the benefits of the system of medical aid, and even if sufficient pressure could be put on them to ensure the adoption of such a reform it would not be possible to give it retrospective action. If this were not done the existing abuses would continue, but as the men died out they would become less and less prevalent. In any case, this is a question eminently suited for discussion at [illegible] posed of representat[illegible] great friendly societ[illegible] local branches can do is to persuade such of their members as possess ample means to become honorary members, and when a well-to-do candidate offers to join he also should be offered honorary membership. He can then take part in the meetings of the society where he will be treated with deference, and he will help the benefit society he joins by paying 10s. 6d. per year, which, however, will not entitle him to medical aid or sick allowance. Such honorary members are a credit to their societies and they honour themselves. They help their poorer brethren and they do not create any abuse by availing themselves of semi-charity intended only for the benefit of the poor. At Yarmouth I found that this was actually the practice at a small benefit society. Nevertheless, should a rich man refuse to join as an honorary member and insist on joining as an ordinary member the secretary has not the legal power to refuse to receive him. Another source of mischief is the great rivalry that exists between the different courts of Foresters, all courts strive to get the largest possible number of men [illegible] whom they admit. Thus though they have the right to exclude a person who has been in prison it is very rare that any objection [illegible] candidate even though there [illegible]

Returning [illegible] asked, What is best to be [illegible] that the first step to be taken is the formation of a Medical Union, and as Cowes is a very small place there should be a general union for the entire Isle of Wight, with, probably, the town of Newport as its centre. At Cowes there are several [illegible] practically in the gift of [illegible] House appoints a medical [illegible] oastguard, and there are [illegible] servants and a Poor-law medical officer. If there were a strong medical union whenever vacancies occurred representations could be made so that those candidates who had acted in opposition to the interests of the profession should not be recommended by the medical advisers of the authorities who make these appointments. For medical men to recommend persons who by their selfish conduct have helped to injure and degrade their profession seems most inconsistent and wrong, but this may be done in ignorance if there is not a well organised local medical union to take note of these matters and give timely warning. Men who do not study the interests of the profession as a whole, but who simply snatch at any appointment which is available without any consideration for the interests of their colleagues must expect that a dead set will be made against them. It is only [illegible] organisation. [illegible] fought bravely [illegible] officer of the men's court of Foresters. The fact that he has lost a large portion of his income only further emphasises the absolute necessity for union amongst the medical men of the town. An effort in this direction should now be made. A general meeting of all the medical practitioners in the island should meet at Newport or some other convenient place, and the basis of a Medical Union should be established. The success which I have recently described[1] of a similar effort at Yarmouth should be taken as an inspiring example for an analogous attempt in the Isle of Wight. The abortive struggle at Cowes demonstrates the need of such an endeavour.

Cowes.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The General Hospital.

THE 120th annual meeting of the supporters of this hospital was held on March 21st, the President, Viscount Curzon, M.P., being in the chair. The exhaustive report contained many interesting details in connexion with the new building. It showed that the income for 18[illegible] from ordinary and extraordinary sources was £17,23[illegible]. The expenditure reached a total of £2[illegible],77[illegible]. A deficiency of £6401 10s. 2d. was shown upon the year's working, which with the adverse balance on the Jaffray Branch of £19[illegible] 11s. 11d. and the deficit in 18[illegible] of £11[illegible] 13s. [illegible] makes a total adverse balance of £[illegible] 1[illegible] 6d. to bring forward. It is thus shown that a considerable amount is needed from subscriptions and other sources to maintain the efficiency of the hospital. A welcome gift of £1[illegible] was made by Mr. J. H. Pearson to dedicate a bed to commemorate his period of office as chairman of the board of management. A suggestion was made that believers should be admitted on the board of management and another that the number of beds should be curtailed in order to lessen the expenses. Both these were referred for consideration and the usual votes of thanks were passed.

The Medical Institute.

The report of the Medical Institute for the year 18[illegible] has been issued for the annual meeting. An improved financial position is exhibited in the gratifying [illegible] excess of income over expenditure to the amount of £[illegible]. During the past year 17[illegible] volumes have been added to the library, making a total number of 1[illegible]. [illegible] permitting a composition fee to be paid for [illegible] was [illegible]

[1] [illegible]

found to have some disadvantages, and it has been abolished. The various officers were elected at this meeting.

The Health Committee and Typhoid Fever.

Efforts have from time to time been made to relieve the pressure on the various hospitals caused by the prevalence of typhoid fever. The committee have received the option of a site of four acres outside the town and they recommend that an administrative block and a pavilion capable of holding 10 patients should be erected on the land. This is a step in the right direction, as it will give the committee a hospital to be held in reserve for cases of small-pox, and will thus liberate the larger hospital for typhoid fever cases.

April 3rd

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Notification of Phthisis.

AN attempt to bring about the notification of phthisis has been made in Manchester with results that may be considered satisfactory. On Sept. 6th, 1899, the medical men connected with public institutions were invited to notify cases of phthisis, and notifications were received from them. On Feb. 3rd, 1900, the private practitioners of Manchester also were invited to notify cases of phthisis under their care. The visitors of the Ladies' Health Society also notified any cases met with in their daily visits to the houses of the poor. The total number of cases notified from Sept 11th, 1899, to March 17th of the present year was 826, and of these 533 were reported before the private practitioners were asked to notify. The Poor-law medical officers reported 256 cases, 327 were reported from hospitals and institutions, 63 by female health visitors, 159 by general practitioners, and 21 from other sources. Since Feb. 5th more than half the cases have been notified by medical men in private practice. Patients and their relatives have readily given Dr. Harold Coates, who was appointed by the City Council in connexion with the notification scheme, all the information they could, and satisfaction has been expressed that active measures are being taken by the corporation to combat the disease. Owners and agents of property have readily consented to the disinfection of houses. The corporation has disinfected 149 houses in which patients lived, 235 have been cleansed and disinfected by the tenants, while 233 were reported clean, and the needful precautions are said to have been taken by tenants. There are still at least 146 cases to be visited. Thorough cleansing and disinfection are continually going on, and in several cases the landlords have "beautified" houses throughout—as the phrase goes—when a death has taken place. This is good as a beginning, and the corporation deserves credit for what has been done, but it must not be forgotten that behind the Sanitary Committee there is the distinct individuality of the medical officer of health as the initial force. It speaks well, too, for the kindly tact of Dr. Harold Coates and all concerned in this effort that so much has been done without friction or jar. The sanitary committee has resolved to invite applications for the position of medical assistant in connexion with the notification of phthisis at a salary of £200 a year. The control of the milk-supply has of course a close bearing on the production of tuberculosis, and it is interesting to note what is being done in this direction. The veterinary surgeon to the corporation, Mr. J. S. Lloyd, reports that between Jan. 26th and March 15th he visited 14 farms in the city and 49 outside and inspected 118 cowsheds. He examined 193 cows in the city and 741 outside. Five cows in the city and 58 outside had affected udders. 54 samples of milk from special cows were sent to Professor DeChine. Five were at once pronounced tuberculous, two gave negative evidence, and the rest were still in process of examination. As might have been anticipated the drainage of the cowsheds and farms is bad, and the majority of the cowsheds are "stuffy and overcrowded." It is curious to learn that there are three zones of cleanliness or the reverse. The cleanest sheds are in the city, the next in the surrounding district, and the worst in the country.

Professor Thomas Jones.

At the last meeting of the Manchester Royal Infirmary Board on the proposition of Mr. E. S. Heywood, the chairman, seconded by Sir F. F. Adam, a resolution was carried granting Professor Thomas Jones, honorary surgeon, six months' leave of absence on his proceeding to South Africa in charge of the Welsh hospital and wishing him every success and a happy return, in which hope the medical profession of Manchester heartily joins.

Manchester Royal Infirmary.

It was suggested some little time since by the Hospital Sunday and Saturday Fund Committee that a horse ambulance should be provided for Manchester, and a sub-committee of the Manchester Royal Infirmary Board, having ascertained the practice prevailing in Belfast, Liverpool, Birmingham, Edinburgh, and Leeds, reported at the meeting on March 26th in favour of "a proper system of horse ambulances for the removal of accident and urgent cases, but submitted that the duty of providing these rested on the city authorities." The sub-committee suggested that a deputation appointed by the committee of the Hospital Sunday and Saturday Fund and the boards of the Ancoats Hospital and the Infirmary should be requested to wait on the city authorities in order to urge upon them the "necessity of providing for the establishment of suitably equipped horse ambulances and of their efficient administration in connexion with the various hospitals of the city." A resolution was also adopted authorising the special committee appointed to deal with the resolution of the trustees on the question of rebuilding the infirmary to expend any money required for carrying out the terms of the resolution. If the city authorities therefore go no further than they have already gone in the attempt to obtain the infirmary site, the rebuilding—not the alteration or patching of the present one—will block the scheme for a few generations.

Manchester Students for the Front.

Yesterday afternoon three medical students from Owens College—Messrs Jenkins, Stephens, and Eames—left Manchester for South Africa. They have volunteered for service as dressers and will be attached to the medical corps of the Welsh regiments at the front. They had a hearty "send off" at the station from a large number of their fellow students.

April 3rd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Glasgow Southern Medical Society: a Complimentary Dinner and the Presentation of an Address to Mr. Edward McMillan.

ON Thursday evening, March 29th, in the St. Enoch Station Hotel the Glasgow southern Medical Society entertained Mr. Edward McMillan of Pollokshields to dinner and presented him with an illuminated address on his retiring from practice. A large and representative number of the medical profession of Glasgow gathered in celebration of the event. Dr. Hugh Kelly, president of the society, occupied the chair, and among others present were Professor Sir W. T. Gairdner, Professor T. McCall Anderson, and Professor John Glaister. At the conclusion of an excellent repast and after the loyal and patriotic toasts had been duly honoured Sir W. Gairdner proposed the toast of "Our Guest." In doing so he expressed the pleasure it gave him to see so many medical brethren present to give honour to the guest of the evening. He had known Mr. McMillan for a long period—longer, indeed, than anyone in that assembly. He had seen him as a general practitioner in some trying conditions of family life and he had always regarded him as the ideal type of the family physician. At all times a thorough sympathiser with every medical organisation Mr. McMillan bore a particular regard for the Southern Medical Society. Quiet and unassuming in manner he had won for himself, during his long career, the love and respect of everyone. Speaking as a retiring man himself to a retiring man he expressed the hope that Mr. McMillan would enjoy many happy days in the remaining evening of his life. Dr. Robert Pollok then formally presented Mr. McMillan with the illuminated address and made reference to the spontaneous manner in which the movement of appreciation had been initiated and to the hearty way in which it had been carried to a successful issue. Joining the

society in the year 1858, the various offices held by Mr. McMillan were referred to, as well as his term of six years as representative on the board of the Victoria Infirmary. Dr. Pollok assured him that in his retirement he carried with him the best wishes of the members of the society.—Mr. McMillan, in replying, returned thanks for the very kind words that had been said regarding him and cordially thanked the society for the illuminated address. Proceeding, he entertained the company with some very interesting reminiscences of the early days of the society and of the original members. In conclusion, he again thanked the member for the high honour which they had conferred upon him. The other toasts which followed included "The University," proposed by Dr. T. W. Jenkins and replied to by Professor McCall Anderson and Professor Glaister; "The Faculty of Physicians and Surgeons," by Councillor Dr. James Erskine and responded to by Dr. Ebenezer Duncan; and "Kindred Societies," proposed by Dr. C. E. Robertson and replied to by Dr. John McVail.

University of Aberdeen.

In connexion with the graduation on April 4th it may be mentioned that on this occasion 36 candidates have passed the final examination in medicine—five as M.B., C.M., under the old ordinances and 31 as M.B., Ch.B., under the new ordinances. On March 31st the Rev. Dr. Marshall Lang was inducted as principal and thus became qualified to preside at the graduation ceremony. He was welcomed by the Senatus, to whom was also read his nomination as vice-chancellor of the University. As a Latin inscription on the chapel testifies, the building of King's College, Aberdeen, was commenced on April 2nd, 1500. Last Monday was therefore the 400th anniversary of this interesting event.

April 3rd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Registrar-General's Office.

THE new position, that of medical superintendent in the General Registry Office, has recently been created in order to fill a want caused by the fact that the Registrar-General is no longer a medical man. The duties of the new officer will lie chiefly in connexion with the Statistical Department, and he will receive a salary of £350, rising to £500 a year. Dr. Ninian Falkiner, formerly Lecturer on Chemistry in the Carmichael College, and Secretary to the Section of State Medicine of the Royal Academy of Medicine, has been appointed to the post.

Dublin Sanitary Association.

The annual general meeting of the Dublin Sanitary Association took place in the council room of the Royal Dublin Society on March 29th. The report described the work of the council during the past years and alluded amongst other matters to the Hopper Barge at Butt Bridge, which on account of its position was stated to be a nuisance and a danger to the public health. Dr. John W. Moore, President of the Royal College of Physicians of Ireland, stated that he had recently seen the barge which existed in Liverpool, but it was in an isolated position where it was not a nuisance as in Dublin. Sir Charles Cameron, after alluding to the very important work of the association, remarked that a suggestion made by the association with reference to the examination of dairy cows was now being carried out by the corporation; a veterinary surgeon had been employed and his time was fully occupied. Dr. Charles Frederick Moore was elected President for the ensuing year and after taking the chair drew attention to the danger to public health which was caused by the lighting gas now supplied to the city, containing as it did a greatly increased amount of carbonic oxide gas. Sir Charles Cameron said that the gas company had agreed not to exceed the addition of 20 per cent. of water-gas.

Queen Victoria Cots in the Dublin Hospitals.

The High Sheriff of Limerick, Mr. Henry Cleeve, has forwarded to Lady Arnott, Dublin, a donation of £500 towards a fund which he hopes will be started with the object of founding beds, to be called the Queen Victoria Cots, in a number of the Irish hospitals to commemorate the visit of Her Majesty. An influential committee is being formed for the purpose of carrying out the project.

Belfast Royal Hospital.

At the annual meeting of the subscribers of the above charity held on March 29th it was reported that during the 16 months ending December, 1899, 3090 new cases were received into the wards, of which 1236 were medical and 1854 were surgical. There were 176 deaths during the 16 months. 34,390 new cases were treated in the out-patient rooms, and of these 30,772 were surgical and 3618 were medical. The total number of intern and extern cases was 37,645. 155 students attended during the winter session and 114 in the summer session. The gross receipts from all sources were £13,304 5*s.* 9*d.*, which with a balance of £1667 19*s.* withdrawn from invested funds, made a total of £14,972 4*s.* 9*d.* The gross expenditure was £15,233 0*s.* 8*d.*, so that there was a balance against the hospital of £260 15*s.* 11*d.* Special reference was made to the loss sustained by the hospital in the death of the late Professor Cuming. A sum of £3381 16*s.* 7*d.* had been received from the working classes. There can be no doubt that considering the amount of work done the expenditure of the hospital—about 7*s.* a case—is most economical, but the regular revenue has not kept pace. What is needed is either to make an effort to increase the number of regular subscribers (at present they are too few), or, as one of the speakers suggested, to support the hospital by a town rate. A 2*d.* rate on the present assessment of the city of Belfast would produce £9666, and would about cover the present regular expenditure of the hospital. The great mistake which is made in Belfast is that the same people are invariably asked to subscribe to all the various charities, while an effort has not been put forth to enlist new friends whose names have not so far appeared on the lists of subscribers to charities.

Health of Belfast.

Between Feb. 18th and March 24th 316 cases of zymotic disease have been notified as occurring in Belfast—viz., typhoid fever 84, scarlet fever 71, erysipelas 56, simple con-

[illegible]

increased, as has also the death-rate from chest diseases, but notwithstanding the mortality from all causes remains almost unchanged and is lower than that of the other large towns of Ireland.

The Proposed Infectious Diseases Hospital, Belfast.

A deputation from the governors of Purdysburn Asylum, protesting against placing the Infectious Diseases Hospital in the vicinity of that institution, was to have appeared before the City Council of Belfast on April 2nd, but through some misunderstanding the members were not present, so it has been decided to call a special meeting of the corporation to consider the whole question. At a meeting of the corporation Councillor Williamson, M.D., R.U.I., strongly objected to any part of Purdysburn being taken up for the development of an infectious diseases hospital as it was too far out from the centre of the [illegible] the Grosvenor-road they [illegible] which, with judicious [illegible] a hospital for infectious diseases which would meet the requirements of Belfast. Councillor O'Connell, M.D., R.U.I., was in favour of the Purdysburn site.

Belfast Ophthalmic Institution.

At the annual meeting of the supporters of the Belfast Ophthalmic Institution, Eye and Ear Hospital, it was reported that 1242 cases of eye disease, 375 cases of ear disease, and 275 cases of throat affections had been treated during the past year. There were 106 intern cases, which made the total number of cases treated 1923. An enlargement of the extern department—say, to cost £300—is much required. A legacy of £100 has been bequeathed to the hospital by the late Countess of Shaftesbury. Great satisfaction was expressed by all those taking part in the meeting that Dr. Walter Browne has now quite recovered after his long and serious illness. Financially there is a balance of £105 to the credit of the funds of the hospital.

April 6th.

intelligence with very great regret, as Dr. Jackson had every qualification for success in his new career, and was one of the best men who have lately been sent out. I am to express to you his lordship's sincere condolence." A clever, brave man, true as steel, and a genial and courteous gentleman, poor Hadley Jackson leaves behind him a host of sorrowing friends to mourn his premature death.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the Second Examination of the Board in the subjects indicated:—

Monday, April 2nd:

[illegible] and Physiology.—Arthur [illegible] Tiddian, Robert Vachell de [illegible] tudents of University [illegible] D'Ewart and Harry [illegible] nd Smith and Charles [illegible] Sheffield; Fred Yates, [illegible] John Barry, Lawrence [illegible]; Mervyn Turberville [illegible] pital; Charles Frederick Hardie, Cambric[illegible] sity College, London; Charles William [illegible] University and St. Georges Hospital; [illegible] St. Thomas's Hospital; William Lawrenc[illegible] London; William Emerson Lee, Cam[illegible] Bartholomew's Hospital; Christian Cathcart Robinson and Arthur Hamilton, St. Bartholomew's Hospital; George Henry Rodolph, London Hospital; Louis Leopold Thomson, St. Mary's Hospital.

Physiology only.—Mr. Ernest William Toulmin, St. Mary's Hospital.

12 gentlemen were referred in both subjects and one in physiology only for three months.

Tuesday, April 3rd:

Anatomy and Physiology.—Walter Henderson Scott, St. Bartholomew's Hospital; Neville Ivens Spriggs, Edwin Henry Britton Milsom, William Frederi[illegible] Clement Bowle, and Harold Cha[illegible] Francis Broughton Shettle and [illegible] George's Hospital; Robert Jones [illegible] Mary's Hospital; Alfred Lance [illegible]; Henry Richmond Minkley, St. Mary's Hospital and Mr. Cooke's School of Anatomy and Physiology; Henry Strawson Turner, King's College, London; James Armstrong Kilpatrick, Univ[illegible] Wales, Cardiff, and King's College, London; [illegible] Lionel Swinton Hooper, Frederick Willia[illegible] Edward Lawton Moss, St. Thomas's Hospital; Geoffrey Seccombe Hett and Frederick Hugh Alexander, University College, London; Robert Archibald Slater Sunderland, St. Bartholomew's Hospital; Archibald Gates Payne and Frederick James Pierce, Charing Cross Hospital; William Bain and Ivor Davenport Jones, Middlesex Hospital; and James Alexander Milne, London Hospital.

Ten gentlemen were referred in both subjects for three months.

VICTORIA UNIVERSITY.—At the degree ceremony held on March 30th the following candidates were presented:—

Bachelor of Medicine and of Surgery.—First-class Honours: Charles John Nepean L[illegible] *Second-class Honours:* Albert [illegible] Percy Allen and William Edward [illegible] Henry Broad, University; Harry Howard Bywater, Owens; Sidney Smalbroke Depree, University; William Alexander Helm, Edward Falkner Hill, John Frederick Hodgson, Henry Holt, and Samuel King Hutton, Owens; Frederic Thomas Alexander Lovegrove, University; Frederick Alexander Morrison, Owens; William Harold Morrison, Yorkshire; and Harry Scholefield, Owens.

At examinations held in March in the Faculty of Medicine the following candidates were successful:—

FINAL EXAMINATION.

Part I.—Granville Ainsworth, Owens; E. W. Anderton, Yorkshire; M. B. Arnold, Owens; J. L. Beddoes and J. H. Billing, University; George Binns, Owens; J. W. H. Brown, Yorkshire; Fred Bullough, Owens; R. T. Forster, Yorkshire; J. P. Good, Walter Hickey and James McIlraith, Owens; A. F. Martin and Edwin Saville, Yorkshire; Harry Slater, Owens; J. H. Sutcliffe, Yorkshire, George Taylor, Herbert Terry, Thomas Tierney, W. H. Tomlinson, J. W. Watson, and H. M. Williamson, Owens, F. P. Wilson, University, and W. J. Woodyatt, Owens.

SECOND EXAMINATION.

A.—Anatomy and Physiology.—Alexander Anderson, Yorkshire; J. W. Anderton, Owens; Roy Appleton, Yorkshire; J. B. Barnes, Owens, H. M. Berry and J. P. Bligh, University; *L. R. Braithwaite, Yorkshire; Walter Briggs, G. H. Brown, and G. G. Buckley, Owens; Alexander Burkhard, Yorkshire; *A. G. Christian, E. H. Cox, A. J. Edmonds, R. B. Fletcher, A. H. Gregson, and P. T. Harding, Owens; J. L. Hawkes, University; F. W. Hayes, Yorkshire; H. E. Heapy, University; Alexander Hodgkinson, Owens; A. S. Hopper, University; Arthur Howard, J. R. Hutchinson, and A. E. Johnson, Owens; J. A. Johnson and C. O. Jones, University; J. A. Jones, Owens; G. W. N. Joseph, University, W. G. Kirter, Owens; R. E. Knowles, University; R. G. M. Lazell, Yorkshire; A. W. Latham, Owens; J. A. Longley, Yorkshire; Joseph Longworth, Owens; Harry Maffin, M. B. Potts, and A. H. Radcliffe, Yorkshire; W. E. Rothwell and F. W. Schofield, Owens; P. K. Steele, Frank Sugden, and Bertram Suggit, Yorkshire; S. W. Swindells and A. F. Thompson, Owens; A. B. S. Todd, Yorkshire; A. E. Townley, P. E. Tylecote, David Walker, and T. B. Wolstenholme, Owens; H. F. Woolfenden, University; W. S. Wrigley, Owens; and F. W. B. Young, Yorkshire.

B.—Materia Medica and Pharmacy.—John Brunskill, Owens; L. T. Chadwick, Yorkshire; Alexander Cran, Robert Haslam, and E. W. Henstock, Owens; A. G. Jackson, University; C. P. Lapage, H. F. Lee, J. Longworth, J. H. Nichol, G. G. Parkin, and W. B. Ramsden, Owens; J. O. Sergeant and Frank Sugden, Yorkshire; A. B. Sykes, University; A. B. S. Todd, Yorkshire; A. E. Townley, Owens; G. F. C. Walker, University; and S. A. Winstanley, Owens.

* Awarded University Scholarship.

AT the annual meeting of the subscribers and friends of the Leicester and District People's Dispensary last week Mr. C. F. Bryan was re-elected Vice-President. The report for the past year was of an eminently satisfactory character, the receipts, including members' payments, amounting to £1373 5*s.* 8*d.*; medical fees and druggists' charges absorbed £1148 10*s.* 9*d.* of the amount.

CHELTENHAM GENERAL HOSPITAL.—The annual meeting of the subscribers and friends of this institution was held on March 21st, under the presidency of Colonel Croker-King. The medical report stated that 804 in-patients and 4771 out-patients had been treated during the year, and at the branch dispensary 3835 patients had been attended. The financial statement was satisfactory, but showed that although subscriptions had increased donations and legacies had fallen off. A new wing had recently been added to the hospital and a room fitted up for Roentgen ray work and an ophthalmic room provided. The average cost of each in-patient was £4 14*s.* 2*d.* and of each out-patient 3*s.* 5½*d.* Colonel Croker-King was re-elected president.

BRISTOL ROYAL INFIRMARY.—The annual meeting of the subscribers and friends of this institution was held on March 27th under the presidency of Sir C. D. Cave. The report stated that 3087 in-patients and 39,883 out-patients had been treated during 1899, the numbers for 1898 being 2969 and 40,504 respectively. The financial statement showed that the total ordinary income amounted to £11,479, against £9913 in 1898, and the total ordinary expenditure to £14,393, against £14,218 in 1898. The committee state that the total deficit of the infirmary is now £12,926 and add that unless more subscriptions are received they may be compelled to close some of the wards. Sir C. D. Cave was re-elected president.

WAR PICTURES.—The London public will not have to wait long to hear an account of Lord Roberts's successful march through the Orange Free State, the relieving of Kimberley, the pursuit of Cronje and his surrender, and the occupation of Bloemfontein. Taking advantage of the lull in the operations some of the correspondents are returning to England for a short time. Mr. Frederic Villiers, the well-known war artist, whose excellent sketches have been appearing in the *Illustrated London News*, is among these. During his brief stay Mr. Villiers will give an account of his experiences in the St. James's Hall on April 19th. In the course of the lecture he will show a large number of slides mostly from hitherto unpublished "snapshots."

ROYAL INSTITUTION.—Professor J. Arthur Thomson delivered the Friday evening discourse at the Royal Institution on March 30th, the subject being "The Facts of Inheritance." The physical basis of inheritance, he said, was the interaction of the sperm-cell and the ovule, resulting in the fertilisation of the latter. According to the theory of pangenesis representative gemmules given off by the cells of the body were supposed to find their way to the reproductive elements and thus to make the offspring like the parent. The theory of germinal continuity, to which preference was now generally given, was to the effect that a part of the germ plasm contained in the germinal cells entered into the formation of the germ-cells of the following generation. The different degrees of hereditary resemblance and Galton's law of ancestral inheritance were discussed, and in conclusion attention was drawn to the advantages of the careful mating of parents and the benefits that might be obtained by proper nurture of the offspring.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—Fellowship Examination: Mr. Thomas Joseph O'Donnell, L.R.C.S. Irel., Ooregum, Mysore State, India, having passed the necessary examination, has been admitted a Fellow of the College.

THE MILITARY HOSPITAL, DEVONPORT.—The work of erecting the new buildings of the Military Hospital, Stoke, is already well advanced; one of them is ready for occupation and the remainder will soon be finished. The new buildings, or huts, of which, there will be nine, are being erected in portable sections, so that they can be removed to another site if required. Notwithstanding this feature of their construction they are of a substantial character and internally resemble in every respect an ordinary hospital ward. Each hut will be 70 feet long with a breadth of 20 feet 7 inches, and will accommodate 16 patients, with separate rooms for attendants and other purposes. The system of ventilation adopted is that by which a revolving ventilating-tube will run the whole length of the roof.

VOLUNTEER MEDICAL ORGANISATION.—Surgeon-General Evatt gave an interesting address at the Guildhall, Exeter, on March 26th, upon the medical organisations with the forces whilst on active warfare. He stated that although there were 230,000 Volunteers in England there was not a corps that had a proper transport or medical service. In several towns volunteer medical staff corps had been organised and he hoped to see the system extended. Surgeon-Lieutenant-Colonel J. R. Thomas, in proposing a vote of thanks to the l[illegible] have in readiness [illegible] have the duty of [illegible] two alternatives [illegible] Medical Staff Corps, and the other to form a bearer company on the strength of the regiment to be effectively organised. He favoured the latter, as it was a task more easily to be compassed, but they required the assistance of the Government in the matter and the public must compel the Government to do what was necessary.

THE HOSPITAL SATURDAY FUND.—The Hospital Saturday Fund, of which Sir Savile Crossley, Bart., has recently been elected chairman, has issued its twenty-sixth annual report. It states that the year 1899 was one of steady progress. Notwithstanding the fact that it was only the second year since the abolition of the annual street collection and that in the last quarter the many claims of the sufferers by the war in South Africa might have accounted for some considerable diversion of income, the total amount received was £20,013, being £951 in excess of the income for 1898 and only £125, less than the amount collected in 1897, the last year of the street collection. The total sum raised through the influence of the local committees in 1899 was £1473 as against £1117 in 1898. The total sum distributed for 1899 was £17,013, leaving a balance at the bank of £1013. 36 general hospitals received £6547, 60 special hospitals received £4989, and 78 miscellaneous institutions received £5477. The expenses of management amounted to £2191, or rather less than 11 per cent. of the gross receipts. This percentage is lower than in any previous year.

THE MEDICAL GOLF TOURNAMENT.—The Tournament for 1900 will not be decided by match play as in previous years, but to meet the wishes of many players it will be held under medal play regulations at a one day meeting, competitors being divided into two classes: Senior, with handicaps of 12 and under; Junior, with handicaps of over 12. The date is fixed for Thursday, May 10th, and by the kind permission of the Wembley Golf Club the tournament will be played on their links at Wembley, to which frequent trains run from Baker-street Station. The following regulations have been arranged by the committee. Competitors may play over the course before playing their medal round which must be started by 3 P.M. Members of the home green must deduct two from this handicap. There will be a first and second prize and a prize for the best score over the last nine holes in each class. The entrance fee, 5s., to be sent, with name and statement of the competitor's lowest handicap, not later than May 7th, to the honorary secretary Mr. Rolf Creasy, Windlesham, Surrey. Foursomes will be arranged in the afternoon—Consultants and Practitioners and gentlemen wishing to play in these should notify the same to the honorary secretary when sending their entrance fee.

Parliamentary Intelligence.

HOUSE OF COMMONS.

THURSDAY, MARCH 29TH.

The Proposed Lunacy Laboratories.

Mr. JOSEPH A. PEASE asked the Home Secretary what class of research it was intended should be carried out in the laboratories which it was proposed might be provided and maintained in connexion with lunacy in Clause 22 of the Lunacy Bill, what was the character of the certificates it was intended to grant to licensees at such laboratories, and whether the number of such laboratories were to be limited in number.—Sir MATTHEW WHITE RIDLEY replied: I have no information leading me to believe that the research for which the laboratories may be established will involve any necessity for either licences or certificates, but I am in communication with the Lunacy Commissioners on the subject.

Prison Dietary.

Mr. SEALE HAYNE asked the Home Secretary whether the recom-[illegible] Committee.

The Conduct of Private Lunatic Asylums.

Sir MANCHERJEE BHOWNAGREE asked the President of the Local [illegible] been recently brought to his [illegible] ate lunatic asylums having [illegible] and, if so, would he state [illegible] at steps he intended taking regarding the same?—Mr. CHA[illegible] Government Board has been [illegible] the question. They are in [illegible] missioners with regard to the [illegible] in the matter.

The Royal Army Medical Corps.

Dr. FARQUHARSON asked the Under Secretary of State for War whether lieutenant-colonels of the Royal Army Medical Corps who were doing colonel's work could receive the rank and pay of the higher grade in which they were temporarily serving.—Mr. WYNDHAM replied: The regulations do not provide for the case of these officers and it is being specially considered.

The London Water Question.

After a debate of considerable length the House rejected by 231 to 151 votes the Bill of the London County Council for acquiring the water undertakings in the metropolis. Mr. CHAPLIN, speaking for the Government, opposed the Bill on the ground that it was inconsistent with the report of the Royal Commission, which, while recommending purchase, said the London County Council should not be the water [illegible] supply of London now rests upon the shoulders of the Government.

The Employment of Children in Coal Mines.

On the motion of Sir CHARLES DILKE a Bill was read a second time to prohibit the employment of children below ground in coal mines.

FRIDAY, MARCH 30TH.

The Vaccination Question.

On the motion of Mr. PICKERSGILL a Bill was introduced to declare the law that no vaccination prosecution shall be commenced without the authority of the guardians.

Physical Drill in Schools.

[illegible] this sitting of the House [illegible] the question of the importance of instituting physical and military drill for boys in all state-aided and rate-aided schools.—Mr. LOUGH, speaking from practical knowledge of the system, said that physical drill was carried on as far as was necessary for the welfare of the children and expressed the opinion that if it were pressed further and made compulsory there would be danger of a revulsion against it.—Sir J. NA GOSCHEN said there were two questions to be considered. One was the question of physical training, and the other was how far that physical training should be military drill. The Education Department had practically made physical training compulsory upon all schools, because it was a condition, and on which the higher grant could not be obtained, that suitable physical exercise was to be taught in every school. There was no doubt whatever in the new code to alter the practice which had prevailed for a great many years. Of course, the very best kind of physical exercise for children was to be found in games, but where the schools were not favourable for games the Education Code said that there should be Swedish drill, gymnastics, military drill, or some other form of physical training. The code of the present year, as was the code of previous years, left everything to the best judgment of schools. The principle of the Bill was that the Department should [illegible] Whatever allowed local managers of schools to do [illegible] was the best course of [illegible] type. It was a very military and physical drill that had prevailed from the code [illegible] which was considered to [illegible] the particular course of instruction of children [illegible] The instructions to inspectors were not altered. The [illegible] the inspectors [illegible] which the inspectors [illegible] The [illegible] would [illegible] every [illegible]

Notes, Short Comments, and Answers to Correspondents.

PERNICIOUS ADVERTISEMENTS.

THE *Wimbledon Independent* of March 31st publishes the following advertisement:—

APIOL and STEEL PILLS for females.—A French remedy for all irregularities and obstructions, superseding bitter apple, pil cochal, Pennyroyal, &c. Price 4s. 6d., post free.—Obtainable only from Martin, Foreign Chemist, Southampton.

The *Southampton Times and Hampshire Express* of March 24th publishes the following advertisement:—

THE WELL-KNOWN TALENTED MEDICAL BOTANIST,
MISS BELLAIR,
VICTORIA VILLAS, 103, UPPER CLOVELLY-ROAD (OFF ST. MARY'S-ROAD),
SOUTHAMPTON.
Business Hours—From 11 to 2 P.M.; 6 till 9 P.M.
Attends to all Diseases of Females, Impediments to Marriage; also all Obstructions.
Pills for all Diseases.
Hours of Consultation till 9 P.M.,
Thursdays excepted.

The proprietors and editors of these papers ought to be well aware of the terrible harm that has been done by the publication of advertisements of medicines for females which remove obstructions, and they ought also to know the risk that they run in continuing to make money by this method. It seems to us not a little curious that men and women should be found willing to run the risks that are incurred by this filthy traffic. "Medicines to remove obstructions," when designed for female use, must mean abortifacients, for there is no other common cause of cessation of the menstrual flow save pregnancy. Whether the usual remedies for "female obstructions" do or do not act as ecbolics is a question which we have dealt with at length in our columns; we here only desire to emphasise the opinion of all decent persons that such advertisements should not be published. Young women should not have inducements held out to them to place themselves in the hands of mischievous quacks and to dose themselves with costly rubbish, nor should they be encouraged in attempts to procure abortion upon themselves whether the agents placed in their hands be perniciously efficacious or fraudulently inept.

We refer the editor of the *Wimbledon Independent* to THE LANCET of Dec. 31st, 1898, wherein, on page 1808, he will find an account of Martin's Apiol and Steel Pills for Ladies. Our transaction with Martin satisfied us that he believed himself to be supplying his "remedy for all irregularities" to an unchaste female, and what an unchaste female wants such remedies for is surely not open to doubt. The name of the "well-known talented medical botanist" who figures in the *Southampton Times and Hampshire Express* is new to us, but the wording of her claim to public attention should have ensured the refusal of her advertisement.

A SPLINT FOR BUNIONS.

IN aggravated conditions of bunion a toe-spring sold by Mr. James Pond, of 23, Castle Meadow, Norwich, price 3s. 9d., of which a specimen has been submitted to us, is likely to be of service. It practically consists of a spring splint running along the outer side of the great toe, which latter is encircled by a washleather covered metal loop attached to the splint. The next toe is encircled by an elastic band attached to a side projection from the metal loop which goes under the toe. The instrument can be worn at night to keep the great toe in a normal position during the hours of sleep.

GELATIN ENVELOPES FOR SURGICAL DRESSINGS.

MESSRS. REYNOLDS AND BRANSON of Leeds have sent us a sample of their new gelatin envelopes for surgical dressings for which they claim that a small quantity—say a yard or less—of gauze, &c., can be carried in a surgeon's bag and be kept perfectly clean. These envelopes, which are of ordinary shape, allow the dressings to be visible and at the same time can be hermetically sealed. Provided the gelatin does not crack the little invention should be found useful.

"NOT A REAL DOCTOR."

A suit was recently tried before Mr. Justice Grantham and a special jury in which a medical man claimed damages for slander. The plaintiff, a Licentiate of the Royal College of Physicians of London, was described by the defendant as "No doctor," the words of the slander as proved by uncontradicted evidence being, "He is no doctor; he has not passed his examination and is no class of doctor at all." The defendant was backed to two other medical men in the town and he seems to have considered it his duty to his profession to deny the medical position of their rival. We are glad to say that the medical men [illegible] have the right out with complete professional courtesy to the victim of their landlord's ill-judged zeal in their behalf. The defendant was very properly fined £100 with costs for his libellous remarks. The foundation of these libels—for this is not the first example of the sort that has come before us—is the double use of the word "Doctor" which is always causing irritation in the medical profession. Possibly the offender in this case was really to some extent misled by the fact that the plaintiff possessed no degree as Doctor of Medicine.

GLOUCESTER INFIRMARY: THE WORKMEN'S COMPENSATION ACT.

AT the annual general meeting of the supporters of the Gloucester General Infirmary held on March 15th the chairman (Colonel Curtis Hayward) said that the committee had had before them the question of giving certificates for use under the Workmen's Compensation Act to patients treated at the Infirmary. It was felt that it was undesirable that the institution should be brought into cases taken before the law courts, and, on the other hand, it was clearly a hardship to refuse to give any certificate at all. Under these circumstances it had been decided to empower the house surgeon to give a certificate simply stating that such-and-such a patient had been treated at the infirmary for such-and-such a time suffering from such-and-such injuries. Any special cases would be brought before the committee for consideration. In order to obtain the services of a qualified assistant house surgeon it had been found necessary to offer a salary which had been fixed at £30 per annum.

THE AUTOCRATIC DOCTOR.

THE following witty verses we extract from the *Bristol Medico-Chirurgical Journal* for March. The editor says that they are from the pen of a well-known actor:—

(*With acknowledgments to Rudyard Kipling.*)

I.

When you've swallowed Scott's Emulsion by the gallon or the jug.
When you've finished Iodinin' of your back,
Will you kindly drop your sputum in my little china mug
And send it to a party at Nordrach?
He's an Autocratic Doctor with a rough and ready tongue,
But Tubercular Bacilli can't abide him,
And the patient finds him busy wiping something off his lung
By cramming lots of little things inside him.
Raw meat, cooked meat, meat of a hundred kinds,
Fifty chronics at table, striving to eat their lunch,
Each of 'em doing his level best to swallow the skins and rinds.
Pass your plate for credit's sake and munch, munch, munch!

II.

There are some who "pouch" in secret, asking no permission to,
For they know they wouldn't get it if they did.
Scraps of cheese, and bits of lobster, lumps of meat they couldn't chew,
And a rather more than "gamey" piece of kid.
And havin' been so casual, they feel sorry when they're gone
(For the Autocratic Doctor's sure to "out" em).
When their lungs are going dicky with the winter coming on
They'll miss the bloke who understood about 'em.
Cooked food, raw food, plenty of milk and rest,
Quarter o' pound o' butter—*Schwarzbrod* by the hunch.
Each of 'em trying to raise his weight and widen his girth and chest.
Pass your plate for your credit's sake and munch, munch, munch!

"THE REGISTERED QUACK."

WITH reference to an article bearing this heading last week we are informed that the name of Harman Tarrant was erased from the list of Fellows of the Royal College of Surgeons of Edinburgh at the last meeting of the College held in February. We trust that the two other corporations from which Mr. Harman Tarrant obtained qualifications will follow suit.

M.R.C.S., L.R.C.P.L.—Nothing would be gained by printing the advertisements in THE LANCET. Their style and even their wording is perfectly well known to all our readers. The only persons who can put a stop to their publication are the proprietors and editors of the papers.

An Old Guy's Man.—Dr. William Duncan of 6, Harley-street, W., has received a subscription from a gentleman with this *nom-de-plume* who failed to send his address. Will he kindly communicate with Dr. Duncan?

Ratcliffe.—We presume that the best openings will be obtained by those on the spot. We cannot say anything definite about the prospect.

C. H. R.—Such books cannot be read to any advantage without a knowledge of anatomy and physiology.

M.B. Edin.—Fees should be paid in respect of both coroner's orders.

Indo-Briton.—The fee should certainly have been paid.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 5th, 1900.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo	Maximum Temp shade	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
Mar. 30	30·05	E.	...	87	49	34	36	37	Hazy
" 31	30·34	E.	...	79	50	37	38	40	Hazy
April 1	30·23	E.	...	71	47	36	39	42	Hazy
" 2	30·08	S.W.	...	74	61	33	34	36	Cloudy
" 3	29·76	S.W.	...	81	54	36	40	41	Raining
" 4	29·28	WNW	0·33	93	56	41	46	48	Cloudy
" 5	29·54	N.E.	0·05	62	49	43	44	47	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METHOP [illegible] P.M.), St. Thomas's (3.30 P.M.), St [illegible] 2.30 P.M.), Middlesex (1.30 P.M.), [illegible] (2 P.M.), Samaritan (Gynæcologic [illegible] ho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat [illegible]

Cancer (2 P.M.)

Throat (2 P.M. and 6 P.M.).

SATURDAY (14th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (9th).—MEDICAL SOCIETY OF LONDON.—8.30 P.M. Clinical Cases:—Mr. M. Little: Late Rickets (with skiagrams).—Dr. T. D Savill: Macular Leprosy under Treatment by Chaulmoogra Oil—Dr. A. Eddowes: General Ichthyosis—Dr. H. A. Caley: Abdominal Aneurysm—Dr. L. Guthrie: Myotonia Congenita (Thomsen's Disease).

TUESDAY (10th).—SOCIETY FOR THE STUDY OF INEBRIETY (Medical Society's Rooms, 11, Chandos-street, Cavendish-square, W.)—3.30 P.M. Council Meeting 4 P.M. Annual Meeting. Dr. M. Bramwell: Dipsomania and its Treatment by Suggestion.

WEDNESDAY (11th).—HUNTERIAN SOCIETY (London Institution, Finsbury circus)—8.30 P.M. Cases will be shown.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (9th). [illegible]

(Surgical.)

During the week marked copies of the following newspapers have been received: *Southampton Times and Hampshire Express, Pelton Gazette, Mansfield Daily Telegraph, Gazette (Kidderminster), Tropical Times (London), Manchester Guardian, Lancashire Daily Post, Birmingham Daily Post, York Daily Herald, Norfolk Daily Standard, [illegible] Wales News, Westminster Budget, Post, Daily [illegible] (London), Stroud News, Derbyshire Courier, Glasgow Herald, Builder, Scotsman, Bradford Observer, Western Mail, Architect, Citizen, Liverpool Daily Post, Chard News, Leeds Mercury, The Mirror (Trinidad), Bristol Mercury, Cumbria Daily Leader, Sanitary Record, Reading Mercury, Local Government Chronicle, Public Health Engineer, Hertfordshire Mercury, City Press, Royal Cornwall Gazette, South Eastern Gazette, Mining Journal, Cape Argus, Local Government Journal, Surrey Advertiser, Guy's Hospital Gazette, Australasian Medical Gazette, Universal Provider, Alliance News, Indian Review, Meat Trades Journal, West Australian, Macclesfield Courier, Salisbury Times, Lincolnshire Echo, Le Temps (Paris), Colchester Telegraph, Bournemouth Guardian, Cromer Post, Land and Water, Daily News, Yorkshire Post, &c., &c.*

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It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE, OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

[illegible] whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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The Lumleian Lectures
ON
SOME CIRRHOSES OF THE LIVER.

Delivered before the Royal College of Physicians of London on March 29th and April 3rd and 5th, 1900,

BY W. B. CHEADLE, M.D. CANTAB., F.R.C.P. LOND.,

SENIOR PHYSICIAN AND LECTURER ON CLINICAL MEDICINE AT ST. MARY'S HOSPITAL, CONSULTING PHYSICIAN TO THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET

LECTURE III.[1]

Delivered on April 5th

TREATMENT.

MR PRESIDENT AND GENTLEMEN,—The treatment of cirrhosis resolves itself chiefly into an attempt to preserve the *status quo* as far as the liver is concerned, to prevent the disease advancing, and to relieve any difficulties or imperfections which may arise in the bodily condition as the result of the hepatic inefficiency No remedy will remove the fibrous tissue which has choked the liver cells No drug will restore the cells thus destroyed. The only condition in which the invading agent can be removed to some extent by treatment is in the early stage of syphilitic cirrhosis, when the gummata are not yet organised and the arteritis and perihepatic inflammation are comparatively recent For the rest all that can be done is to attempt to relieve the injured [illegible] powers so that the crippled [illegible] the injury is not extreme this [illegible] patient hold on to life in fair health and comfort, sometimes for years

With regard to the first great canon of treatment, the prevention of increase of fibrosis and the destruction of liver tissue, absolute abstention from alcohol and all stimulating ingesta is of course the prime necessity. It is as essential in the syphilitic, malarial, and nephritic cases as in those of direct alcoholic origin There is, however, one reservation to be made When the last stage of emaciation and exhaustion has been reached the total privation of alcohol, as we often see in hospital wards, hastens the final collapse And in the same way all foods which tax especially the physiological function of the liver and therefore tend to embarrass and engorge it, such as those rich in fats and sugar, should also be given in reduced quantity or altogether prohibited. The diet should be restricted to milk, eggs, the simpler proteids, bread, and fresh fruit and vegetables It is to be remembered that not only is the passage of nutriment which has been prepared by gastric and intestinal digestion for distribution by the systemic vessels interfered with by the portal obstruction, but that the glandular structure of the liver is partly destroyed and its physiological function necessarily impaired also We are too apt, I think, to look upon the question of nutrition in cirrhosis as one of mere difficulty of transport, whereas it is largely one of preparation for absorption and assimilation and of elimination. The secretion of bile, the glycogenic conversion of the carbonaceous elements of food, the curious part played by the liver in the metabolism of nitrogenous waste, are all interfered with, and the general nutrition of the body suffers in like degree In all cases, therefore where signs of defective nutrition appear, such as wasting, anæmia, and debility, it is well to supplement the work of the digestive machinery by artificial means Predigested foods, especially pancreatised preparations or pancreatin in keratin capsules given with food, are useful aids to the defective liver function Further, taking into consideration the embarrassment of the portal circulation and the consequent congestion of all the viscera which drain into the portal system, this condition should be relieved by mild laxatives, such as salts of soda and magnesia Rhubarb or cascara or other unirritating drug of the kind may be added to quicken the action of the salines If necessary but anything like hard purging should be avoided To these laxatives iron also or the bitter tonics, as quinine or nux vomica, may be added on occasion. In the flatulent dyspepsia which so often troubles the cirrhotic patient, full doses of bicarbonate of soda with aromatics, or hyposulphite of soda, or creasote, or carbolic acid, may be given to arrest fermentation.

There are, however, three drugs which more than all others are capable of signal service in appropriate cases; they are mercury, iodide of potassium, and digitalis Mercury and the iodides, especially the latter, sometimes effect a marvellous change in syphilitic cirrhosis in virtue of their power in arresting gummatous formation, endarteritis, perihepatitis, and their consequences The usual rule laid down is that if there is any reason to suppose the affection to be syphilitic iodide of potassium should be given. I would, however, urge that these remedies should be given, not only when there is reason to suppose the cause to be syphilitic, but also given steadily in all cases where by any remote possibility the syphilitic factor may be concerned, even when the patient is convicted of alcoholism. As I have pointed out, the social connexion between syphilisation and alcoholism is naturally a close one moreover, the syphilitic liver frequently closely imitates the alcoholic liver and a mistake may be fatal. In a case recently under my care the liver was studded with gummata, bound down by abundant perihepatitis, and tucked away under the diaphragm so as to present all the physical signs of a small contracted liver. As to the patient, there was no history of syphilis to be made out on minute inquiry. He was a married man with a family of healthy children Antisyphilitics were given at first, and then, unfortunately, under the strong presumption of alcoholism they were abandoned and the chance of recovery was lost

Digitalis, again, is of material service in these numerous cases in which there is weakness and dilatation of the heart The enfeebled dilated state of the heart so commonly present in cirrhosis, and the condition of the cardiac muscle found after death explain the often beneficial influence of digitalis and other cardiac tonics.

THE TREATMENT OF ASCITES

The main interest in the treatment of cirrhosis, however, centres in the ascites. In the majority of cases it is this symptom which betrays the existence of the disease. It is a sign that tension in the portal vein and its tributaries in the peritoneum has been raised to the oozing point or has set up inflammatory effusion; that the flow of nutriment from the alimentary canal into the general circulation is gravely impeded, and that the liver function is seriously impaired It is not, however, from this point of view alone that the advent of ascites becomes so important It is rather the mechanical effect of the distension of the abdomen with fluid which is so serious The diaphragm is pushed upwards so that abdominal respiration almost ceases and the lungs are imperfectly inflated Congestion, collapse, and basal bronchitis follow and not infrequently effusion into the pleura in addition The heart is pressed upwards and embarrassed and the impediment to the circulation already existing in the pulmonary and systemic vessels is thereby greatly increased The movements of the stomach are hampered and the circulation in that organ, so vital to nutrition, already interfered with by the portal blockage, is made still more difficult In the same way the spleen, the pancreas, the intestines, and the liver itself all suffer from the pressure of fluid upon them and upon the vessels of the portal system, and the vicarious flow through the venæ communicantes is interfered with in like manner The kidneys, indeed, which do not discharge into the portal system, are not directly affected by the venous block there. The renal veins are, however, affected by the pressure of the effusion into the abdominal cavity, and the congestion of the kidneys which arises in extreme ascites affords significant evidence of the disastrous effect of this simple mechanical pressure The urine becomes scanty, high coloured, albuminous, and sometimes contains casts There exists, in fact, a nephritis, disturbance of the renal function, and a grave illness of systemic potency to the other disorders

Although there may be differences of opinion as to the course to be pursued in order to remove the fluid and to relieve this general oppression of the vital organs, this can be done, I think, as to the necessity for tapping by some means or other The only question is when and how it should be done

There is no more painful clinical picture than [illegible]

[1] Lectures I and II were published in THE LANCET of March 31st and April 7th, 1900 respectively.

disease and helpless therapeutics than these cases of ascite left unrelieved in their increasing exhaustion and distress. The question is not one of mere relief of distress, however; it is one of releasing the embarrassed vital organs from fatal pressure—of improving the general pathological condition and making temporary recovery possible. For, as I have shown, ascites does not arise in the last hopeless stages of atrophic cirrhosis only, but now and again appears earlier, when more than mere temporary relief may be hoped for. The practice adopted for this purpose of old was to attempt to carry off the fluid by hydragogue purgatives and by diuretics. Now with regard to the former it may be affirmed without hesitation that hard purging is in these cases a pernicious and fatal practice. It is in most instances absolutely ineffectual as a means of reducing the dropsy; it is most effectual in reducing the strength and nutrition of the cirrhotic patient already enfeebled by the difficulty of drawing a minimum of aliment through the obstructed vessels. This difficulty is increased by purgation; the nutrient fluid is hurried through the alimentary canal too rapidly for absorption. The flow is set outwards instead of inwards. The plan of giving the purgative in the early morning before food is taken mitigates, but does not neutralise, the ill-effects; a large amount of nutrient material remaining from previous meals is drained away. Further, this favours the onset of diarrhœa, which is only too apt to set in spontaneously, is most difficult to control, and is of evil augury. The expression "purged to death" is not infrequently sadly appropriate to the records of cirrhotic ascites. Therefore although a few sharp purges may be useful at the outset when the patient is comparatively robust, free purging is a fatal device when the patient is enfeebled, and in any case is to be deprecated as a continued treatment.

With regard to diuretics, it may be said that where the kidneys are sound they are harmless and that where diseased they are injurious. They are, however, constantly futile. Cases are, indeed, recorded where the action of diuretics is credited with the cure of abdominal dropsy. I have tried them all, and as a means of removing the copious effusions of hepatic ascites with entire want of success. As a matter of fact, in this condition, as Murchison pointed out, "diuretics are of little avail." The pressure on the renal veins so interferes with the circulation through the kidneys that diuresis becomes impossible. It has been found that whilst the most powerful diuretics have failed to excite the flow of urine in ascites the removal of fluid by paracentesis is often followed by a copious flow even without the aid of diuretics.

In a paper published in THE LANCET more than 20 years ago[2] I discussed the treatment of dropsy of various forms on the plan of restricting the inflow of fluid by restricting the drink of the patient, compelling the body by limiting the intake to reappropriate some of the outflow and thus favouring absorption of effusions. I found that in cases of renal dropsy it was unquestionably injurious, lessening the flow of urinary excretion; in cases of cardiac dropsy of doubtful service; but in hepatic ascites usually well borne and of some value as an adjunct to other treatment. In a recent article on dropsy Dr. W. H. Dickinson[3] cites two cases of hepatic ascites in which this method proved successful.

PARACENTESIS.

The only reliable plan of removing the abdominal fluid, however, is to draw it off by mechanical means. The postponement of the operation until the vital machinery is seriously embarrassed is, I am convinced, a fatal error. Why should we persist in exhausting our debilitated patient in the vain attempt to remove fluid by drugs through the roundabout channel of bowel and kidney and, whilst we waste time in these futile endeavours, allow the vital organs to become more and more engorged and injured when it can be withdrawn directly and more effectually by the simple agency of a Southey's trocar? The good effected is great—the risk in these days of antiseptic surgery of the smallest. I presume that the main reason for the tardy adoption of earlier paracentesis lies in the fear of septic peritonitis and the fact that the weight of authority has been overwhelmingly against it except as a last resource. Sir Thomas Watson, Niemeyer, Thierfelder, Aitken, Bristowe—chiefly on the ground that it was useful only for the relief of suffering—and Frerichs objected to it on the ground that the counter-pressure of the ascitic fluid upon the peritoneal vessels lessened the rapidity of effusion. Murchison objected on account of the loss of albumin involved. Murchison and Bristowe, however, modified their views at a later period and sanctioned paracentesis before an extreme stage was reached. I have known only four instances in which paracentesis proved fatal from resultant peritonitis. Two were in the period before antiseptic precautions were observed; the third was due to accidental displacement and infection of the drainage-tube by the patient during the process; the remaining one was unexplained. It is true that when the operation is postponed until the patient is in the last stage of cachexia and exhaustion tapping sometimes hastens the final failure; but I have never seen this in the earlier stages before the general health has been gravely impaired. As a matter of curious interest I may say that I have recently had under my care at St. Mary's Hospital a man, aged 49 years, who when a boy was tapped for ascites in St. George's Hospital, I think by Mr. Cæsar Hawkins, 40 years ago.

The first physician to insist upon the advisability of tapping early was, I think, Dr. Austin Flint, in America, as long ago as 1863. Writing in 1883[4] he says: "In concluding my clinical report on ascites 20 years ago I used the following language: 'Unpromising as are the majority of cases of ascites I cannot but believe that, as regards prolongation of life and as much improvement as is compatible with existing structural disease, the success of medical practice would be enhanced by employing less than has been the custom diuretics, hydragogue cathartics, and depressing remedies and by resorting earlier than is usually done to tapping. After the added experience of 20 years I hold to the same belief with a strong conviction of its correctness as based on reason and clinical facts," and he gives 10 cases showing favourable results in support of this opinion. In 1872 Dr. Frederick Roberts[5] advocated repeated tapping and also gave a series of cases as evidence of its success. In 1873 Dr. McCrew[6] and in 1881 Dr. Duncan[7] expressed similar conclusions.

When I ventured to urge the employment of early and repeated paracentesis in hepatic ascites in a discussion on the subject at the meeting of the British Medical Association in Nottingham eight years ago, opinion upon the subject proved to be still much divided. At that time all the text-books of medicine, with a solitary exception as far as I know, agreed in repeating, without question, the old stereotyped rule that the operation should be postponed as late as possible. Now, however, this view has been modified in so far that paracentesis is sanctioned by most authorities when the pressure of the fluid is obviously causing embarrassment of the viscera. As a matter of my personal experience, in every instance of well-marked hepatic ascites which has done well early and repeated paracentesis has formed an essential part of treatment. Before this was adopted the results, in my practice at all events, presented one long, uniform list of melancholy failures; and in the vast majority of cases of hepatic ascites recorded, where the condition has been successfully treated by others, repeated paracentesis has also formed a main feature of treatment. In the least favourable form of atrophic cirrhosis even, where the good effected is only transitory and nothing can reasonably be hoped for beyond a respite of a few months, paracentesis is beneficial if not left too late. The early removal of the ascitic fluid enables the patient to live longer in comparative comfort instead of suffering a shortened life in hopeless unmitigated distress.

In discussing the question of viability and prognosis in the preceding lecture I instanced a number of cases which support this view. In most of the fatal cases the correctness of diagnosis was proved by post-mortem examination afterwards. The only explanation of the less favourable results obtained by some others which I can offer is that possibly the operation was postponed to too advanced a stage of the disease, or that it was not systematically repeated at proper intervals, and the case retained under close observation and treatment throughout. Tapping in the very last stage of cirrhosis frequently hastens death;

[2] THE LANCET, Nov. 24th, p. 7[illegible] and D[illegible] (p. 7[illegible]), 8th (p. 8[illegible]), and 1[illegible] (p. 8[illegible]).
[3] Allbutt's System of Medicine, vol. [illegible], p. 6[illegible].

[4] Brit. Med. Jour., vol. II., 1883, p. 5[illegible].
[5] Practitioner, 1872.
[6] Dublin Medical Journal, 1873.
[7] Brit. Med. Jour., 1881.

little service. In the successful cases which I have to record the patients were retained in hospital, or under constant medical care in private, until fluid ceased to return and health was fairly restored. Tap and turn out is a most unsatisfactory practice, futile and delusive. The removal of fluid by continuous drainage has been practised with partial success by Dr. Cullé and Dr. Elliot in America and by Dr. Urso in Italy. [illegible] puncture of paracentesis has been satisfactory except for [illegible] A more di[illegible] spleen to [illegible] with the [illegible] channels. [illegible] closure o[illegible] automatic [illegible] operations in this direction of adhesions in cirrhosis are, however, not apparently very favourable and associated with the most intractable cases. They do not suggest an imitation of her methods.

The course of these cases of cirrhosis which have resulted *in restoration of health for lengthened periods, cases in which* the return to health has been such as to warrant the term "recovery," is most satisfactorily illustrated, perhaps, by a brief description of some of the most remarkable and representative amongst them.

The first was that of a patient sent into St. Mary's Hospital in October, 1883, as suffering from Bright's disease. He was a man aged 30 years, of great stature and fine build, [illegible] enlarged and hard, reaching half way to the umbilicus; the heart was displaced upwards, but the sounds were normal; the lungs were clear. The urine contained one-sixth albumin and both hyaline and granular casts, but no blood. The patient confessed to taking from seven to eight pints of beer a day, with half-a-quartern of rum before breakfast; and he suffered from morning diarrhœa. The case was at once set down as one of alcoholic cirrhosis and treated in orthodox fashion by cathartics and diuretics and tonics, paracentesis being postponed until urgent symptoms might arise. The man got steadily worse; the lungs became engorged, distension was extreme, and dyspnœa and distress were great. Then, *secundum artem*, paracentesis was performed as a mere matter of relief, 400 ounces being drawn off. The patient slept well that night for the first time for many weeks. At this juncture the patient complained of sore-throat and a small ulcer was observed on the soft palate. It was then remembered that the patient had had both testicles removed, one for "strumous disease" five years before, and the second 18 months ago for "tuberculous affection." On further inquiry it was ascertained that he had suffered from venereal disease 15 years ago and chancre scars were visible. Although the condition of the liver itself was not suggestive of syphilis it was recognised that surgeons were human and might be fallible and that possibly the affection of the testicles was syphilitic, not tuberculous. Iodide of potassium was accordingly given in doses of 10 grains three times a day. This was not followed by any improvement, and *in three weeks the man had fallen back into his former* condition of extreme distension and urgent distress. Paracentesis was again performed and the iodide was continued. [illegible]

the tappings grew longer, the amount of fluid withdrawn was less, and after the sixth operation returned no more. The patient was finally discharged seven months after admission, to all appearance strong and hale, without a trace of renal or cardiac disease. The liver, however, remained large and hard as before. The man came to hospital for examination one and a half years afterwards; he had remained well and robust and had walked 10 miles with his horses the day previously. The liver was enlarged and hard as before.

This case was especially interesting to me because up to this time I had never seen recovery from hepatic ascites when the dropsy, emaciation, and exhaustion had progressed to such extent as in this instance. In all previous cases, in spite of treatment, and I am afraid seen ascites disappear but never the patient get well. The relief afforded to the oppressed organs by the removal of the ascitic fluid, the absence of any material [illegible] under iodide of potassium un[illegible] relieved by a second tapping, [illegible] before serious visceral engorgement recurred, compelled the opinion that blind following of the routine practice of postponing mechanical relief as late as possible was a mistake, and that not only were the patients' sufferings thus needlessly aggravated but their chance of life was seriously endangered or destroyed. Subsequent experience has amply confirmed [illegible] of improvement under iodide [illegible] cet of tapping leave it uncer- [illegible] far syphilis were factors in the [illegible] part. [illegible] as probably an example of [illegible] ich I have spoken. It is [illegible] ears, with enormous ascites, the abdomen measuring 43½ inches. She was thin and emaciated, but was not cachectic and not jaundiced. The liver was just felt below the margin of the ribs *after tapping. The body had begun to swell nearly two* years before and she had already been tapped five times. She had had much pain in the back and side and subsequently her legs began to swell. There was no sign of heart or renal disease. There was no history of alcoholism and the woman had [illegible] inker. There was no history of [illegible] patient was a married woman wit[illegible] had no miscarriages. Physical examination showed that the dropsy was not ovarian and that there was no matting of intestines or omentum suggestive of tuberculosis. Alcoholism, heart disease, peritonitis due to kidney disease, and tuberculosis seemed all precluded, and it was judged to be most probable that the affection was syphilitic cirrhosis with periheptatitis, a condition so often neither indicated by history nor betrayed by physical evidence. This diagnosis was strongly confirmed by the subsequent progress of the case. Pleurisy, pericardial friction, and slight hæmoptysis suggested the presence of gummata in the lung—a condition found to exist in another case of syphilitic cirrhosis. She was treated by iodide of potassium and tapped three times more; she was discharged four months after admission plump and well, *free from all* signs of cardiac, pulmonary, or renal disease; the specific gravity of the urine was 1022, free from albumin or casts. Five months later she came back for examination and was found to all appearance to be in robust health, without sign of any dropsy, kidney disease, or heart disease, the liver being felt, as before, just below the ribs.

The next case is an example of a syphilitic cirrhosis corresponding closely in course and ending with the ordinary atrophic form. A woman, aged 46 years, was admitted to *St. Mary's Hospital in 1885 for* malignant disease of the liver, great ascites, and marked jaundice, which had lasted for six months, and rapid loss of flesh. The liver was greatly enlarged, hard, and somewhat uneven of surface, and it was tender. She was tapped and given iodide of potassium and went out apparently well. She came in again in the following year, was treated in like manner, and again went out in good general health. Two years later she was admitted for the third time, was again treated by paracentesis and iodide, and went out well. She remained under observation and free from ascites for five years more, when she had an attack of hæmatemesis; a year later the hæmatemesis returned, from which and intercurrent erysipelas she died. No post-mortem examination could be obtained but the liver remained greatly enlarged and hard to the last.

The next case which I have to bring forward is one in which the affection was purely alcoholic in origin. The patient, a publican, whom I saw in consultation on Nov. 5th, 1889, was a tall, powerfully built man; he had lost flesh, but was still somewhat stout and not cachectic in appearance. His abdomen was distended with fluid, measuring 40 inches in circumference at the umbilicus. The superficial veins were full and conspicuous. The liver was greatly enlarged, the edge reaching to within three inches of the umbilicus; its surface was smooth, very hard, and slightly tender, the legs were œdematous. The heart was not appreciably enlarged; the sounds were very soft and free from murmur. The lungs were normal except for some bubbling rales at both bases. The urine was scanty,

disease and helpless therapeutics than these cases of ascite left unrelieved in their increasing exhaustion and distress. The question is not one of mere relief of distress, however; it is one of releasing the embarrassed vital organs from fatal pressure—of improving the general pathological condition and making temporary recovery possible. For, as I have shown, ascites does not arise in the last hopeless stages of atrophic cirrhosis only, but now and again appears earlier, when more than mere temporary relief may be hoped for. The practice adopted for this purpose of old was to attempt to carry off the fluid by hydragogue purgatives and by diuretics. Now with regard to the former it may be affirmed without hesitation that hard purging is in these cases a pernicious and fatal practice. It is in most instances absolutely ineffectual as a means of reducing the dropsy; it is most effectual in reducing the strength and nutrition of the cirrhotic patient already enfeebled by the difficulty of drawing a minimum of aliment through the obstructed vessels. This difficulty is increased by purgation; the nutrient fluid is hurried through the alimentary canal too rapidly for absorption. The flow is set outwards instead of inwards. The plan of giving the purgative in the early morning before food is taken mitigates, but does not neutralise, the ill effects; a large amount of nutrient material remaining from previous meals is drained away. Further, this favours the onset of diarrhœa, which is only too apt to set in spontaneously, is most difficult to control, and is of evil augury. The expression "purged to death" is not infrequently sadly appropriate to the records of cirrhotic ascites. Therefore although a few sharp purges may be useful at the outset when the patient is comparatively robust, free purging is a fatal device when the patient is enfeebled, and in any case is to be deprecated as a continued treatment.

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PARACENTESIS.

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The first physician to insist upon the advisability of tapping early was, I think, Dr. Austin Flint, in America, as long ago as 1863. Writing in 1883[4] he says: "In concluding my clinical report on ascites 20 years ago I used the following language: 'Unpromising as are the majority of cases of ascites I cannot but believe that, as regards prolongation of life and as much improvement as is compatible with existing structural disease, the success of medical practice would be enhanced by employing less than has been the custom diuretics, hydragogue cathartics, and depressing remedies and by resorting earlier than is usually done to tapping. After the added experience of 20 years I hold to the same belief with a strong conviction of its correctness as based on reason and clinical facts," and he gives 10 cases showing favourable results in support of this opinion. In 1872 Dr. Frederick Roberts[5] advocated repeated tapping and also gave a series of cases as evidence of its success. In 1873 Dr. McCrew[6] and in 1881 Dr. Duncan[7] expressed similar conclusions.

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[3] [illegible] Syst[illegible] of Medicine, vol. [illegible], p. 6[illegible].

[4] Brit. Med. Jour., vol. ii, 1883, p. 6[illegible].

[5] Proceedings, 1872.

[6] Dublin Medical Journal, 1873.

[7] Brit. Med. Jour., 1881.

and a single paracentesis without repetition, or repeated only too late when symptoms again become urgent, is of little service. In the successful cases which I have to record the patients were retained in hospital, or under constant medical care in private, until fluid ceased to return and health was fairly restored. Tap and turn out is a most unsatisfactory practice, futile and delusive. The removal of fluid by continuous drainage has been practised with partial success by Dr. Cuillé and Dr. Elliot in America and by Dr. Urso in Italy. In some cases of mine where the

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closure of a safety valve, preventing, for a time at least, automatic easing of the portal vascular stress. Nature's operations in this direction of adhesions in cirrhosis are however, not apparently very favourable and associated with the most intractable cases. They do not suggest an imitation of her methods.

The course of these cases of cirrhosis which have resulted in restoration of health for lengthened periods, cases in which the return to health has been such as to warrant the term "recovery," is most satisfactorily illustrated, perhaps, by a [illegible] of the most remarkable and repre- [illegible] a patient sent into St. Mary's Hospital in October, 1883, as suffering from Bright's disease. He was a man, aged 30 years, of great stature and find build, slightly jaundiced, and he had lost a good deal of flesh. The ascites was extreme, the legs below the knees were œdematous; but there was no general dropsy. The liver was greatly enlarged and hard, reaching half way to the umbilicus; the heart was displaced upwards, but the sounds were normal; the lungs were clear. The urine contained one-sixth albumin and both hyaline and granular casts, but no blood. The patient confessed to taking from seven to eight pints of beer a day, with half-a-quartern of rum before breakfast; and he suffered from morning diarrhœa. The case was at once set down as one of alcoholic cirrhosis and treated in orthodox fashion by cathartics and diuretics and tonics, paracentesis being postponed until urgent symptoms might arise. The man got steadily worse; the lungs became engorged, distension was extreme, and dyspnœa and distress were great. Then, *secundum artem*, paracentesis was performed as a mere matter of relief, 400 ounces being drawn off. The patient slept well that night for the first time for many weeks. At this juncture the patient complained of sore-throat and a small ulcer was observed on the soft palate. It was then remembered that the patient had had both testicles removed, one for "strumous disease" five years before, and the second 18 months ago for "tuberculous affection." On further inquiry it was ascertained that he had suffered from venereal disease 15 years ago and chancre scars were visible. Although the condition of the liver itself was not suggestive of syphilis it was recognised that surgeons were human and might be fallible and that possibly the affection of the testicles was syphilitic, not tuberculous. Iodide of potassium was accordingly given in doses of 10 grains three times a day. This was not followed by any improvement, and in three weeks the man had fallen back into his former condition of extreme distension and urgent distress. Paracentesis was again performed and the iodide was continued. From this time improvement set in and was continuous. Albumin disappeared from the urine. The appetite returned. Tapping was repeated four times more. The intervals between the tappings grew longer, the amount of fluid withdrawn was less, and after the sixth operation returned no more. The patient was finally discharged seven months after admission, to all appearance strong and hale, without a trace of renal or cardiac disease. The liver, however, remained large and hard as before. The man came to hospital for examination one and a half years afterwards; he had remained well and robust and had walked 10 miles with his horses the day previously. The liver was enlarged and hard as before.

This case was especially interesting to me because up to this time I had never seen recovery from hepatic ascites when the dropsy, emaciation, and exhaustion had progressed to such extent as in this instance. In all previous cases, in spite of treatment, and I am afraid case; probably both played a part.

The next case is adduced as probably an example of that masked syphilis of which I have spoken. It is that of a woman, aged 40 years, with enormous ascites, the abdomen measuring 43½ inches. She was thin and emaciated, but was not cachectic and not jaundiced. The liver was just felt below the margin of the ribs after tapping. The body had begun to swell nearly two years before and she had already been tapped five times. [illegible] the back and side and subsequently [illegible] There was no sign of heart or [illegible] no history of alcoholism and the woman had not the appearance of a drinker. There was no history of syphilis or sign of it. The patient was a married woman with one healthy child and had had no miscarriages. Physical examination showed that the dropsy was not ovarian and that there was no matting of intestines or omentum suggestive of tuberculosis. Alcoholism, heart disease, peritonitis due to kidney disease, and tuberculosis seemed all precluded, and it was judged to be most probable that the affection was syphilitic cirrhosis with perihepatitis, a condition so often neither indicated by history nor betrayed by physical evidence. This diagnosis was strongly confirmed by the subsequent progress of the case. Pleurisy, pericardial friction, and slight hæmoptysis suggested the presence of gummata in the lung—a condition found to exist in another case of syphilitic cirrhosis. She was treated by iodide of potassium and tapped three times more; she was discharged four months after admission plump and well, free from all signs of cardiac, pulmonary, or renal disease; the specific gravity of the urine was 1022, free from albumin or casts. Five months later she came back for examination and was found to all appearance to be in robust health, without sign of any dropsy, kidney disease, or heart disease, the liver being felt, as before, just below the ribs.

The next case is an example of a syphilitic cirrhosis corresponding closely in course and ending with the ordinary atrophic form. A woman, aged 45 years, was admitted to St. Mary's Hospital in 1895 for malignant disease of the liver, great ascites, and marked jaundice, which had lasted for six months, and rapid loss of flesh. The liver was greatly enlarged, hard, and somewhat uneven of surface, and it was tender. She was tapped and given iodide of potassium and went out apparently well. She came in again in the following year, was treated in like manner, and again went out in good general health. Two years later she was admitted for the third time, was again treated by paracentesis and iodide, and went out well. She remained under observation and free from ascites for five years more, when she had an attack of hæmatemesis; a year later the hæmatemesis returned, from which and intercurrent erysipelas she died. No post-mortem examination could be obtained but the liver remained greatly enlarged and hard to the last.

The next case which I have to bring forward is one in which the affection was purely alcoholic in origin. The patient, a publican, whom I saw in consultation on Nov. 5th, 1899, was a tall, powerfully built man; he had lost flesh, but was still somewhat stout and not cachectic in appearance. His abdomen was distended with fluid, measuring 40 inches in circumference at the [illegible]. The superficial veins were full and conspicuous. The liver was greatly enlarged, the edge reaching to within [illegible] inches of the umbilicus; its surface was smooth, very hard, and slightly tender. The legs were œdematous. The heart was not appreciably enlarged; the sounds were [illegible] and free from murmur. The lungs were normal except for some bubbling rales at both bases. The urine was scanty,

disease and helpless therapeutics than these cases of ascite left unrelieved in their increasing exhaustion and distress. The question is not one of mere relief of distress, however; it is one of releasing the embarrassed vital organs from fatal pressure—of improving the general pathological condition and making temporary recovery possible. For, as I have shown, ascites does not arise in the last hopeless stages of atrophic cirrhosis only, but now and again appears earlier, when more than mere temporary relief may be hoped for. The practice adopted for this purpose of old was to attempt to carry off the fluid by hydragogue purgatives and by diuretics. Now with regard to the former it may be affirmed without hesitation that hard purging is in these cases a pernicious and fatal practice. It is in most instances absolutely ineffectual as a means of reducing the dropsy; it is most effectual in reducing the strength and nutrition of the cirrhotic patient already enfeebled by the difficulty of drawing a minimum of aliment through the obstructed vessels. This difficulty is increased by purgation; the nutrient fluid is hurried through the alimentary canal too rapidly for absorption. The flow is set outwards instead of inwards. The plan of giving the purgative in the early morning before food is taken mitigates, but does not neutralise, the ill effects; a large amount of nutrient material remaining from previous meals is drained away. Further, this favours the onset of diarrhœa, which is only too apt to set in spontaneously, is most difficult to control, and is of evil augury. The expression "purged to death" is not infrequently sadly appropriate to the records of cirrhotic ascites. Therefore although a few sharp purges may be useful at the outset when the patient is comparatively robust, free purging is a fatal device when the patient is enfeebled, and in any case is to be deprecated as a continued treatment.

With regard to diuretics, it may be said that where the kidneys are sound they are harmless and that where diseased they are injurious. They are, however, constantly futile. Cases are, indeed, recorded where the action of diuretics is credited with the cure of abdominal dropsy. I have tried them all, and as a means of removing the copious effusions of hepatic ascites with entire want of success. As a matter of fact, in this condition, as Murchison pointed out, "diuretics are of little avail." The pressure on the renal veins so interferes with the circulation through the kidneys that diuresis becomes impossible. It has been found that whilst the most powerful diuretics have failed to excite the flow of urine in ascites the removal of fluid by paracentesis is often followed by a copious flow even without the aid of diuretics.

In a paper published in THE LANCET more than 20 years ago[2] I discussed the treatment of dropsy of various forms on the plan of restricting the inflow of fluid by restricting the drink of the patient, compelling the body by limiting the intake to reappropriate some of the outflow and thus favouring absorption of effusions. I found that in cases of renal dropsy it was unquestionably injurious, lessening the flow of urinary excretion; in cases of cardiac dropsy of doubtful service; but in hepatic ascites usually well borne and of some value as an adjunct to other treatment. In a recent article on dropsy Dr. W. H. Dickinson[3] cites two cases of hepatic ascites in which this method proved successful.

PARACENTESIS.

The only reliable plan of removing the abdominal fluid, however, is to draw it off by mechanical means. The postponement of the operation until the vital machinery is seriously embarrassed is, I am convinced, a fatal error. Why should we persist in exhausting our debilitated patient in the vain attempt to remove fluid by drugs through the roundabout channel of bowel and kidney and, whilst we waste time in these futile endeavours, allow the vital organs to become more and more engorged and injured when it can be withdrawn directly and more effectually by the simple agency of a Southey's trocar? The good effected is great—the risk in these days of antiseptic surgery of the smallest. I presume that the main reason for the tardy adoption of earlier paracentesis lies in the fear of septic peritonitis and the fact that the weight of authority has been overwhelmingly against it except as a last resource. Sir Thomas Watson, Niemeyer, Thierfelder, Aitken, Bristowe—chiefly on the ground that it was useful only for the relief of suffering—and Frerichs objected to it on the ground that the counter-pressure of the ascitic fluid upon the peritoneal vessels lessened the rapidity of effusion. Murchison objected on account of the loss of albumin involved. Murchison and Bristowe, however, modified their views at a later period and sanctioned paracentesis before an extreme stage was reached. I have known only four instances in which paracentesis proved fatal from resultant peritonitis. Two were in the period before antiseptic precautions were observed; the third was due to accidental displacement and infection of the drainage-tube by the patient during the process; the remaining one was unexplained. It is true that when the operation is postponed until the patient is in the last stage of cachexia and exhaustion tapping sometimes hastens the final failure; but I have never seen this in the earlier stages before the general health has been gravely impaired. As a matter of curious interest I may say that I have recently had under my care at St. Mary's Hospital a man, aged 49 years, who when a boy was tapped for ascites in St. George's Hospital, I think by Mr. Cæsar Hawkins, 40 years ago.

The first physician to insist upon the advisability of tapping early was, I think, Dr. Austin Flint, in America, as long ago as 1863. Writing in 1883[4] he says: "In concluding my clinical report on ascites 20 years ago I used the following language: 'Unpromising as are the majority of cases of ascites I cannot but believe that, as regards prolongation of life and as much improvement as is compatible with existing structural disease, the success of medical practice would be enhanced by employing less than has been the custom diuretics, hydragogue cathartics, and depressing remedies and by resorting earlier than is usually done to tapping. After the added experience of 20 years I hold to the same belief with a strong conviction of its correctness as based on reason and clinical facts," and he gives 10 cases showing favourable results in support of this opinion. In 1872 Dr. Frederick Roberts[5] advocated repeated tapping and also gave a series of cases as evidence of its success. In 1873 Dr. McCrew[6] and in 1881 Dr. Duncan[7] expressed similar conclusions.

When I ventured to urge the employment of early and repeated paracentesis in hepatic ascites in a discussion on the subject at the meeting of the British Medical Association in Nottingham eight years ago, opinion upon the subject proved to be still much divided. At that time all the text-books of medicine, with a solitary exception as far as I know, agreed in repeating, without question, the old stereotyped rule that the operation should be postponed as late as possible. Now, however, this view has been modified in so far that paracentesis is sanctioned by most authorities when the pressure of the fluid is obviously causing embarrassment of the viscera. As a matter of my personal experience, in every instance of well-marked hepatic ascites which has done well early and repeated paracentesis has formed an essential part of treatment. Before this was adopted the results, in my practice at all events, presented one long, uniform list of melancholy failures; and in the vast majority of cases of hepatic ascites recorded, where the condition has been successfully treated by others, repeated paracentesis has also formed a main feature of treatment. In the least favourable form of atrophic cirrhosis even, where the good effected is only transitory and nothing can reasonably be hoped for beyond a respite of a few months, paracentesis is beneficial if not left too late. The early removal of the ascitic fluid enables the patient to live longer in comparative comfort instead of suffering a shortened life in hopeless unmitigated distress.

In discussing the question of viability and prognosis in the preceding lecture I instanced a number of cases which support this view. In most of the fatal cases the correctness of diagnosis was proved by post-mortem examination afterwards. The only explanation of the less favourable results obtained by some others which I can offer is that possibly the operation was postponed to too advanced a stage of the disease, or that it was not systematically repeated at proper intervals, and the case retained under close observation and treatment throughout. Tapping in the very last stage of cirrhosis frequently hastens death;

[2] THE LANCET, Nov. 28th, p. 7[illegible]; and Dec. 1st (p. 7[illegible]), 8th (p. 8[illegible]), and 15th (p. 8[illegible]), 1877.
[3] Allbutt's System of Medicine, vol. v., p. 6[illegible].

[4] Brit. Med. Jour., vol. ii., 1883, p. 5[illegible].
[5] Practitioner, 1872.
[6] Dublin Medical Journal, 1873.
[7] Brit. Med. Jour., 1881.

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removal of fluid by continuous drainage has been practised with partial success by Dr. Guillé and Dr. Elliot in America and by Dr. Urso in Italy. In some cases of mine where the puncture of paracentesis has remained open the results have been satisfactory except for the manifest discomfort involved;

... a patient sent into St. Mary's Hospital in October, 1883, as suffering from Bright's disease. He was a man, aged 30 years, of great stature and find build; slightly jaundiced, and he had lost a good deal of flesh. The ascites was extreme, the legs below the knees were œdematous, but there was no general dropsy. The liver was greatly enlarged and hard, reaching half way to the umbilicus; the heart was displaced upwards, but the sounds were normal; the lungs were clear. The urine contained one-sixth albumin and both hyaline and granular casts, but no blood. The patient confessed to taking from seven to eight pints of beer a day, with half-a-quartern of rum before breakfast; and he suffered from morning diarrhœa. The case was at once set down as one of alcoholic cirrhosis and treated in orthodox fashion by cathartics and diuretics and tonics, paracentesis being postponed until urgent symptoms might arise. The man got steadily worse; the lungs became engorged, distension was extreme, and dyspnœa and distress were great. Then, *secundum artem*, paracentesis was performed as a more matter of relief, 400 ounces being drawn off. The patient slept well that night for the first time for many weeks. At this juncture the patient complained of sore-throat and a small ulcer was observed on the soft palate. It was then remembered that the patient had had both testicles removed, one for "strumous disease" five years before, and the second 18 months ago for "tuberculous affection." On further inquiry it was ascertained that he had suffered from venereal disease 15 years ago and chancre scars were visible. Although the condition of the liver itself was not suggestive of syphilis it was recognised that surgeons were human and might be fallible and that possibly the affection of the testicles was syphilitic, not tuberculous. Iodide of potassium was accordingly given in doses of 10 grains three times a day. This was not followed by any improvement, and in three weeks the man had fallen back into his former condition of extreme distension and urgent distress. Paracentesis was again performed and the iodide was continued. From this time improvement set in and was continuous. Albumin disappeared from the urine. The appetite returned. Tapping was repeated four times more. The intervals between the tappings grew longer, the amount of fluid withdrawn was less, and after the sixth operation returned no more. The patient was finally discharged seven months after admission, to all appearance strong and hale, without a trace of renal or cardiac disease. The liver, however, remained large and hard as before. The man came to hospital for examination one and a half years afterwards; he had remained well and robust and had walked 10 miles with his horses the day previously. The liver was enlarged and hard as before.

This case was especially interesting to me because up to this time I had never seen recovery from hepatic ascites when the dropsy, emaciation, and exhaustion had progressed to such extent as in this instance. In all previous cases, in spite of treatment, and I am afraid t ... atment, the patients invari- r ... In one or two cases I had s ... the patient get well. The *relief afforded to the oppressed organs by the removal of the* ascitic fluid, the absence of any material progress under iodide of potassium until the general deadlock was relieved by a second tapping, followed by frequent repetition before serious visceral engorgement recurred, compelled the opinion that blind following of the routine practice of postponing mechanical relief as late as possible was a mistake, ... sufferings thus needlessly ... was seriously endangered ... ence has amply confirmed ... improvement under iodide ... of tapping leave it uncer- ... yphilis were factors in the

The next case is adduced as probably an example of that masked syphilis of which I have spoken. It is that of a woman, aged 40 years, with enormous ascites, the abdomen measuring 43½ inches. She was thin and emaciated, but was not cachectic and not jaundiced. *The liver was just felt below the margin of the ribs* after tapping. The body had begun to swell nearly two years before and she had already been tapped five times. She had had much pain in the back and side and subsequently her legs began to swell. There was no sign of heart or renal disease. There was no history of alcoholism and the woman had not the appearance of a drinker. There was no history of syphilis or sign of it. The patient was a married woman with one healthy child and had had no miscarriages. Physical examination showed that the dropsy was not ovarian and that there was no matting of intestines or omentum suggestive of tuberculosis. Alcoholism, heart disease, peritonitis due to kidney disease, and tuberculosis seemed all precluded, and it was judged to be most probable that the affection was syphilitic cirrhosis with perihepatitis, a condition so often neither indicated by history nor betrayed by physical evidence. This diagnosis was strongly confirmed by the subsequent progress of the case. Pleurisy, pericardial friction, and slight hæmoptysis suggested the presence of gummata in the lung—a condition found to exist in another case of syphilitic cirrhosis. She was treated by iodide of potassium and tapped three times more; she was discharged four months after admission plump and well, free from all signs of cardiac, pulmonary, or renal disease; the specific gravity of the urine was 1022, free from albumin or casts. Five months later she came back for examination and was found to all appearance to be in robust health, without sign of any dropsy, kidney disease, or heart disease, the liver being felt, as before, just below the ribs.

The next case is an example of a syphilitic cirrhosis corresponding closely in course and ending with the ordinary atrophic form. A woman, aged 46 years, was admitted to St. Mary's Hospital in 1885 for malignant disease of the liver, great ascites, and marked jaundice, which had lasted for six months, and rapid loss of flesh. The liver was greatly enlarged, hard, and somewhat uneven of surface, and it was tender. She was tapped and given iodide of potassium and went out apparently well. She came in again in the following year, was treated in like manner, and again went out in good general health. Two years later she was admitted for the third time, was again treated by paracentesis and iodide, and went out well. She remained under observation and free from ascites for five years more, when she had an attack of hæmatemesis; a year later the hæmatemesis returned, from which and intercurrent erysipelas she died. No post-mortem examination could be obtained but the liver remained greatly enlarged and hard to the last.

The next case which I have to bring forward is one in which the affection was purely alcoholic in origin. The patient, a publican, whom I saw in consultation on Nov. 5th, 1889, was a tall, powerfully built man; he had lost flesh, but was still somewhat stout and not cachectic in appearance. His abdomen was distended with fluid, measuring 43 inches in circumference at the umbilicus. The superficial veins were full and conspicuous. The liver was greatly enlarged, the edge reaching to within three inches of the umbilicus; its surface was smooth, very hard, and slightly tender; the legs were œdematous. The heart was not appreciably enlarged; the sounds were normal and free from murmur. The lungs were normal except for some bubbling rales at both bases. The urine was scanty,

high-coloured, and contained one-fourth albumin. No casts or blood could be found on microscopic examination. The account given by the patient was that he had noticed his abdomen steadily increasing in size for about six months; his legs had only begun to swell during the last fortnight. He had never had rheumatic fever or any other serious illness. He had never had syphilis nor was there anything suggestive of it. He attributed his illness to working in a damp cellar, and the cellar was no doubt a factor. He acknowledged to drinking enormous quantities of beer daily, spirits only on occasion. It was agreed that paracentesis should be performed and repeated as required. This plan was duly carried out. The distension usually returned again so as to cause discomfort in from two to three weeks. Paracentesis was performed 19 times between November and the following July, a period of upwards of eight months, amounts of fluid varying from 580 to 220 ounces being withdrawn. Iodide of potassium was given for some weeks as a measure of precaution, but without good effect, and it was abandoned and grey powder was substituted for a time. No drastic purges were given, the bowels being simply regulated by a mineral water. The albumin rapidly disappeared from the urine after the first tapping, returning fitfully from time to time for short periods with the increased pressure of reaccumulating fluid. The urine remained scanty, about 20 ounces only. Shortly after the eighteenth tapping, however, the patient, who had previously been lying on his back on bed and couch, got up and took a short drive and walk to record his vote at an election. On his return home—*post hoc* or *propter hoc*—diuresis set in and continued for some days to the amount of from 100 to 120 ounces in the 24 hours. The fluid in the abdomen did not altogether disappear and a nineteenth and last tapping was performed, after which there was no return of the ascites. The man's health continued to improve and when he called upon me a year after my first visit to him he was apparently hearty and well except that the liver was large and hard as before. There was no sign of heart disease and the urine was normal. He was able to resume an active life and had remained a rigid abstainer. From that time I lost sight of him, but his regular medical attendant, to whom I am indebted for most of the details of the case, tells me that the patient remained well, leading an active life until about two years ago, a period of eight years in all, when he fell a victim to "influenza pneumonia." From the commencement of the first illness until his death he had entirely abstained from alcohol.

The next example of hypertrophic cirrhosis of purely alcoholic origin, with extreme ascites, is perhaps the most satisfactory of all, since the subject survives to this day, nearly 12 years after first coming under treatment. In this instance the patient was a married woman, aged 32 years, who was admitted into St. Mary's Hospital for jaundice and ascites in May, 1888. She acknowledged to being a heavy drinker—of spirits chiefly—and on one occasion gave material evidence of it by coming to the hospital in a state of riotous intoxication. There was no history of syphilis or suspicion of it. The woman was fairly nourished, not thin or cachectic, although she stated that she had lost much flesh. Her face was covered with acne rosacea and venous stigmata and she was jaundiced. The abdomen was greatly distended. The superficial veins were full and tortuous; the liver was enlarged, reaching four inches below the ribs; it was extremely hard, smooth, or slightly granular. The heart sounds were normal; the urine was free from albumin. There was some œdema of the ankles. The patient was tapped seven times in the course of the five months for which she remained in hospital, large quantities of fluid being drawn off. Iodide of potassium was given for a few weeks, but discontinued since no improvement followed, and iron and digitalis were substituted. After the seventh tapping the dropsy did not return and the woman went out at the end of five months apparently well, and so remained for five years. She, however, took to drink again and was admitted for the second time in October, 1893, in a condition of enormous ascites. The abdomen measured 50½ inches, the liver was large and hard as before, was distinctly felt seven and a half inches below the costal margin as far as the umbilicus, the hepatic dulness commencing above the sixth rib. The heart was normal. The urine was free from albumin. She was tapped twice—338 ounces—and treated by iodide of potassium for a short time and then by diuretics. The latter failed to promote diuresis even after tapping. The ascites did not return and she went out well in January, 1894, three months after admission. She was admitted for the third time in 1895, tapped several times, and then discharged well. She was admitted for a fourth time in December, 1896, and again went out relieved by tapping. She was admitted for the fifth time in December, 1897, was tapped and relieved, but on account of the enormously extended flaccid abdomen all the fluid could not be removed. She was supplied with an abdominal belt and directed to return. She failed to reappear, but was sought out and induced to come into hospital again in December last (1899) to complete the cure of her ascites, and this further tapping has since been successfully done. She had remained in good health since her last visit two years ago. The following is her condition as ascertained before the last tapping two months ago. The patient looks fat and well except for some marking of the skin of the face from dilated vessels. The abdomen is very large, flaccid, and pendulous from previous distension, measuring 43 inches. It contains a considerable amount of fluid, which the patient says has remained since the last incomplete tapping, two years ago. The liver is large and very hard, with a sharp edge six inches below the ribs; it is therefore somewhat smaller than it was two years ago. The spleen is not enlarged; the superficial veins of the abdomen are conspicuous but not distended. There is no œdema of the ankles; the heart is not enlarged, there are no bruits, and the sounds and action are normal. The urine is acid, lithatic, of specific gravity 1027, and free from albumin and casts. The fæces are normal in appearance and show a good amount of biliary colouring. The permanence of the liver enlargement, the preservation of nutrition, and the absence of all signs of renal disease or of heart disease are notable. The case remains as an example of hypertrophic cirrhosis due to alcohol, uncomplicated by any other disorder, the patient surviving in fair health up to the present time, 12 years since cirrhosis and ascites first appeared.

I may quote another example of alcoholic hypertrophic cirrhosis with ascites which has for two years past followed a favourable course.

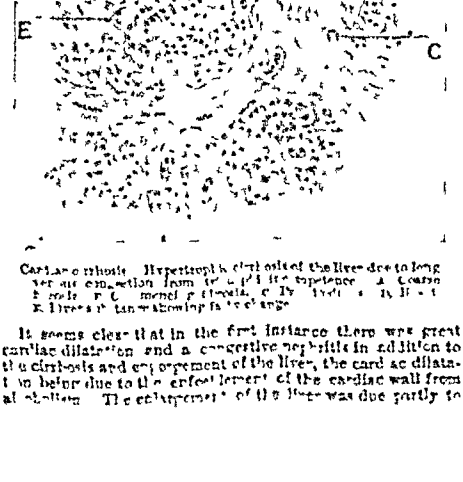
The patient, a gentleman aged 47 years, was referred to me as suffering from Bright's disease and ascites. He was a broad-set, burly man, full fleshed; his face was turgid and he had some dyspnœa. The abdomen was highly distended with fluid, the veins of the surface being swollen and conspicuous. The liver was of great size, with flat, hard, woodlike surface, and sharp unyielding edge, extending four inches below the margin of the ribs; the legs and thighs were œdematous but there was no general anasarca, œdema of the loins, or puffiness of the face. The heart was somewhat enlarged; the apex beat was just outside the nipple line and the area of deep cardiac dulness increased laterally to the right margin of the sternum. Its action was quiet and regular, the first sound was somewhat short, and the impulse was not increased. A mitral bruit could be heard just over the apex. The pulse was 80, soft, regular, and of rather low tension. The lungs were clear except for slight basic catarrh. The urine was diminished in quantity, high-coloured and very acid, of specific gravity 1024, and contained albumin estimated at one-fiftieth. Careful microscopic examination revealed neither blood nor casts. The patient had indulged in alcohol habitually to great excess up to the commencement of his illness, having, as he told me, taken sometimes as many as 24 glasses of whisky-and-soda or more in a day. For the last 18 months, however, he had been a total abstainer. There was no history or sign of syphilis. The condition was clearly hepatic ascites due to alcoholic cirrhosis, with some dilatation of the heart and renal congestion dependent upon the cardiac and hepatic lesions. In view of the great abdominal pressure and distress I advised that paracentesis should be performed without delay. This was carried out by the patient's medical attendant in the country, and 300 ounces of fluid were drawn off. The leakage continued for some time afterwards. Saline laxatives and digitalis were given internally. The effect of the removal of the fluid was remarkable. When next I saw the patient four weeks afterwards the abdomen was lax but still contained some fluid, the liver was hard and large as before, reaching to within one inch of the umbilicus. The œdema of the legs had almost gone. The area of heart dulness reached to the mid-sternum. The urine was free from albumin and was of specific gravity 1021. He was already so active and free from dyspnœa and so well that he had been walking about the streets and had paid a visit to

one of the public offices on business His appetite was [illegible]

and the medical man under whose care he has been reports in January of this year that he remains well in all [illegible] liver and the slight local of disorder. Such is the [illegible] came under my personal observation

The previous history, for which I am indebted to the kindness of the medical men under whose care the patient came earlier, is of great interest since it throws light upon the relation of the cardiac, hepatic, and renal disorders to the present condition of a more simple, hepatic ascites In November, 1897, a little more than a year before I first saw him, the patient came under the care of his medical adviser in the country in a critical condition, there were great ascites, anasarca albuminous urine, irregular pulse, and feeble failing heart He was tapped and given digitalis and he shortly recovered sufficiently to resume his duties away. He quickly broke down again, however, and in August, 1898, came under the care of an eminent practitioner who has kindly sent me the following account of his condition at that juncture "There was a history of kidney disease, enormous anasarca, and ascites The heart was greatly dilated with a mitral bruit, irregularity of action, reduplication of first sound, and venous pulsation, there were marked symptoms of uræmia The urine had a specific gravity of 1024 was highly albuminous, containing oily and epithelial casts The liver was greatly enlarged He was tapped nine times to the extent of 18 gallons and three pints, between August, 1898 and January, 1899 Various drugs were given, digitalis was ill borne, but strophanthus, strychnia, and salines were distinctly beneficial"

FIG 7.



CARDIAC CIRRHOSIS Hypertrophic cirrhosis of the liver due to long-[illegible] venous congestion from tricuspid incompetence A Coarse [illegible] B Fibrosis C Normal [illegible] D Liver substance E Blood [illegible] showing fatty change

It seems clear that in the first instance there was great cardiac dilatation and a congestive nephritis in addition to the cirrhosis and enlargement of the liver, the cardiac dilatation being due to the enfeeblement of the cardiac wall from alcoholism The enlargement of the liver was due partly to alcoholic fibrosis and partly to engorgement from the heart state, whilst alcoholic irritation, cardiac inability, and ascitic pressure were probably factors all engaged in the production of the congestive nephritis With rest, abstention from alcohol, cardiac tonics, and the removal of fluid pressure all the disorders dependent solely upon temporary and removable conditions subsided, the heart contracted, the nephritis ceased,

FIG 8

CARDIAC CIRRHOSIS Cirrhosis of the liver due to prolonged venous congestion the result of tricuspid incompetence From a boy aged nine years Explanation of plate—A Coarse cirrhosis B Fibrosis C, Bile ducts D, Liver substance E Blood

and the general dropsy disappeared The condition of the liver, however, depending, not only upon venous engorgement, but upon fibrosis also, could not be so remedied The cirrhosis remained, and the ascites returned from time to time until the development of vicarious circulation and the increased cardiac vigour eased the portal circulation That the course of events ran pretty much on these lines is shown, I think, by the immediate and great relief afforded by paracentesis, evidenced by the cessation of dyspnœa, rapid subsidence of œdema of the legs, disappearance of albumin from the urine, and all signs of renal disorder The dropsy in the last stage was not a general dropsy due to cardiac and renal disease, but an hepatic ascites

The course of the disease in the preceding case suggests that cardiac inefficiency is sometimes an important agent in determining the occurrence of portal dropsy in cirrhosis I have now under my care at St Mary's Hospital a man with extensive mitral disease, secondary tricuspid disease, and an enormously enlarged pulsating liver with very extensive ascites but hardly any general dropsy

In speaking of the intermittent action of mitral disease of the heart in the first lecture I suggested that it might be due to the engorged condition of the liver plus the moderate cirrhosis which follows on prolonged venous hyperæmia as shown in Fig 7 and Fig 8 The addition of systemic obstruction to that of the fibrosis and capillary dilatation causing greater intravascular pressure in the portal vein than in the systemic determines transudation in the portal area—a portal dropsy only not a general systemic dropsy Evidence was adduced from morbid anatomy showing how gravely the normal structure of the liver is often affected by degenerative changes in cirrhosis It is I think, probable that in these cases of hypertrophic affection where ascites supervenes even when the blood of the liver alone seems to warrant the increased portal obstruction is due to heart dilatation and less very often to the circulatory obstruction may be the last straw the determining factor of portal effusion

Two other cases which have come under my observation lend support to this view. In 1894 I was asked to see a young fellow, aged 32 years, a man in wealthy circumstances, said to be suffering from Bright's disease, with the statement from his medical attendant in the country that he had been a confirmed and excessive spirit drinker since he was 12 years old. He told me, indeed, himself, with great pride in his own acuteness, that the waiters at the club where he stayed in London had orders to make all his glasses of brandy double ones. When I saw him he was breathless on movement, in great distress from dyspnœa, and had extreme anasarca of the lower half of his body, with marked ascites. The heart was greatly dilated; there were mitral and pulmonary murmurs—moist sounds at the base of both lungs. The liver was greatly enlarged and hard, its edge reaching three fingers' breadth below the ribs in the nipple line. The urine was high-coloured and of specific gravity 1032, loaded with albumin, and contained abundant granular and hyaline epithelial casts. Under absolute rest, digitalis, abstention from alcohol, and the care of a medical man and two nurses he quickly recovered and two months later astonished me by walking briskly into my room expressing himself as well—and looking well. The dropsy had gone and the cardiac murmurs had gone, although there was still evidence of dilatation. The casts had disappeared from the urine, which was of specific gravity 1022, a mere trace of albumin alone remaining. The liver remained enlarged as before. The alcoholic habits were renewed after a time and a year later the liver had enlarged still further and become enormous, reaching half-way to the umbilicus, the heart was larger than normal, with short sound but no murmurs. There was no return of dropsy. The next stage which I anticipated would speedily ensue—viz., ascites—did not follow. The patient died suddenly from syncope a few months later. Here the same series of events followed as in the preceding case with one exception: cardiac degeneration, general dropsy with disproportionate ascites, and progressive fibrosis; the final stage of cirrhotic ascites alone was wanting.

The second case is one which I have already mentioned as an instance of alcoholic enlargement of the liver in a young fellow aged twenty-nine years. He has some dilatation of the heart, palpitation, dyspnœa, considerable enlargement of the liver, but no dropsy. This exhibits the earliest stage of hepatic engorgement and commencing fibrosis. Can there be much doubt that if the exciting cause continues in operation the stages observed in the other more advanced conditions will follow in due course?

If cardiac debility and dilatation play an important part in the production of an early ascites in certain cases of hypertrophic cirrhosis it will help to explain why these cases run a more favourable course than others. It is a condition which can be materially influenced by treatment—a condition capable of great relief if not of cure—and its removal makes more easy and possible the removal of the ascites, which may finally disappear, as it does in the analogous condition of the ascites of mitral dropsy.

There is another point connected with this relation of cardiac inability and hepatic stagnation which deserves consideration. Is it not possible that this may explain, in some degree at all events, not only why in these cases of hypertrophic cirrhosis the liver remains large, but also why the fibrosis affects partly the finer branches of the interstitial tree instead of the large trunks only, as usual in atrophic cirrhosis? The character of the fibrosis is certainly not determined by the nature of the alcoholic stimulant, as has been suggested, according as it is beer or spirits. In three of the four cases related the patients were spirit drinkers; one patient only was a beer drinker. The enlargement, moreover, is not due to fatty deposit. My observations agree with those of Dr. Foxwell[5] that fatty infiltration is no more common in the large than in the small livers. The enlargement is probably due in part to chronic venous engorgement and dilatation of hepatic venules and capillaries such as are found in the nutmeg liver of cardiac cirrhosis. If the specimens of pure cardiac cirrhosis shown in Fig. 7 and Fig. 8 are examined and compared with that of hypertrophic cirrhosis shown in Fig. 1 in the first lecture it will be seen that the two conditions are almost identical. There are the same mixed coarse and fine fibrosis, the same appearance of fresh formation of biliary ducts—the same enlargement. Moreover, it might well be that in alcoholic cirrhosis with early enfeebled heart the effect of the alcoholic poison would be felt where the blood stream is most delayed, as the region of the hepatic vein within the lobule is approached. In this way a fine intralobular fibrosis would be produced there, while this same region would escape in an alcoholic cirrhosis where the heart factor did not come in, and a simple, coarse cirrhosis only with atrophy would in that case result. Be this how it may, however, I believe that cardiac inefficiency, even when not advanced enough to disclose itself by the usual physical signs of heart disease or a general dropsy, is a factor in the causation of the more acute cirrhosis of the enlarged alcoholic liver and of the ascites which may accompany it.

[5] Enlarged Cirrhotic Liver, Birmingham Medical Review, vol. i., 1895.

The Goulstonian Lectures

ON:

THE TYPHOID BACILLUS AND TYPHOID FEVER.

Delivered before the Royal College of Physicians of London on March 20th, 22nd, and 27th, 1900,

BY P. HORTON-SMITH, M.A., M.D. CANTAB., F.R.C.P. LOND.,

ASSISTANT PHYSICIAN TO THE BROMPTON HOSPITAL FOR CONSUMPTION AND TO THE METROPOLITAN HOSPITAL; ASSISTANT MEDICAL TUTOR TO ST. BARTHOLOMEW'S HOSPITAL.

LECTURE III.[1]

Delivered on March 27th.

MR. PRESIDENT AND GENTLEMEN,—In my previous lectures I have discussed the various manifestations of disease which the typhoid bacillus is able to evoke. To-day I desire to consider certain of the changes which occur in the blood during and after an attack of typhoid fever and in conclusion to refer to one point in connexion with the treatment of the disease.

The alterations which may be noted in the blood as the result of an attack of typhoid fever, as indeed of any specific infectious disease, are of two kinds. In the first place, we find gross and visible changes—changes, that is to say, relating to the number of the red and white corpuscles and to the amount of the hæmoglobin. Of these I do not propose to treat. In the second place, delicate and invisible changes—alterations which do not force themselves upon our notice but which nevertheless are of the highest importance to the organism in combating the disease, and which manifest themselves by conferring upon the blood bactericidal, lysogenic, agglutinative, and other properties. The most striking of these in typhoid fever, and the one which has most recently become known to us is the agglutinating power, and to it I propose chiefly to confine myself.

THE AGGLUTINATING POWER.

History of its discovery.—As is well known, this property was first demonstrated in the blood of patients suffering from typhoid fever by Widal in June, 1896, and the reaction, used so frequently as a means of diagnosis, has since been known by his name. It would be wrong, however, to suppose that his discovery was in all senses a new one. He, indeed, would be the last to claim it so. The great advance which Widal effected was the application to the bedside, for the diagnosis of disease, of those methods which had been perfected by other observers and notably by Gruber and Durham, but used hitherto exclusively for the identification of micro-organisms. In doing homage, therefore, to the services rendered by Widal we must not forget the work of previous observers, to which as it were he placed the keystone of the arch. The first step in the direction of this great discovery was made in 1889 by Charrin and Roger.[2]

[1] Lectures I. and II. were published in THE LANCET of March 24th and 31st, 1900, respectively.

[2] Charrin and Roger: Comptes Rendus, 1889, p. 710.

These observers, working with bacillus pyocyaneus, the micro-organism of blue pus, showed that if a culture were made in the serum of an animal immunised against the bacillus the growth resulting presented an unusual appearance. Instead of rendering the serum uniformly turbid, as would have been the case had a normal serum been used, the liquid remained quite clear while the growth formed a mass at the bottom of the tube. The bacilli had, in fact, become agglutinated even during their growth, though at this early date the true interpretation of the fact was not [illegible] facts were confirmed by [illegible] that similar phenomena were [illegible] circumstances by the pneumococcus and the vibrio Metchnikovi. In 1894 Issaeff and Ivanoff[4] extended the law to the vibrio named after the latter.

The culture method, however, had it alone been proceeded with, would never have revealed the true importance of the phenomenon, for tested in this way it is by no means uncommon for the sera of non-immunised animals to produce similar modifications of growth. It was therefore a great step in advance when in 1895 M. Bordet,[5] one of the *Préparateurs* at the Pasteur Institute, showed that the cultivation method was unnecessary and that the agglutination occurred equally well, and indeed immediately, if the serum from an immunised animal be added to the already developed culture. It was not, however, until the following year that the full importance of the reaction became evident, when Mr. H. E. Durham[6] demonstrated that by highly diluting the serum before adding it to the culture its action was restricted to the micro-organism previously used for the immunisation of the animal. It followed, therefore, that the reaction, if properly used, was of the highest importance, for it presented us with one of our most effective means of distinguishing these micro-organisms from their numerous allies. To Gruber and Durham, then, must be given the full credit of first thoroughly appreciating the value of the reaction and working out carefully the conditions under which alone it could be used for bacteriological diagnosis.

The work of these observers had been done with the sera of animals already thoroughly immunised, and though Gruber was prepared to find t[illegible] present in the blood *after* an [illegible] did not at first occur to him [illegible] attack itself might also show the [illegible] was the opportunity of Widal,[7] who on June 26th, 1896, announced his discovery that even during the disease itself the agglutinative power was present in the blood and that therefore the reaction could be used as a means of *clinical* as opposed to *bacteriological* diagnosis. It should be noticed, however, that Widal's observation was no chance discovery. It was, indeed, directly the result of his earlier work. Four years previously he had shown in conjunction with Chantemesse[8] that the blood of typhoid fever patients even during the attack acquired considerable "preventive power," or, in other words, if injected into a guinea-pig together with an otherwise fatal dose of typhoid bacilli it was often able to prevent the death of the animal. It was natural, therefore, for him to inquire whether [illegible] which Gruber regarded as a sign of [illegible] esent during the disease itself. [illegible] and from it directly sprang [illegible] serum diagnosis.

Such, then, is the history of this great discovery and it is pleasant to think that the credit of it belongs exclusively to no one country alone, but that it is an honour in which Frenchmen, Germans, and Englishmen may alike claim a share.

TECHNIQUE.

In considering the reaction the technique to be employed is of the first importance, and [illegible] points have to be considered relati[illegible] serum used, the time-limit, and the [illegible]

The dilution to be used.—A[illegible] Widal for the "extemporaneous" or microscopical method, which is the one generally in use at the present time and to which the following remarks apply, a dilution of the serum 1.10 was adopted, one drop of the serum being, that is to say, diluted in 10 drops of culture. It was soon seen, however, that this was somewhat too low, a considerable number of cases being recorded in which a positive reaction was obtained although the patients were not suffering from, and had never had, typhoid fever. The dilution has therefore been generally raised, and the only question at issue is the exact dilution which should be decided upon. At present there is no unanimity in this matter. In Paris 1.10 is still in use, at St. Bartholomew's Hospital 1.20 is employed, Fischer (Dantzig) recommends 1.25, Neufeld in Berlin 1.30, Schumacher (Halle) 1.50, while Durham suggests 1.100 or preferably higher. It should be noted that the question is not merely an academic one. If we raise the dilution considerably—to 1.100, for example—we *ipso facto* diminish the value of the test, for some 20 per cent. of cases *never* show a clumping power as marked as this, while others, again, only reach this height late in the disease, when the reaction is as a rule no longer needed. If, on the contrary, we choose too low a dilution we run a risk of error, of diagnosing as typhoid fever cases which are not really so. The problem before us, then, is to choose a dilution which, while reducing error to a minimum, will still enable us to diagnose nearly all cases of the disease. Without pursuing the subject further at this moment it may be said that on the whole a 1.20 *dilution* would seem from a practical point of view to attain these results in the most satisfactory manner.

The time-limit.—Another extremely important point, and one which cannot really be separated from the question of dilution, is the time-limit which should be employed. How long in doubtful cases should the serum be allowed to act on the culture before a negative or positive reaction be finally determined upon? Some authorities recommend half an hour, some one hour, some two hours, some four, or even longer. It would seem, however, that without doubt a short time-limit should be employed, one hour, perhaps, being the most suitable. It is, of course, possible that slight delayed reactions may be due to the presence of small amounts of the typhoid agglutinin, but it is equally true that they may also result from the agglutinins of other micro-organisms, such as Gärtner's bacillus enteritidis, which in small amounts would only produce an effect after some considerable time. In any case, then, a long time-limit, in addition to being inconvenient, introduces a source of danger, and therefore a limit of one hour at most may be taken as a working and safe basis.

The typhoid culture.—Lastly, with regard to the typhoid culture used, it is extremely important to select one which [illegible] typhoid serum. As I [illegible] rch cultures are used [illegible] power between various [illegible] The difference seems [illegible] the culture media and does not mark, as a rule, any inherent difference in clumping power between various typhoid stocks, for often an agar culture from the same bacillus will clump admirably in high dilutions with the very serum which produces no effect on the broth culture. Since, however, the latter from their convenience are always now used in performing the reaction it behoves us to select a culture the clumping power of which in this medium is not diminished.

The use of dead bacilli.—It was early shown by Bordet that the reaction was by no means concerned with the life of the bacillus and that dead bacilli might be used equally well. This point was confirmed by Widal and Sicard[9] as regards the typhoid bacillus, and they showed that perhaps formalin was the best reagent for killing the bacillus, while yet leaving its sensibility towards the agglutinating serum absolutely intact. It is easy, if Widal's directions as to the amount of formalin required be followed exactly, to confirm this observation, and it is undoubtedly correct. It might be thought, therefore, that it would be best after having found a typhoid bacillus, the 24 hours' broth cultures of which are very sensitive, to prepare a considerable quantity of such a culture and, after killing the bacilli, preserve it for general use in the laboratory. From a practical point of view, however, it may be said that while dead cultures may be valuable if the agglutinating power of the serum be marked they are less satisfactory in doubtful cases, and can only be referred to merely as "suspicious" for owing to the bacilli being dead

[illegible] Metchnikoff: Annales de l'Institut Pasteur, 1894, p. [illegible]
[illegible] Issaeff and Ivanoff: [illegible] p. 122.
[illegible] Bordet: [illegible]
[illegible] Durham: [illegible]
[illegible] Widal: Bull. [illegible] Paris, June 26th, 1896.
[illegible] Chantemesse and Widal: Annales de l'Institut Pasteur, [illegible] p. [illegible]
[illegible] Widal and Sicard: Comptes Rendus de la Société de Biologie, June [illegible], 1897, p. [illegible]

Two other cases which have come under my observation lend support to this view. In 1894 I was asked to see a young fellow, aged 32 years, a man in wealthy circumstances, said to be suffering from Bright's disease, with the statement from his medical attendant in the country that he had been a confirmed and excessive spirit drinker since he was 12 years old. He told me, indeed, himself, with great pride in his own acuteness, that the waiters at the club where he stayed in London had orders to make all his glasses of brandy double ones. When I saw him he was breathless on movement, in great distress from dyspnœa, and had extreme anasarca of the lower half of his body, with marked ascites. The heart was greatly dilated; there were mitral and pulmonary murmurs—moist sounds at the base of both lungs. The liver was greatly enlarged and hard, its edge reaching three fingers' breadth below the ribs in the nipple line. The urine was high-coloured and of specific gravity 1032, loaded with albumin, and contained abundant granular and hyaline epithelial casts. Under absolute rest, digitalis, abstention from alcohol, and the care of a medical man and two nurses he quickly recovered and two months later astonished me by walking briskly into my room expressing himself as well—and looking well. The dropsy had gone and the cardiac murmurs had gone, although there was still evidence of dilatation. The casts had disappeared from the urine, which was of specific gravity 1022, a mere trace of albumin alone remaining. The liver remained enlarged as before. The alcoholic habits were renewed after a time and a year later the liver had enlarged still further and become enormous, reaching half-way to the umbilicus, the heart was larger than normal, with short sound but no murmurs. There was no return of dropsy. The next stage which I anticipated would speedily ensue—viz., ascites—did not follow. The patient died suddenly from syncope a few months later. Here the same series of events followed as in the preceding case with one exception: cardiac degeneration, general dropsy with disproportionate ascites, and progressive fibrosis; the final stage of cirrhotic ascites alone was wanting.

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we no longer see those characteristic movements made by the bacilli in their efforts, as it were, to free themselves, [illegible] examine the [illegible], therefore, [illegible] advisable.

[illegible] *performed as suggested.*—We may now ask ourselves, what reliance may be placed upon the test if it be performed in the manner suggested, that is to say, *using a very sensitive 18-hour broth culture, a dilution of 1.20, and a time-limit of one hour, a "positive reaction" only being returned, when the clumping is marked and general and when the few bacilli not clumped are rendered motionless?* In the first place it may be stated that tested by experience at St. Bartholomew's Hospital, even though, here as a rule a time-limit of two hours has been allowed, this low dilution does not seem to have failed. During the last three years, 1897 to 1899, the reaction has been tested and the result noted on 546 occasions. Of the cases so examined over 200 proved themselves later by their clinical course, verified [illegible] examination, to be not [illegible] of these non-typhoidal c[illegible]

The one exception was a case of great interest. It was that of a woman who while in the hospital had symptoms resembling those of typhoid fever. The Widal reaction was returned as "just positive." At her death, however, a few days later the case proved to be one of septicæmia. No typhoid lesions were found at all nor was the typhoid bacillus found in her spleen. This organ, however, contained the staphylococcus pyogenes aureus in enormous quantities. It seemed at first sight as though the reaction was here at fault. Inquiries, however, were made by Dr. Drysdale and it was found that four months before her death the patient had been treated at home for typhoid fever. An easy explanation was thus afforded for the presence of the agglutinating reaction during her stay in the hospital.

Objections urged to a low dilution.—So far, then, these facts would show that a 1.20 dilution, with a time-limit of one hour, is one which may be relied upon. In January, 1899, however, it was shown by Mr. H. E. Durham[10] in a very interesting paper that the serum of typhoid fever patients not uncommonly reacted strongly to the bacillus enteritidis (Gärtner) as well as to the typhoid bacillus, producing admirable clumping in both cases up to a dilution of 1.100. In higher dilutions, however, bacillus enteritidis as a rule no longer reacted, while the typhoid bacillus in general did. The two accompanying photographs (Fig. 1 and Fig. 2) illustrate this clearly. An inference which has been very commonly drawn from these facts is that in performing Widal's reaction a dilution over 1.100 should always be used, since with any lower dilution it would be impossible to be certain in any case that the agglutination of the typhoid bacillus was due to the presence of the typhoid agglutinins and not to those of Gartner's bacillus only.

The agglutinins of bacillus enteritidis present in the blood in many cases of typhoid fever.—Of the presence of the Gärtner agglutinins in the blood in many, though by no means all, cases of typhoid fever there cannot be any doubt. The following observations made in the early part of 1898 show this clearly. In the first place, if Gartner's bacillus were clumped only by the typhoid agglutinins present in the blood, the degree of agglutination manifested by the former should vary directly with the amount of agglutination shown by the typhoid bacillus—that is to say, whenever the typhoid bacillus is clumped in a high degree by a given serum, then the maximum dilution capable of clumping Gartner's bacillus should rise also, though, of course, always remaining far below that of the former. Similarly the reverse should obtain with a weak typhoid serum. The two curves should, in fact, follow each other closely, though of course at a considerable distance. This, however, is not the case. The typhoid bacillus may with a given serum be clumped in a high dilution and the bacillus enteritidis only in a low dilution, while with another serum the typhoid clumping power may be less marked and that of bacillus enteritidis more marked, facts brought out clearly by the three accompanying sera charts (Case I., Case II., and Case III.). Moreover, if cases are followed into convalescence it is not an uncommon occurrence to note that after a time the serum ceases to clump the typhoid bacillus, while continuing to agglutinate Gartner's bacillus. The two curves, in fact, become transposed, as the sera charts from Case IV. and Case V. show, a condition of affairs which it is impossible to explain upon any other hypothesis except that of a double infection. It should be noticed, also, that the secondary infection in cases of typhoid fever is not limited to the bacillus enteritidis. Thus Lorrain Smith,[11] from observations made during the Belfast epidemic, showed that often evidence of infection by other varieties of bacillus coli could be obtained. The importance of these facts in connexion with the etiology of the disease, and especially their relation to relapses, has already been dwelt upon.

It may be accepted, then, that in many cases of typhoid fever Gärtner- as well as typhoid-agglutinins are both present in the blood. But is this any reason against using a 1.20 dilution in performing the test as has been urged? It would seem not, for, as the following experiment shows, the serum of an animal artificially immunised against Gartner's bacillus does not completely clump the typhoid bacillus in a 1.20 dilution (microscopical method, time-limit one hour) until the serum is capable of agglutinating Gärtner's bacillus itself, at least in a dilution of 1.1000. Now such a condition of affairs rarely if ever occurs in human typhoid fever or in cases resembling it clinically. If, then, the serum of a case which suggests typhoid fever produces complete clumping of the typhoid bacillus within one hour in a dilution of 1.20 then only in the rarest cases can this be due to the presence of Gärtner and not true typhoid agglutinins.

Experiment.—A guinea pig was immunised against bacillus enteritidis and its serum was tested as regards its clumping power from time to time against both this bacillus and against the typhoid bacillus. The following results were obtained:—

Table showing the Agglutinative Effect upon the Typhoid Bacillus of Gärtner Sera of Varying Strengths.

—	1. Gärtner's bacillus.	2. Typhoid bacillus.
a. June 28th, 1898, after three injections	1.20 = + 1.100 = + 1.200 = 0	1.20 = 0
b. July 14th, after four injections	1.200 = + 1.500 = + 1.1000 = trace. 1.2000 = 0 1.5000 = 0 1.10,000 = 0	1.20 = faint trace.
c. Dec. 22nd, after five injections.	1.50 = + 1.100 = + 1.1000 = + 1.2000 = partial reaction	1.20 = + (faint) 1.100 = 0 1.200 = 0

+ equals a complete reaction within one hour.

So far, then, as typhoid fever is concerned it would seem that the objections raised on the above grounds against the routine use of a 1.20 dilution, with a time-limit of one hour, are more theoretical than real—a conclusion which is supported by the results of the numerous serum observations made at St. Bartholomew's Hospital to which I have already alluded.

Rare cases in which the reaction is at fault.—It should be noticed, however, that a positive reaction obtained with a 1.20, or even a 1.40 or 1.50 dilution and a one-hour time-limit is not an absolute proof that the patient is suffering from typhoid fever. A certain number of cases have undoubtedly been recorded in which such reactions have been obtained in cases which afterwards proved themselves to be not typhoid fever. They are, however, rare, and not a few of them may have been possibly due to anterior attacks of typhoid fever, or in the earlier days to faulty technique, too long a time limit, for example, having been allowed. Including all, however, Hernando[12] in 1897 was only able to collect seven in which in apparently non-typhoidal cases the reaction was stated to be given in a dilution of 1.20, which, considering the thousands of cases examined, is a very small percentage of error, even if we accept them all as authentic. Since then a few other cases have been reported but they remain rare. With a dilution of 1.40, again, the reaction has proved at fault. [illegible]

[10] Durham: THE LANCET, Jan. 14th, 1899, p. 184.

[illegible]

FIG. 1.

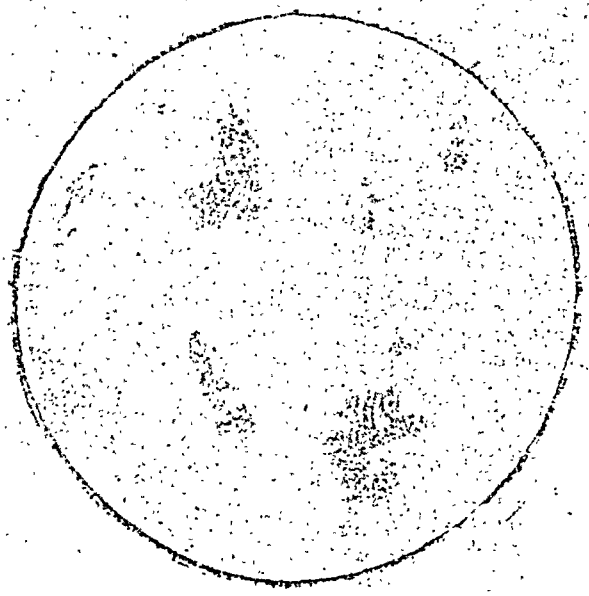
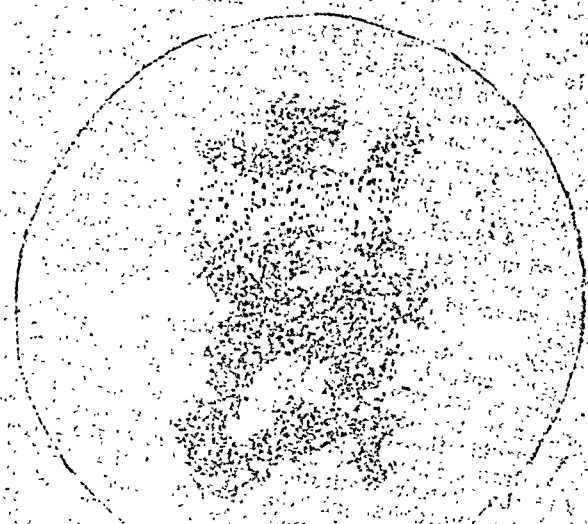


FIG. 2.

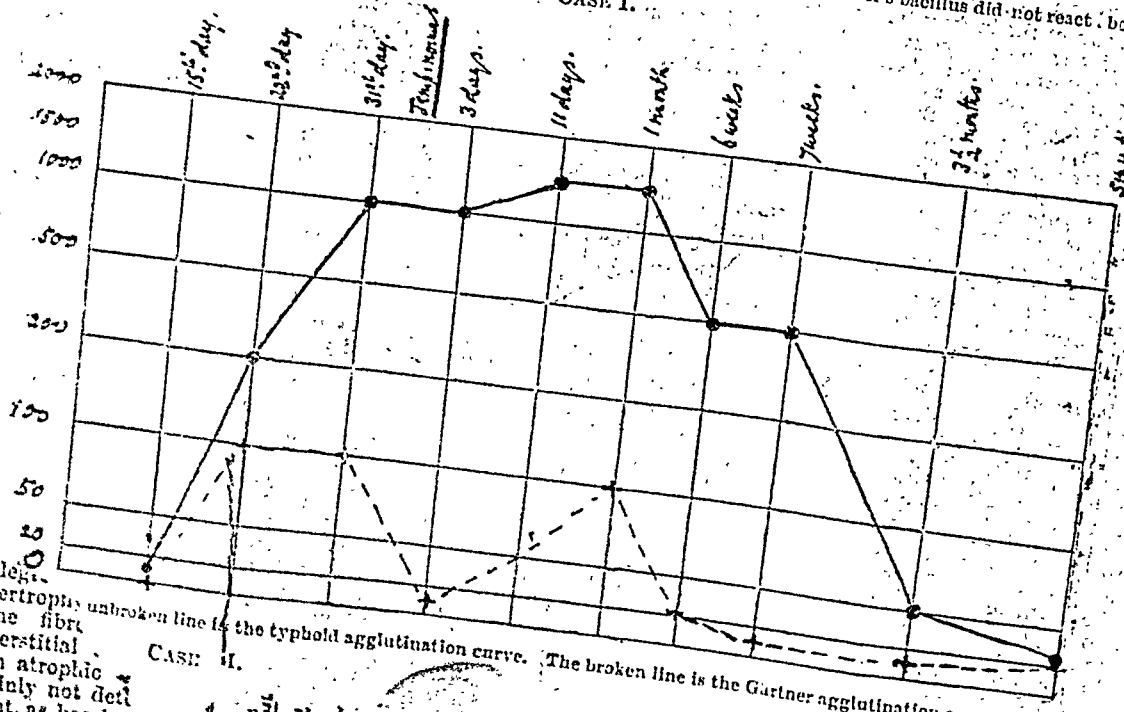


(a) The typhoid bacillus × 250. (b) Gärtner's bacillus × 200.

Photographs showing agglutination of the typhoid bacillus and also of Gärtner's bacillus, produced by a 1.20 dilution of the same typhoid serum.

The typhoid bacillus in this case gave a complete reaction up to a dilution of 1.500, while Gärtner's bacillus did not react above 1.100.

CASE I.



The broken line is the Gärtner agglutination curve.

CASE II.

CASE III.

some degr
of hypertrophy
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is certainly not det
stimulant, as has been
spirits. In three of the
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livers. The enlargeme
venous engorgement
capillaries such as are
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unbroken line is the typhoid agglutination curve.

* Enlarged Cirrhotic Liv

we no longer see those characteristic movements made by the bacilli in their efforts, as it were, to free themselves, which so often [illegible] examine the blood again a d [illegible], therefore, of dead cultur [illegible] advisable, though for eme [illegible]

What relian [illegible] *erformed as suggested.*—We [illegible] liance may be placed upor [illegible] the manner suggested, that is to say, *using a very sensitive 18-hour broth culture, a dilution of 1.20, and a time-limit of one hour, a "positive reaction" only being returned, when the clumping is marked and general and when the few bacilli not clumped are rendered motionless?* In the first place it may be stated that tested by experience at St. Bartholomew's Hospital, even though here as a rule a time-limit of two hours has been allowed, this low dilution does not seem to have failed. During the last three years, 1897 to 1899, the reaction has been tested and the result noted on 546 occasions. Of the cases so examined over 200 proved themselves later by their clinical course, verified not uncommonly by post-mortem examination, to be not typhoid, and yet in only a single one of these non-typhoidal cases was a positive reaction obtained. The one exception was a case of great interest. It was that of a woman who while in the hospital had symptoms resembling those of typhoid fever. The Widal reaction was returned as "just positive." At her death, however, a few days later the case proved to be one of septicæmia. No typhoid lesions were found at all nor was the typhoid bacillus found in her spleen. This organ, however, contained the staphylococcus pyogenes aureus in enormous quantities. It seemed at first sight as though the reaction was here at fault. Inquiries, however, were made by Dr. Drysdale and it was found that four months before her death the patient had been treated at home for typhoid fever. An easy explanation was thus afforded for the presence of the agglutinating reaction during her stay in the hospital.

Objections urged to a low dilution.—So far, then, these facts would show that a 1.20 dilution, with a time-limit of one hour, is one which may be relied upon. In January, 1898, however, it was shown by Mr. H. E. Durham[10] in a very interesting paper that the serum of typhoid fever patients not uncommonly reacted strongly to the bacillus enteritidis (Gärtner) as well as to the typhoid bacillus, producing admirable clumping in both cases up to a dilution of 1.100. In higher dilutions, however, bacillus enteritidis as a rule no longer reacted, while the typhoid bacillus in general did. The two accompanying photographs (Fig. 1 and Fig. 2) illustrate this clearly. An inference which has been very commonly drawn from these facts is that in performing Widal's reaction a dilution over 1.100 should always be used, since with any lower dilution it would be impossible to be certain in any case that the agglutination of the typhoid bacillus was due to the presence of the typhoid agglutinins and not to those of Gärtner's bacillus only.

The agglutinins of bacillus enteritidis present in the blood in many cases of typhoid fever.—Of the presence of the Gärtner agglutinins in the blood in many, though by no means all, cases of typhoid fever there cannot be any doubt. The following observations made in the early part of 1898 show this clearly. In the first place, if Gärtner's bacillus were clumped only by the typhoid agglutinins present in the blood, the degree of agglutination manifested by the former should vary directly with the amount of agglutination shown by the typhoid bacillus—that is to say, whenever the typhoid bacillus is clumped in a high degree by a given serum, then the maximum dilution capable of clumping Gärtner's bacillus should rise also, though, of course, always remaining far below that of the former. Similarly the reverse should obtain with a weak typhoid serum. The two curves should, in fact, follow each other closely, though of course at a considerable distance. This, however, is not the case. The typhoid bacillus may with a given serum be clumped in a high dilution and the bacillus enteritidis only in a low dilution, while with another serum the typhoid clumping power may be less marked and that of bacillus enteritidis more marked, facts brought out clearly by the three accompanying sera charts (Case I., Case II., and Case III.). Moreover, if cases are followed into convalescence it is not an uncommon occurrence to note that after a time the serum ceases to clump the typhoid bacillus, while continuing to agglutinate Gärtner's bacillus. The two curves, in fact, become transposed, as the sera charts from Case IV. and Case V. show, a condition of affairs which it is impossible to explain upon any other hypothesis except that of a double infection. It should be noticed, also, that the secondary infection in cases of typhoid fever is not limited to the bacillus enteritidis. Thos. Lorrain Smith,[11] from observations made during the Belfast epidemic, showed that often evidence of infection by other varieties of bacillus coli could be obtained. The importance of these facts in connexion with the etiology of the disease, and especially their relation to relapses, has already been dwelt upon.

It may be accepted, then, that in many cases of typhoid fever Gärtner as well as typhoid-agglutinins are both present in the blood. But is this any reason against using a 1.20 dilution in performing the test as has been urged? It would seem not, for, as the following experiment shows, the serum of an animal artificially immunised against Gärtner's bacillus does not completely clump the typhoid bacillus in a 1.20 dilution (microscopical method, time-limit one hour) until the serum is capable of agglutinating Gärtner's bacillus itself, at least in a dilution of 1.1000. Now such a condition of affairs rarely if ever occurs in human typhoid fever or in cases resem[illegible] which sugg[illegible] the typhoic[illegible] only in the rarest cases can this be due to the presence of Gärtner and not true typhoid agglutinins.

Experiment.—A guinea-pig [illegible] enteritidis and its serum was [illegible] power from time to time a[illegible] against the typhoid bacillus. The following results were obtained:—

Table showing the Agglutinating Effect upon the Typhoid Bacillus of Gärtner Sera of Varying Strengths.

—	c. Gärtner's bacillus.	c. Typhoid bacillus.
a. June 28th, 1898, after three injections.	1.20 = + 1.100 = + 1.200 = 0	1.20 = 0
b. July 14th, after four injections.	1.200 = + 1.500 = + 1.1000 = trace. 1.2000 = 0 1.5000 = 0 1.10,000 = 0	1.20 = faint trace.
c. Dec. 22nd, after five injections.	1.20 = + 1.200 = + 1.1000 = + 1.2000 = partial reaction	1.20 = + Gärtn. 1.100 = 0 1.500 = 0

+ equals a complete reaction within one hour.

So far, then, as typhoid fever is concerned it would seem that the objections raised on the above grounds against the routine use of a 1.20 dilution, with a time-limit of one hour, are more theoretical than real—a conclusion which is supported by the results of the numerous serum observations made at St. Bartholomew's Hospital to which I have already alluded.

Rare cases in which the reaction is at fault.—It should be noticed, however, that a positive reaction obtained with a 1.20, or even a 1.40 or 1.60 dilution and a one-hour time-limit is not an absolute proof that the patient is suffering from typhoid fever. A certain number of cases have undoubtedly been recorded in which such reactions have been obtained in cases which afterwards proved themselves to be not typhoid fever. They are, however, rare, and not a few of them may have been possibly due to anterior attacks of typhoid fever, or in the earlier days to faulty technique, too long a time-limit, for example, having been allowed. Including all, however, Bernade[illegible] in 1897 was only able to collect seven in which in apparently non-typhoidal cases the reaction was stated to be given in a dilution of 1.20, which, considering the thousands of cases examined, is a very small percentage of error, even if we accept them all as authentic. Since then a few other cases have been reported but they remain rare. With a dilution of 1.40, again, the reaction has proved at fault. The Var-

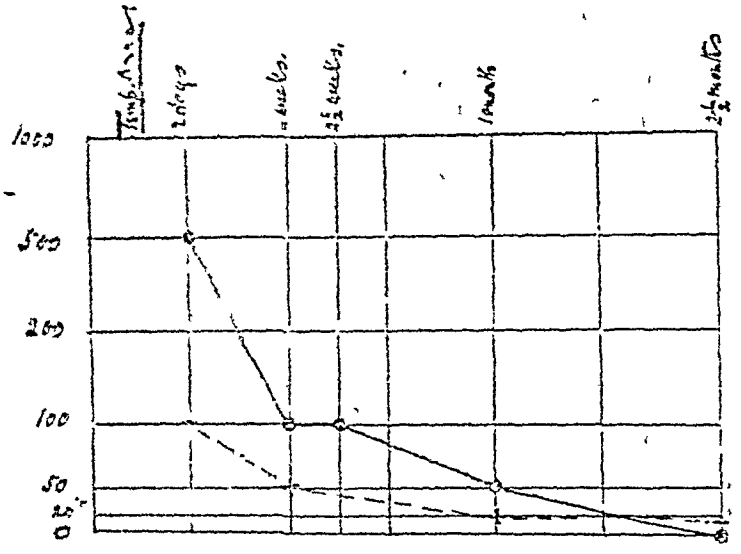
10 Durham: THE LANCET, Jan. 15th, 1898, p. 154.

11 Thos. Lorrain Smith: Brit. Med. Journ., Jan. 22nd, 1898.

12 Bernade: [illegible] p. [illegible].

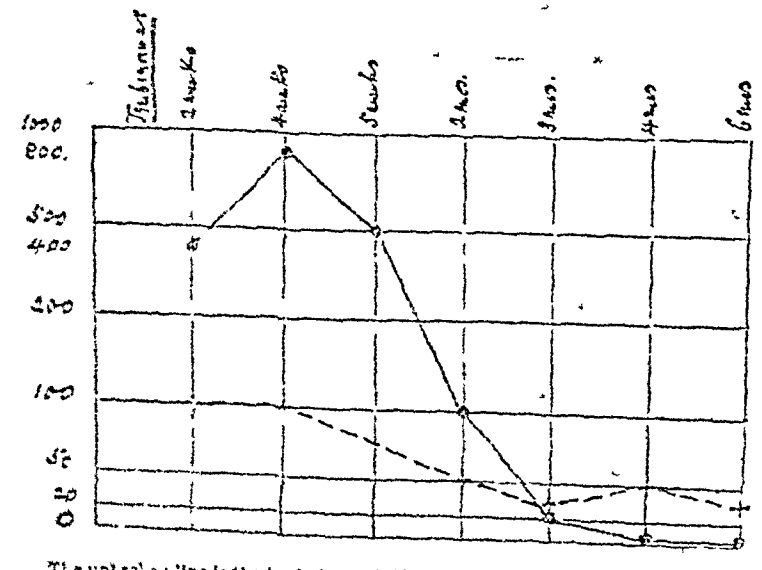
Oordt[12] reported the case of a man, 50 years of age, who had never had typhoid fever but whose blood reacted positively in dilutions of 1 30 and 1 40 both macroscopically and microscopically (the exact time-limit, however, is not mentioned). At the post-mortem examination the case proved to be not one of typhoid fever but of malignant endocarditis produced by the pneumococcus. Cultivation proved the absence of the typhoid bacillus. Again, using a dilution of 1 50 Kasel and Mann[14] have twice obtained the reaction in cases of pneumonia, and in both cases the reaction was "strongly positive" well within an hour. In neither case could the reaction be ascribed to a former attack of typhoid fever. How the reaction is produced in these cases is doubtful. But the fact that not uncommonly such abnormal reactions are very evanescent, being present one day and gone the next, suggests that we are really dealing with some chemical substance which happens to be temporarily present in the blood. Certain bodies, such as safranin and vesuvin, possess, as Malvoz[15] has shown, a remarkable capacity for agglutinating the typhoid bacillus, and it may be that some analogous body is in these cases present in the blood.

CASE IV.



The unbroken line is the typhoid agglutination curve; the broken line is the Gärtner agglutination curve.
The figures represent the maximum dilution capable of causing complete agglutination of the bacilli within one hour.
Serum chart from a case of typhoid fever, showing the persistence of the Gärtner agglutinating power after the serum had ceased to have any effect on the typhoid bacillus.

CASE V.



The unbroken line is the typhoid agglutination curve; the broken line is the Gärtner agglutination curve.
The figures represent the maximum dilution capable of causing complete agglutination of the bacilli within one hour.
Serum chart from a case of typhoid fever, showing the persistence of the Gärtner agglutinating power after the serum had ceased to have any effect on the typhoid bacillus.

As yet, so far as I know, no case without a history of former typhoid fever has been recorded in which with a higher dilution than 1 50 the reaction has been positive, and yet the typhoid bacillus has been proved absent by a bacteriological examination. If, then, we sum up the considerations which have been brought forward it would seem that the following conclusion is justified.

Conclusion.—For all practical purposes a *1.50 dilution with a short time-limit (one hour)* gives admirable results. A positive reaction so obtained has a diagnostic value about equal to that of the eruption—that is to say, that in very rare cases both may be observed in cases which are not typhoid fever. If, however, in any given case we require from the test absolute infallibility then we must use in addition greater dilutions, such as 1.100 (or even higher), employing of course the same time-limit as before—namely, one hour. But to use such dilutions as a matter of routine would be an error, since we should thereby wilfully diminish the value of the test by excluding many cases of typhoid fever (nearly 20 per cent.) which never reach even the 1.100 limit during any part of their course.

Proportion of cases in which the reaction occurs.—Supposing, then, the test be applied in this way, in what proportion of cases may we expect a positive result? Dr. J. H. Churchill, in a paper in the St. Bartholomew's Hospital Reports for 1898, analysed the cases which he had observed in the hospital during that year. He found that out of 71 cases 69 gave a positive reaction at some period of their course, giving a total percentage of 97.1. It is noticeable, also, that Widal's cases in which the blood was examined quantitatively gave an almost exactly similar result. Out of 34 cases examined 33 of them reacted positively to a dilution of 1.20, making a total percentage of 97·0. It is probable, therefore, that these numbers represent fairly accurately the true state of the case and show that in 97 per cent. of all typhoid fever cases the reaction can be obtained in a dilution of 1.20 at some period of the disease. If, however, a 1 100 dilution be used as a routine then the percentage falls very greatly. Widal's cases show that under these circumstances out of every 100 cases 17 would never show the reaction, while Lorrain Smith's cases would place the percentage of negative results even higher.

Date of appearance of reaction.—At what date the reaction first appears is a matter very difficult to settle owing to the insidious onset of the disease. Dr. Churchill was, however, able to analyse 40 of the positive cases at St. Bartholomew's Hospital in which the commencement of the illness could be fixed, and he found that the average date of the first appearance was not later than the thirteenth day, though nine of the 40 cases gave a positive reaction between the fifth and eighth days. We may say, then, that while the reaction may occur before the end of the first week, this is unusual. It is more common for it to make its first appearance during the second week, but not rarely it may be delayed until the third or fourth week or even beyond this period.

[12] Van Oordt: Münchener Medicinische Wochenschrift, 1897, No. 13, [illegible]

[14] Kasel and Mann: [illegible] 1899, No. 17, p. [illegible]

[15] Malvoz: Annales de l'Institut Pasteur, 1897, p. 585.

has been stated that the reaction is not to be obtained in [illegible] en the [illegible] ere [illegible] be typhoid fever do exist, in which throughout the whole course of the disease no reaction can be obtained. A case of this kind was recorded by Widal in 1897[16] in which the reaction totally failed though the patient had typhoid fever followed by a relapse and in which puncture of the spleen demonstrated the presence of typhoid bacilli in this organ on two occasions. Similar cases have also since been published by Fischer[17] and Schumacher.[18] Carefully tested cases are, however, very rare and from a theoretical point of view are so important and interesting that the following cases may be shortly mentioned.

CASE 1 (Rahere W[illegible] patient, a male, aged [illegible] fever. He died on the [illegible] general peritonitis. The serum was tested in a 1.20 dilution on the eleventh and fifteenth days by Dr. Drysdale, but with a negative result. The heart's blood obtained post mortem two days later showed only a partial and incomplete reaction. At the necropsy the lesions of typhoid fever were found and [illegible] pure culture of [illegible] agglutinated str[illegible] y be argued, however, that this was merely a case of delayed appearance of the reaction. Such an objection, however, is not applicable to the next case.

CASE 2 (Mark Ward; Dr. Church).—The patient was a male, aged 16 years. His illness began on Jan. 4th, 1898. On Jan. 12th he was admitted into the hospital with typhoid fever. The attack was prolonged, the temperature reaching normal on the thirty-fourth day. A mild attack of phlebitis, possibly combined with a relapse, followed, after which the patient made a complete recovery. Spots were never present, but in every other respect clinically the case was a typical one of typhoid fever. On the seventeenth day typhoid bacilli were found in the stools; they reacted positively to all the morphological and cultural tests and on being tested against the serum of a highly immunised guinea-pig they gave a complete and immediate reaction in a dilution of 1.1000. The serum reaction was performed (dilution 1.20, time-limit one hour) on the 18th and 19th, the fourteenth and fifteenth days respectively, with a negative result. On the twenty-fifth day (Jan. 29th) an incomplete reaction was obtained at the end of an hour, and in this case the preparation was again examined several hours later, but showed no further change. On Feb. 21st, during the second access of fever, the reaction was again negative and on March 16th and 30th, when the temperature had been normal for 16 and 30 days respectively, similar results were obtained. In this case, then, though tested on six occasions at periods of the disease when the reaction is usually marked, on five it was found to be completely absent to a dilution of 1.20, while on the sixth occasion, though there was some clumping, the reaction could only be called indefinite. There can be no doubt, then, that in some cases proved bacteriologically to be typhoid fever it may be quite impossible ever to obtain a positive reaction, even though numerous attempts be made and at suitable periods of the disease.

Duration of reaction.—Another point of great importance to consider in connexion with the serum reaction is the length of time during which it may persist after the patient's recovery. In other words, how soon may we expect the reaction to disappear after an attack of typhoid fever? A certain number of observations have been made at varying intervals on suitable patients and the results have been sometimes negative and sometimes positive, the latter sometimes at very [illegible] after the primary attack. S[illegible] er, are always open to critic[illegible] settling the question how lo[illegible] follow a series of cases month by month until the final disappearance of the clumping power be noticed. The following cases were examined in this way. The numbers represent the highest dilution in which a complete reaction could be obtained, tion was observed. The time-limit in all cases was one hour.

TABLE VIII.

CASE 1.—*A male, aged [illegible] years.*

14th day	0
15th "	0
25th "	partial reaction (1.20)
43th "	0
After the fever.	
18 days	0
1 month	0
6½ months	0

Result.—Reaction never observed.

CASE 2.—*A female, aged 15 years.*

15th day	1.20
25th "	slight trace (1.20)
After the fever.	
5 days	0
14 "	0
1 month	0
2½ months	0
3½ "	0

Result.—Reaction never observed after defervescence.

CASE 3.—*A female, aged 17 years.*

9th day	1.50
After the fever	
1½ months	trace (1.20)
3 "	trace (1.20)
4 "	0

Result.—Reaction disappeared within one and a half months

CASE 4.—*A male, aged 50 years.*

After the attack.	
1 day	1.500
14 days	1.100
1 month	1.50
2½ months	0

Result.—Reaction disappeared within two and a half months.

CASE 5.—*A male, aged nine years.*

After the fever.	
3 weeks	1.50
(Had scarlet fever.)	
5 months	0
6 "	0

Result.—Reaction disappeared within five months.

CASE 6.—*A male, aged 52 years.*

Beginning of relapse	1.100
After the fever.	
10 days	1.300
4 weeks	1.50
5 "	1.400
2 months	1.100
3 "	1.20
4½ "	partial (1.10)
6 "	trace (1.20)
7½ "	0

Result.—Reaction disappeared within five months.

CASE 7.—*A male, aged [illegible] years.*

During the relapse	(1.100)
After the fever	
10 days	(1.[illegible])
3 months	1.50
3½ "	1.50
4½ "	partial (1.10)
6½ "	0
8½ "	0

Result.—Reaction disappeared within five months.

CASE 8.—*A male, aged [illegible] years.*

12th day	1.300
17th "	1.300
23th "	1.100
After the fever.	
2 days	1.50
15 "	1.300
28 "	1.300
3 months	1.60
5 "	1.20
6½ "	1.20
8 "	trace (1.20)

Result.—Reaction disappeared within eight months.

CASE 9.—*A male, aged 15 years.*

After the fever.	
2 days	(1.20)*
2½ months	1.60
4 "	1.20
5 "	1.50
6½ "	1.20
8 months	partial (1.10)
9½ "	0

Result.—Reaction disappeared within nine months.

CASE 10.—*A male, aged 20 years.*

After the fever.	
1 month	(1.20)*
6 months	(1.20)*
10 "	0
1 year	0

Result.—Reaction disappeared within 10 months.

CASE 11.—*A male, aged [illegible] years.*

9th day	1.400
12th "	1.300
19th "	1.100
1st day after the attack	1.50
8th " "	1.40
4th day of relapse	1.150
After the fever.	
2 days	1.400
9 "	1.400
17 days	1.150
5 weeks	1.100
3 months	1.300
4 "	1.150
5 "	1.20
6½ "	1.20
9 "	1.50
11½ "	partial (1.20)
1 year and 2 months	trace (1.20)

Result.—Reaction disappeared within a year.

CASE 12.—*A male, aged [illegible] years.*

During the attack	(1.20)*
Temperature down 9 days	1.10
A relapse followed.	
After the fever.	
5 days	1.400
11 "	1.[illegible]
3½ weeks	1.100
5 "	1.100
7 "	1.[illegible]
2 months	1.300
4 "	1.[illegible]
6 "	1.100
7½ "	1.100
9 "	1.50
11½ "	1.[illegible]
1 year and 1 month	partial (1.20)

Result.—Reaction disappeared within 1 year and 1 month.

CASE 13.—*A male, aged [illegible] years.*

During the fever	(1.10)*
After the fever	
12 days	1.[illegible]
1 month	1.100
4 weeks	1.[illegible]
3 months	1.[illegible]
4 "	1.[illegible]
5½ "	1.[illegible]
6 "	1.[illegible]
7 "	1.[illegible]
9 "	1.[illegible]
1 year	1.[illegible]

[illegible]

[illegible]

TABLE VIII.—(*continued*).

CASE 13—(*continued*).	
1 year 2 months	1.80
1 ,, 4 ,, ...	1.30
1 ,, 6 ,, ...	1.30
Result—Reaction still present after 1 year and 6 months.	

CASE 14.—*A male, aged 10 years.*	
15th day	partial (1 20)
22nd ,, ...	1.200
31st ,, ...	1.1000
After the fever.	
3 days	1.1000
11 ,, ...	1.1500
1 month	1.1500
6 weeks	1.500
7 ,, ...	1.500

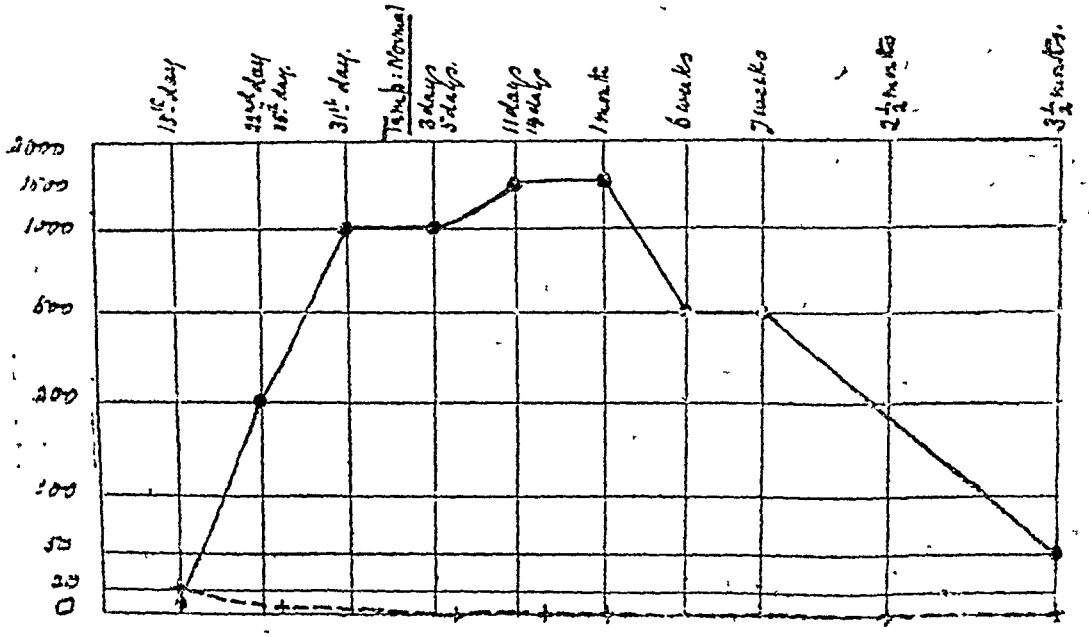
CASE 14—(*continued*).	
3½ months	1.50
5 ,, ...	1 30
6½ ,, ...	1.30
8 ,, ...	1.40
10 ,, ...	1.40
1 year	1 100
1 year 1 month	1.80
1 year 2½ months	1.150
1 ,, 4 ,, ...	1 80
1 ,, 5 ,, ...	1.80
1 ,, 7 ,, ...	1.40
1 ,, 9½ ,, ...	1.20
2 years	1.20
Result.—Reaction still present at the end of two years.	

* Higher dilutions not examined.

From these results it will be seen that while in the majority of the cases (12 out of 14) the reaction had disappeared by the end of a year, yet in two cases it was still present after one year and six months and two years respectively. Further, the individual cases themselves show the most marked variations in the persistence of the reaction. Thus, of the 14 cases examined in two it was never obtained after defervescence, in five others it disappeared within six months, in four more within one year, while in two it was still present at periods of one year and six months and of two years after the attack. How are we to explain these extraordinary differences? In great part, doubtless, owing to the fact that the cells of each individual organism react in a different manner to a given stimulus. We shall see that in all probability the agglutinins are produced directly by the *body cells*, and just as in different animals of the same species, after an injection of an equal quantity of virus, the amount of agglutinin present in the blood at the end of a given time is by no means equal, so it is not difficult to believe that the length of time during which the formation of agglutinins may continue will also vary much But may there not be sometimes also another explanation? May not the long duration of the reaction be connected in some cases with the persistence in the body of the bacilli themselves, which, as we have seen, is by no means uncommon. Without doubt this is the explanation in some cases, but it is doubtful as yet how far the mere persistence of the reaction proves the point. At all events it has recently been shown that after typhoid inoculations in man, the dead bacilli only having been injected, the reaction may still be present for at least two years. Further continuous observations on inoculated cases are, however, much wanted. In any case in the light of these facts there would seem to be no reason at all to doubt that in certain cases the reaction may still be present even years after the attack, as in a case observed by Widal[19] in which after 26 years it was still present in a dilution of 1.30.

Serum prognosis.—It has been suggested by some observers that it is possible to base our prognosis in a case of typhoid fever on the serum reaction—to use the reaction, in fact, both as a means of prognosis as well as of diagnosis. This opinion naturally suggested itself at once to those who regarded its presence as a proof of immunity and of this school M. Courmont[20] has especially investigated the matter. In a lengthy treatise devoted to this subject he comes to the conclusion that if observations be taken frequently enough during the course of the fever, so that an agglutinating chart comparable to a temperature chart be made, then the reaction may give valuable indications for prognosis. It is evident, however, that, even if thought desirable, such a practice would be very difficult to carry out as a matter of routine in our best-appointed hospitals, while in private practice it would be even less feasible. Moreover, a careful perusal of Courmont's work itself cannot but leave one very sceptical as to the truth of his propositions. Certainly, too, so far as my own observations extend, I have seen nothing which lends support to his views. The two following cases, indeed, seem to demonstrate clearly that if we were to rely much in giving a prognosis on the amount of the agglutinating power acquired by the serum we should not uncommonly go astray. The two cases are of interest because the patients were both of the same age (16 years), and both were in-patients of St. Bartholomew's Hospital at the same time suffering from typhoid fever. Their cases could therefore be well compared. Clinically the two cases were almost exactly similar. In both the attack was long continued, lasting in the one case 35 days and in the other 31 days. In both there was also an absence of delirium and the so-called "typhoid state" and in both there was constipation. In neither case was the attack followed by a relapse, but on the contrary uninterrupted recovery took place. The cases, then, clinically were exactly similar, but, as the reproductions show, the most marked differences were exhibited by the sera charts, for while in the one case the reaction reached a height of 1.1500 in the other it was never present in dilutions greater than 1 20, and was for the most part totally absent.

DIAGRAM 6.



The figures in each case represent the maximum dilution capable of causing [illegible] of the typhoid bacilli within one hour. *The markedly different sera charts from two cases of typhoid fever which [illegible] entical, illustrating the very slight prognostic value which can be plac[illegible]*

[19] Widal Annales de l'Institut Pasteur, 1897, p. 424.
[20] Courmont Thèse de Lyon, 1897.

It is evident, then, that a very weak serum reaction even in a severe case is no bar to a complete recovery and should not therefore indicate a bad prognosis. Again, it *has been thought that a low serum reaction at the end* of the attack may suggest the probability of a relapse. None, however, occurred in the case which has just been quoted, in which the reaction was absent at this period of the disease. Also if the reaction in Cases 8 and 11 (Table VIII.) be compared it will be seen that while in both cases immediately after the attack the reaction fell to 1.50, in the latter only a relapse followed, the former proceeding at once to recovery. The only conclusion, then, which can be drawn from these facts is that no certain prognosis should be based on the intensity or the reverse of the serum reaction, and that consequently quantitative measurements, except for diagnostic purposes, are of but little value.

THE ORIGIN AND NATURE OF THE AGGLUTINATING SUBSTANCE.

We have thus far studied the agglutinating reaction from the practical point of view. Let us now turn and examine it from its theoretical aspect and consider what is the nature and the mode of origin of the agglutinating substance, and, finally, what is the meaning of the reaction. On some of these points it is impossible as yet to speak with certainty though our knowledge is steadily widening.

The agglutinin a ferment.—In the first place, as to the nature of the agglutinating substance. The evidence as yet [illegible] to the conclusion that we are here [illegible] nature of an enzyme or ferment. [illegible] often sufficient to produce their effect over enormous quantities of culture. Mr. Durham, for example, was able to prepare a serum which reacted in dilutions of 1 2,000,000, or, in other words, one drop of the serum was sufficient to agglutinate over 100 litres of culture. The fact that such sera are not commonly met with would simply mean that the amount of ferment present is, as a [illegible] tion to the boiling point immediately and totally destroys its action, while more prolonged exposure to temperatures higher than 65° C. produces a similar though more gradual result. Evaporation to dryness also leaves the agglutinating power intact. Again, like all enzymes, the typhoid agglutinins are completely precipitated by alcohol in excess. Ammonium sulphate also in saturation possesses a similar power, precipitating the agglutinins completely (Winterberg[21]), just as Kühne and others have shown to be the case with the majority of soluble ferments. So, too, as regards their behaviour towards dialysis, a similarity exists, for just as the enzymes are incapable of passing through the membrane so, too, is the typhoid agglutinin. For these reasons, then, it seems most probable that the typhoid agglutinin is really of the nature of a ferment—a view, moreover, which agrees well with the fact that neither putrefaction nor the prolonged action of digestive ferments, such as pepsin and trypsin, has upon it any effect.

METHOD OF FORMATION OF THE AGGLUTININS.

The next question which presents itself is this, How is the ferment produced?

The view which originally suggested itself, and which probably is indeed the correct one, is that the agglutinins are secreted by the body cells, much in the same way as are the antitoxines, both bodies being produced under the stimulus afforded by the invading micro organism. It should be noted, however, that recently a totally different theory has been put forward, according to which the agglutinins are a direct secretion of the bacilli themselves, the body cells taking absolutely no share in their formation.

The evidence upon which this view is based is interesting. In the first place it is a well-known fact, as Emmerich and Löw[22] remind us, that a certain agglutination of micro-organisms does take place naturally in the cultures of not a few microbes after a certain lapse of time. In a feeble degree it is not uncommonly present even in 24-hour-old cultures, hence the necessity of examining the culture itself in performing a Widal reaction, but it becomes much more marked at a later period. Thus, for example, if a typhoid broth culture be examined at the end of three or four weeks it will be noticed that the majority of the bacilli have sunk *to the bottom and that if the culture be now shaken the* micro-organisms do not re-distribute themselves through the fluid but remain stuck together in large ropy masses. It might be thought that this was possibly due to the bacilli having remained so long in contact that their flagella had become entangled, but this is not so, for if a broth culture 24 hours old be taken and the bacilli be killed by the addition of four drops of formalin the culture may be kept for weeks and months and yet whenever shaken the bacilli show no tendency to cohere but are at once redistributed through the fluid and we have the appearance of a normal broth culture. The seeming agglutination can then only be due to the fact that during their growth the bacilli have been acted upon by some body which they themselves have produced and which has so altered them that they now cohere together. But are we justified in assuming that the active body in this case is really the specific agglutinin? According to M. Malvoz[23] we are, but his experiments, confined only to anthrax, are very inconclusive, and it would seem more probable that this pseudo-agglutination is rather the result of the action on the bacilli themselves of the digestive ferment which they normally secrete, and which as their vitality diminishes gradually alters and destroys them.

Another point relied upon by the supporters of the theory is that the effect of repeated bleedings on the agglutinins is said to be different from that noticed in the case of the antitoxines. As is well known, an animal whose serum has been rendered strongly antitoxic by repeated injections may be bled repeatedly in small doses to such an extent that in a short time an amount of blood equal to the total quantity in the body may be removed. If a few days later the antitoxic power of the new blood formed to take the place of the old be examined it will be found to be appreciably the same as that of the original blood, even though no further injection of toxine has been made. This fact was demonstrated first by Roux and Vaillard[24] in the case of the tetanus antitoxine, and recently Salomonsen and Madsen[25] have confirmed it for the antitoxine of diphtheria. It can only point to fresh formation of the antitoxine from the cells of the body. Gengou,[26] however, has recently stated that as regards anthrax at least the facts are different in the case of the agglutinins, and that if an animal be bled the agglutinating power falls very rapidly and does not rise again. His statement is, however, based on very slender evidence and it is obvious that in a matter of such importance no such dictum could be accepted unless most fully proved.

At the present moment, then, it may be said that the positive evidence in favour of the view that the agglutinins are direct secretions of the bacilli, the organism merely playing a passive rôle during their formation, is insufficient. Moreover, various strong objections may be brought against it. In the first place, if the agglutinins are formed directly by the typhoid bacilli how can cases of typhoid fever occur in which the reaction is never present throughout the whole course of the disease? It may be argued that in these cases the agglutinin is excreted as fast as it is formed. But this explanation seems hardly sufficient when we remember that the urine, as indeed also the bile, very often shows no clumping power at all and never contains more than traces of the agglutinin even when the blood is very active. Thus in a patient at St. Bartholomew's Hospital whose blood reacted in a dilution of 1 2000 the urine showed no agglutinating power even when equal quantities were added to the typhoid culture. In another case, too, in which the blood gave a complete reaction in a 1 5000 dilution (and a trace in 1.10000) the urine agglutinated in a dilution of 1.10 but not higher. If, then, in these favourable cases the agglutinins are only excreted to so slight an extent it is difficult to believe that there are others in which the cells of the kidney excrete at once every trace of the agglutinin as soon as it makes its appearance in the blood. The occurrence then of cases of typhoid fever in which the agglutinating reaction remains totally absent constitutes a most serious objection to this theory of the formation of the agglutinins.

Again, certain facts in connexion with the agglutinating

[illegible]

[illegible]

reaction itself are extremely difficult to explain on this view. For instance, it is not uncommon to find that the agglutinating reaction reaches its maximum at some considerable time after the patient is convalescent. Perhaps the best example of this is given in Case 13 (Table VIII.). In this case 12 days after the temperature had reached normal for good the [illegible] reaction was obtained with a 1.20 dilu[illegible] power then gradually rose until three months [illegible] ched 1.800, after which it again began to fall. Such a fact, which is not an isolated one, can hardly be explained except by believing that the agglutinins are secretions of the body cells. For if at a time when the micro-organisms can only have been still present in very small numbers (twelfth day of convalescence) the reaction only reached a height of 1.20, how could it later have reached a maximum dilution of 1 800 through the agency of the bacilli, since the latter, even if still present at this advanced stage, could not have increased in number? Lately, too, Foulerton[27] has shown that after preventive typhoid inoculations, dead cultures only being used, the agglutinating reaction may still be present in some cases for as long as two years afterwards. It is very difficult to believe that if the reaction depended on a ferment present in the liquid and directly injected at the time of the inoculation it could remain present in the body for so long a period of time, since on this view no fresh formation could take place. How, too, can we explain on this theory the fact that certain normal sera manifest sometimes a low degree of clumping power towards the typhoid bacillus? It may, of course, be assumed that such "normal" agglutinating capacity is not brought about by means of the true specific agglutinins and that bodies, perhaps analogous to safranin and vesuvin, which even in very dilute solutions can agglutinate the typhoid bacillus (Malvoz[28]) just as chrysoidin acts on the cholera vibrio (Blackstein[29]), may be present in the blood in these cases. But of this we have no evidence and the fact that the normal serum of the horse can always agglutinate both the cholera vibrio and also the typhoid bacillus and that, as Bordet[30] shows, the bodies acting on the two micro-organisms in this case are separate, distinct, and seemingly specific, points very strongly to the view that even in normal sera we are dealing with the presence of traces of the true agglutinins and that therefore they can only be formed by the body cells.

The evidence, then, at present in our possession points strongly to the view that *the agglutinins are ferments not directly secreted by the bacilli themselves but produced by the cells of the body and especially those of the spleen, the lymph glands, and the bone marrow* (Deutsch)[31] *under the influence of the stimulus produced by the invading micro-organism.*

THE MECHANISM OF AGGLUTINATION.

Concerning the mode of action of the agglutinins—the mechanism of agglutination, in fact—we have yet much to learn. According to the view which was first put forward, the agglutinins were thought to cause the outside sheath of the bacillus to swell up and become viscoid, so that whenever the bacilli in their movements touched each other they at once cohered. This is, however, inadequate. Without doubt the bacilli are altered in some slight degree by the action of the agglutinins, though whether in the manner imagined by Gruber may well be doubted, for no swelling of the sheath can be demonstrated even by patient search in the case of the typhoid bacillus, while Roger's experiments on oidium albicans, on which alone the theory rests experimentally, are open to criticism, since his serum in all probability contained lysines as well as agglutinins. But the mere fact that dead bacilli can be agglutinated as easily as living ones shews clearly that the clumping of the bacilli does not depend *fundamentally* on any increased adhesiveness of the sheath (even if this be present), but must be brought about rather by variations in the intermolecular forces, which result from the delicate alterations produced in the bacilli by the action of the agglutinins.

THE RELATION OF AGGLUTININS TO LYSINES AND THE CONNEXION OF THE FORMER WITH IMMUNITY.

Let us now consider what is the meaning of the reaction. As it occurs in typhoid fever the agglutinating reaction is obviously, as Widal has long maintained, a reaction of infection, for it is produced as a direct result of the invasion of the typhoid bacillus. But may it be more? May it also have a connexion with immunity, as Gruber has from the first believed, and may we thus reconcile to some extent the two diverging views? Emmerich and Löw[32] are of this opinion, and they believe that it has the most intimate connexion with the development of the bactericidal power, on which acquired immunity and recovery from the disease so closely depend. In short, agglutination, according to them, is nothing more than the first stage in the destruction of the bacilli. Under the influence of a single enzyme the sheath, they affirm, first swells up and later the bacilli are gradually destroyed.

This view is delightful from its very simplicity, but nevertheless it presents the very gravest difficulties. In the first place, if agglutination is but the first stage in the destruction of the bacilli, and if, as seems certain, recovery in a case of typhoid fever really occurs through the development of bacteriolytic properties, then it seems difficult to understand how cases can and do recover without the blood ever acquiring agglutinating power. Further, Neufeld[33] in a case of this kind was able definitely to prove that though the serum possessed no agglutinating capacity, yet it did possess very considerable preventive or bacteriolytic power, a minute quantity of the patient's serum protecting a guinea-pig from an otherwise fatal peritoneal injection of typhoid culture, while four times the amount of normal serum had no effect on a control animal. An exactly [illegible] obtained by Pfeiffer and Kolle[34] with [illegible] The serum in this case possessed [illegible] perties whatever, but bacteriolytic qualities to a remarkable degree.

[illegible] therefore, that a serum may be strongly [illegible] without being agglutinative [illegible] also may occur. It may agglutinate, str[illegible] bacteriolytic properties. This was first [illegible] and Otto, who by feeding guinea-pigs c[illegible] typhoid c[illegible] were able to render thei[illegible] in dilutions of 1.200 and upwards, and yet, out of 15 animals examined only three showed any [illegible] properties whatever. Similarly Widal and Sicard, [illegible] on frogs, were able to show that after an injection of typhoid bacilli the latter remained in the tissues for long periods and could 35 and 40 days later be recovered in the lymph sac alive and with their virulence unimpaired at a time when the lymph itself showed an agglutinating power of 1.1000. Lastly, the lack of correspondence between the agglutinative and preventive powers in animals inoculated with the typhoid bacillus has been clearly brought out by Deutsch[37] in his careful observations. To take but one example. If we compare the five sera in his table which had the highest preventive value (0·05) we notice that the agglutinating capacity of the same sera varied between 1 40 and 1.1500 instead of being identical in each, as on Emmerich and Löw's theory it must have been. From a consideration of these facts one result stands out clearly—namely, that agglutinins and lysines are absolutely distinct. Consequently [illegible] theory in its original form cannot be maintained. It is true that as a rule both bodies are most often present together, so that a serum which is highly agglutinative is generally also highly bacteriolytic; but this does not by any means always occur; and to say therefore that because a patient's serum agglutinates therefore it *ipso facto* also contains bacteriolytic properties and that consequently the patient is protected against typhoid fever is clearly an error.

Agglutination, then, is a reaction of infection. But at present we have no direct evidence *proving* that it takes a share in the production of immunity, probable though this is. It may be, as Bordet[35] states, [illegible] bacilli are more sensitive than others to [illegible] alexines, or bactericidal bodies, and that the object of agglutination is therefore really to prepare the way for the action of the latter. This, however, is not yet proved, and meanwhile we must remember that a patient or an animal may be rendered

[27] Foulerton. Middlesex Hospital Journal, October, 1899.
[28] Malvoz. Annales de l'Institut Pasteur, 1897, p. 552.
[29] Blackstein: Münchener Medicinische Wochenschrift, 1897, Nos. 44 and 45, p. 1097 and 1103.
[30] Bordet. Annales de l'Institut Pasteur, 1899, p. 225.
[31] Deutsch. Ibid., September, 1899.
[32] Emmerich and Löw: Zeitschrift für Hygiene, 1899, xxxi., p. 1.
[33] Neufeld: Ibid, 1899, vol. xxx.
[34] Pfeiffer and Kolle: Centralblatt fur Bakteriologie, 1896, vol. xx., p. 129.
[35] Fränkel and Otto: Münchener Medicinische Wochenschrift, 1897, No. 39, p. 1065.
[36] Widal and Sicard: Comptes Rendus de la Société de Biologie, 1897, p. 1047.
[37] Deutsch: Annales de l'Institut Pasteur, September, 1899.
[38] Bordet: Ibid., 1899, p. 225.

absolutely immune to typhoid fever or cholera without the blood ever acquiring definite agglutinative properties at all, so that agglutination in the ordinary sense cannot be essential to the production of immunity. Possibly, however, even in those cases traces of the agglutinins may by slightly affecting the bacilli further the action of the lysines, and thus assist in bringing immunity about.

Bacteriolytic power.—We have seen, then, that in cases of typhoid fever the blood of the patient in the great majority of [illegible] bacteriolytic or ba[illegible] d, as demonstrate[illegible] and Widal,[illegible] d, on the acquisition of this power recovery chiefly depends. It should be noticed also that while the mode of origin of the agglutinins is open to discussion, our knowledge concerning the lysines is much more explicit. Thanks to the discoveries of Bordet,[illegible] Pfeiffer,[illegible] and Ehrlich,[illegible] it is now certain that for a serum to possess bacteriolytic properties two bodies must be present in it; first, a body of the nature of a digestive ferment, in no wise specific but present in minute quantities in normal serum, and to which Ehrlich has given the name "complement" or "addiment"; and secondly, the specific "immune bodies," side chains secreted directly from the cells of the body, and formed especially in the spleen, lymph glands, and bone marrow (Wassermann), as the result of the stimulus afforded by the presence of the specific micro organism. The function of these latter bodies is to bring the addiment or digestive ferment, present only in minute traces, into direct connexion with the micro organisms, a process effected, as Ehrlich has shown, by their possessing two different haptophoric groupings, the one impelling them strongly to unite with the bacteria (or red corpuscles in the case of hæmolysis) and the other joining them to the addiment. In this way the ferment which of itself would have but the feeblest power of acting on the bacilli, since only traces of it are present, is brought into immediate contact with the micro-organisms and its digestive action becomes at once apparent.

Antitoxic power.—Lastly, with regard to antitoxins. Is there a formation of this also and does the blood acquire antitoxic as well as agglutinative and bacteriolytic properties? At present we have no evidence whatever that such formation takes place. Sanarelli,[illegible] Pfeiffer and Kolle,[illegible] and Funck,[illegible] are all agreed on this point, and the result of their observations both on typhoid patients as well as on immunised animals shows that, just as in cholera, so also in typhoid fever, antitoxines if developed are formed only in such small quantities that their presence cannot be demonstrated. From analogy we should expect that some formation would take place and it may be that, though the cells secrete enough to neutralise the typhoid toxine, yet no hyper-secretion of these side chains takes place. At any rate, the fact remains that in typhoid fever the blood never acquires active antitoxic power.

Blood.—If, then, we picture to ourselves the delicate changes which occur in the blood of a patient during the course of typhoid fever we should say that very early in the disease, as a rule during the commencement of the second week, agglutinative properties are in general acquired. But the date at which the agglutinins appear, the amount in which they may be present, and the length of time during which they may persist are subject to extraordinary variations. The reaction is undoubtedly one of infection, and its connexion with immunity, though probable, has not as yet been proved. A little later in the disease bacteriolytic properties make their appearance, and with the gradual increase in their acme not the further growth of the bacilli in the body is checked, and finally the latter are gradually digested and destroyed. But even now the disease is not quite at an end, for the toxines set free by the destruction of the bacilli have first to be dealt with. In part they may be neutralised by antitoxines, but of this as yet we have no direct evidence, in part they are probably excreted by the usual channels and thus eliminated from the body.

TREATMENT.

During the last few years, then, our knowledge concerning the pathology of typhoid fever has materially increased. We know now that the disease consists in a general infection of the body by the specific micro organism, instead of being a merely local disease as was once imagined. In addition to this we are beginning to gain a definite insight into the changes which take place in the blood and tissues as the result of the presence of the bacillus, and which eventually lead to the destruction of the micro-organism and recovery from the disease. Unfortunately, so far a similar advance has not as yet been made in the domain of treatment. The anti-typhoid serum, from which at first much was hoped, has not answered to its expectations, possibly because the serum so produced has only possessed bacteriolytic qualities and not antitoxic properties as well.

Preventive inoculation.—The method of preventive inoculation, indeed, worked out by Professor A. E. Wright[illegible] offers more immediate prospects of success. By means of similar injections of dead cultures animals may be rendered immune against an otherwise fatal dose of the living virus through their blood having acquired the bacteriolytic and other properties which are normally present in the human organism after an attack of typhoid fever. If, therefore, the virus be properly standardised, and a sufficient dose be injected, there is every reason to believe that immunity against the disease can be regularly acquired in man, though how long this immunity may last we cannot as yet say, a mere examination of the agglutinating power of the blood being in no wise sufficient to determine the point. The results of the method so far published are at least encouraging, the percentage incidence of the disease in nearly 3000 cases having been reduced from 2.5 per cent. among the uninoculated to 0.05 per cent. among the inoculated. The mortality also was somewhat less.

THE VALUE OF UROTROPIN IN TYPHOID FEVER.

In one other direction also progress has been made. Our knowledge concerning the infectious character of the urine has led almost at once to the introduction of a drug which eliminates this danger altogether. I allude to urotropin, and I desire, in conclusion, to bring before you the marvellous effects which are produced by its administration in cases of typhoid bacilluria and cystitis, though I may say at once that my own observations do but confirm the results already obtained in this field by Richardson. Urotropin is formed by the action of formalin on ammonia and was introduced six years ago into medical practice by Dr. Arthur Nicolaier[illegible] as a urinary antiseptic. It was soon found to have considerable value in checking the decomposition of the urine in cases of ammoniacal cystitis, the effect being due, as Dr. Nicolaier has shown, to the liberation of free formalin from the drug after its passage into the urine. It is true that in the acid cystitis produced by bacillus coli it is almost without effect, so that it cannot be regarded, as some at first hastily thought, as a specific for all forms of urinary infection. So far, however, as one variety is concerned it does deserve the name. I allude to its effect on the true typhoid infection of the urinary tract. Attention was called to this matter last year by Richards[illegible] who in nine cases found that the typhoid bacilli rapidly disappeared from the urine after its use, and from my own observations I can now certainly support his results.

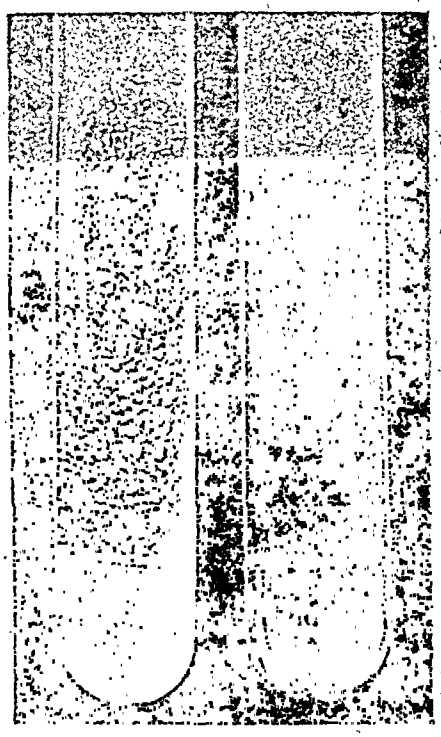
It would be unbecoming on this occasion, even if time permitted, to describe in detail my observations—these I have placed in an appendix—but I think that the following reproductions of photographs represent more clearly than any figures can do the valuable action of the drug.

Photograph 1 (Fig. 1) (Appendix, Case 1.) shows two tubes of gelatine. Tube A, that on the left was received on the twenty-fourth day of the illness with two drachms of the patient's urine. A pure culture of what proved to be typhoid bacilli developed (the opaque stripe) at approximate of the cylinder being due to their having sunk a little from the surface into the gelatine owing to the very low temperature). The patient was then put on urotropin, 10 grains three times a day, and on the twenty-sixth day of his illness, after 32 grains of the drug, the two

[illegible]

[illegible]

FIG. 3 (APPENDIX, CASE I.).

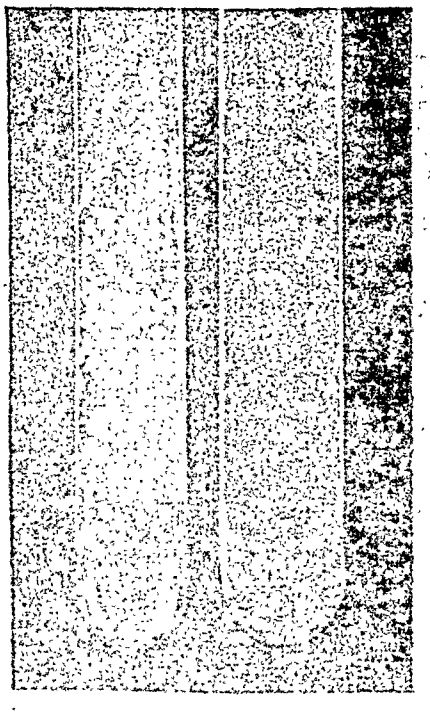


A B

The tube on the left (Tube A) represents a gelatine tube over the surface of which two drops of urine were spread. Many typhoid colonies have developed. (The opaque atypical appearance of the colonies is due to their having sunk a little into the gelatine, owing to the very hot weather.)

On the right Tube B shows a second tube over which two drops of urine from the same patient were spread, but after 30 grains of urotropin had been taken. Nothing has grown.

FIG. 4 (APPENDIX, CASE VI.).



A B

The tube on the left (Tube A) shows a gelatine tube over which a *trace* of urine was spread. Very many typical typhoid colonies are seen.

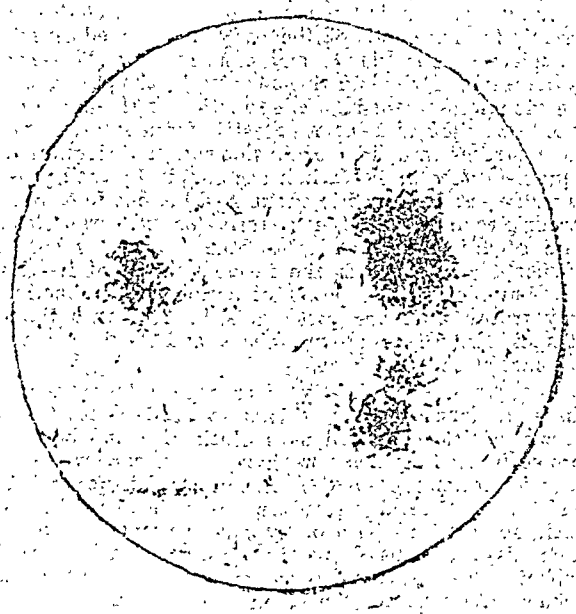
On the right Tube B shows a second tube over which *three large drops* of urine from the same patient were spread, after 30 grains of urotropin had been taken. Nothing has grown.

taken, cultures were again made. The photograph on the right shows such a one made with two drops of urine. Nothing, however, grew. The typhoid bacilli had all been destroyed and eliminated, and though the drug was stopped after 60 grains had been given, cultures made on four subsequent occasions never showed any return of the micro-organisms.

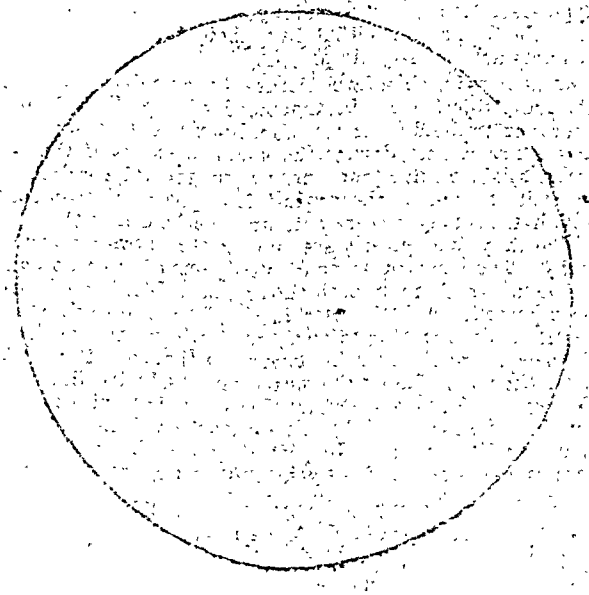
Photograph 2 (Fig. 4) (Appendix, Case VI.) shows a somewhat similar result. The photograph on the left represents a gelatine tube inoculated with a *trace* of the urine of Sept. 16th (the fifty-first day); a pure culture of typical typhoid colonies is seen. The patient was then put on urotropin (30 grains ter die) and the photograph on the right represents a gelatine tube over the surface of which *three large drops* of urine were spread, the urine having been obtained after 30 grains of the drug had been taken. The cultivation has proved sterile. The typhoid bacilli had been eliminated and destroyed. The drug was, however, continued until 120 grains had been given (four days in all), but the typhoid bacilli did not return, as proved by subsequent cultivation of the urine.

Photograph 3 (Fig. 5) (A) and (B) (Appendix, Case V.)

FIG. 5 (APPENDIX, CASE V.).



a



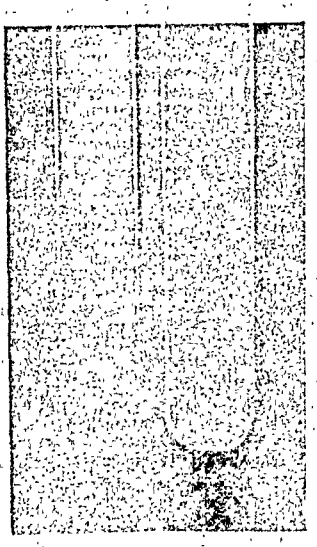
b

Photograph *a* shows a drop of the urine dried and stained before the administration of the drug. Innumerable typhoid bacilli are seen. Photograph *b* shows a drop of the urine passed after the administration of 30 grains, dried and stained as before. No bacilli are seen and cultures proved their absence.

represents the same result, but in a somewhat different way In this case a drop of the urine itself was stained before and after the administration of 30 grains of the drug. In the one case enormous numbers of typhoid bacilli are seen, in the other none are visible. Cultures also showed their absence. The drug was continued until 120 grains had been given and was then stopped; the bacilli, however, did not return.

Photograph 4 (Fig. 6) (Appendix, Case III.) shows the mar-

FIG. 6 (APPENDIX, CASE III.).



On the right a test-tube full of turbid bacilluria urine is seen, on the left the clear urine passed about 15 hours later, after only 20 grains of the drug had been taken. The absence of the bacilli was confirmed by culture. (The reproduction does not do justice to the contrast, which was well exhibited by the photograph.—Ho. L.)

vellous naked-eye change which is produced in the urine by the administration of the drug. The photograph on the right represents the urine itself, on the eighteenth day, turbid as it was with bacilli. That on the left shows the test-tube full of urine passed on the following day after 20 grains only of the drug had been taken. It was now quite clear to the naked eye. Cultures also made with three drops of the urine showed no growth. Further examination, however, proved that in this case a few bacilli were really present, even after 60 grains had been taken, and that, therefore, to be quite certain of curing the condition, it would always be wise to continue the use of the drug for a week.

The photographs which I have shown happen to deal with cases of bacilluria, but in cases of typhoid cystitis, as the detailed record of the cases shows, the effect of the drug is almost as instantaneous, the pus as well as the bacilli disappearing within one, or at most two, days.

If, then, we sum up the effect of the drug on cases of typhoid bacilluria and cystitis we may say that the immediate effect of the drug is extraordinary. If the urine has been turbid before with bacilli, at the end of 24 hours—that is to say, after 30 grains have been given—the urine will now be found quite clear. Possibly cultures may reveal a few bacilli, but this is not always the case. So marked and immediate, indeed, is the effect of the drug that, if the urine is not clear at the end of 24 hours, we may at once suspect most strongly that the bacilles present is not the typhoid bacillus but one of the varieties of bacillus coli. If the drug be continued a permanent cure will be effected (unless possibly in the event of reinfection from the blood). Such a permanent cure may sometimes be effected by 60 grains of urotropin, but to make certain it would be well always to continue the drug for at least one week.

Under what circumstances, then, should the drug be given in cases of typhoid fever? Evidently whenever a urinary complication due to the typhoid bacillus has occurred. But seeing that at the present time the bacilluria and even the cystitis most often passes unnoticed from the patient complaining of no symptoms, and seeing that they are always a source of danger, the question arises whether the drug should not be given (30 grains daily) in all cases of typhoid fever, throughout its whole course and during the first three weeks of convalescence, as was first suggested by Richardson, with the intention of preventing these complications. It should be added that, taken in such doses, and during such a prolonged period, the drug produces no ill effect beyond occasionally some urethral pain if the urine is allowed to become concentrated. It may be combined, too, with any ordinary medicine, and therefore interferes in no way with the usual treatment of the disease. The routine use of the drug, therefore, would seem to be strongly indicated, for no nursing, however good, no care taken with the urine, can possibly prevent some soiling of the linen and the possible spread of infection if the case be one of typhoid bacilluria. In hospital practice, however, with good nursing the matter is of less importance. In private practice the case is very different. I do not here refer to cases treated in the houses of the rich but rather to those occurring in the squalid dwellings of the poor, to those sad cases where whole families live in single rooms, and where the spread of infection from the sick to the healthy is no fiction but an actual fact, and one, too, which is becoming more generally recognised.[*] Since in all probability in such cases, as I have elsewhere pointed out, the urine rather than the fæces is chiefly at fault, it is permissible to hope that by eliminating the former source of danger altogether a very sensible diminution in the spread of the disease may in time be brought about.

I have now brought to a conclusion the task with which I have been entrusted. In expressing my deep sense of the honour thereby conferred upon me by the College I desire also to record my gratitude to the Physicians and Pathologists of St. Bartholomew's Hospital for the help which they have at all times given to me in my work. If I have succeeded in any way in carrying out the wishes of the founder of these lectures it is to their unvarying kindness that I must attribute my good fortune.

APPENDIX.

The following cases of typhoid bacilluria and cystitis treated with urotropin demonstrate clearly that in this drug we possess, as Richardson first stated, an almost specific remedy. To be certain of effecting a cure the drug should be given for a week (10 grains three times a day) though often very much smaller amounts are in reality sufficient. The urine in the following cases, the patients with one exception all being males, was passed directly into a sterilised vessel, and cultures were then made on gelatine or agar. One tube received one drop of urine and a second three, or more.

CASE I. (Luke Ward; Dr. Gee).—The patient was a male, aged 21 years. He had an attack of typhoid fever of medium severity. On Sept. 5th, 1899 (the twenty-fourth day), the urine was obtained and was found to be clear, acid, and to contain no albumin, but cultures made from two drops of the urine revealed a pure culture of typhoid bacilli (Fig. 3). On Sept. 6th the patient was put on urotropin, 10 grains ter die, the drug being stopped on the 8th, after 60 grains had been given. On the 7th (the twenty-sixth day of the disease) three drops of the urine proved sterile on cultivation. On the 8th (the twenty-seventh day) the same result was obtained with eight drops. The temperature reached normal on the 9th and the urine though tested by cultivation on four subsequent occasions (Sept. 12th, and 23rd and Oct. 5th and 16th) never showed any return of the typhoid organisms. In this case, then, not a very severe one, the bacilli were entirely eliminated after 30 grains of urotropin and they never returned, though only 60 grains were given in all. The following case is also somewhat similar, though unfortunately it was not followed up after the cessation of the drug.

CASE II. (Hope Ward; Dr. Gee).—In this case, the only female case recorded, the urine was drawn off by catheter. The patient had an extremely severe attack of fever followed by a relapse. The temperature was, however, [illegible] when on Oct. 4th, 1899 (the fifteenth day of the disease)

[illegible]

that it has continued to be endemic in that province since. A notable fact connected with this centre is that notwithstanding the backward condition of sanitation in China the tendency of plague to spread from Yunnan has been so slight, even in the presence of a large rebellion in the province, that it has taken more than 50 years to pass from Yunnan to Canton, a distance of not more than 1000 miles. For several years previously to its arrival in Canton it had spread to smaller towns but had never assumed any large epidemic proportions. In 1894, however, the disease obtained a thorough hold of Canton and destroyed in a short time 80,000 of its inhabitants out of 1,000,000. Since 1894 plague has prevailed more or less in Northern and Southern China, Formosa, Japan, India, the Philippines, Honolulu, the Mauritius, Jeddah, Alexandria, and Oporto, and has made its appearance in Southern and Central America, on the eastern coast of South Africa, and in Australia. True, it is only in India, China, Formosa, and the Mauritius that plague has assumed an epidemic form of any dimensions, but its expansion over different parts of the world is a fact the significance of which has to be carefully considered and the importance of which is not to be minimised by its apparent powerlessness to cause a destructive epidemic. The general mildness and circumscribed limitations of the indigenous cases which have sprung up outside Asia in those places into which plague has been imported tend to give rise to the impression that the plague no longer possesses, except among Asiatic races, its power of mischief, but against this is to be pointed out the fact that, with the exception of the Black Death in the fourteenth century the ordinary behaviour of plague in new localities is slow and insidious, and that its hold on a locality is not necessarily to be measured by the effect produced on its first arrival or even on its second or third manifestation. We have a good illustration of this in Calcutta, in which plague cases have existed on and off since 1896, and it is only now in 1900 that the cases are beginning to assume higher proportions. The Great Plague of London, again, was but the culminating stage of several previous epidemics occurring at various intervals of time over some 70 years, none of which were free from a few cases of plague. As in a localised epidemic, even when severe, the disease is noticed to confine its energy in the early stages to a small portion of a city and but slightly to affect districts distant from this centre until a considerable time has elapsed or perhaps not until the plague has disappeared altogether from the locality first affected, so also plague in its epidemic or pandemic form sometimes advances in a similarly halting fashion, acquiring slowly and gradually a sure foundation for its future progress wherever conditions exist favourable to its development.

SOME CAUSES OF OBSCURITY AS REGARDS MODE OF EXTENSION.

Modern systems of rapid communication by which intelligence of events occurring in different parts of the world become quickly known, combined with a more accurate knowledge of the disease, place us to-day in a much more advantageous position for watching the broadcast sowing of the seed preparatory to its ripening than was possible in the olden days, and probably it is to the absence of this means of intelligence in past times that so much confusion arose regarding the sources and origin of epidemics. But even with the advantages named it is a curious fact that the manner in which a locality becomes infected can seldom be determined, and in the investigations which have been carried out to decide this question the cases which were supposed to be the first are almost invariably found to be preceded by other cases until the record goes back to a time when nothing can be definitely settled. Bombay, Alexandria, and Oporto are examples. There can be no doubt that the disease was imported into these towns, but when and in what way are unknown. Conjecture has always to fill up the gap unless in those exceptional cases in which the imported disease catches on immediately. Investigation on systematic lines will alone clear up satisfactorily these obscurities. In the meantime the mystery attaching to the origin of plague in many localities may be partly explained by the fact that until recently the various types of plague were not clearly defined and consequently easily escaped recognition, and partly to the fact that the disease is disseminated by animals, especially rats. These are factors which certainly play an important rôle in the spread of this insidious disease.

Of the varieties of plague the ambulant, the fulminating, and the pneumonic are the most difficult to diagnose. The ambulant is apt to be overlooked because of the mildness of the symptoms. There are slight fever, malaise, headache, congested eyes, and a glandular swelling, but the sickness is often short in duration and does not attract any particular attention. The fulminating type and the pneumonic type are severe and fatal forms of plague, often without buboes, and are specially likely to be taken for other diseases, the latter being mistaken for some severe affection of the lungs. An acquaintance with the fact that there are different types of plague does not assist to any great extent unless these types are diagnosed when met with and it must be confessed that owing to the deceptive characters which they assume there is great risk of them being not recognised.

The importance of the dissemination of plague by rats is only gradually being appreciated. It is a well-attested fact and has in numerous localities been the precursor of an extensive outbreak. The rat plague is also slow in its progress and it must not be imagined that it is just previously to the rats dying in their hundreds and thousands that plague is imported into the locality; the origin has to be sought at a much earlier period when mortality occurs only among one or more rats in groups. It was a well-known fact among the ancient Hindoos that when rats began to die in a house it was time for the inmates to leave their abode. Rats when they sicken with plague leave their holes and come out into the open. They look ill and are in a dazed condition, their eyes are watery and bleary, their coats are partially deprived of hair, and they hobble about with difficulty and stagger and fall. They make very little attempt to escape when approached and their behaviour is so extraordinarily different from what is usual that the illness from which they are suffering may be at once suspected. The glands of plague-infected rats are enlarged and these, together with the internal organs and blood, contain plague bacilli. It is not safe to handle rats which are either suffering, or have recently died, from plague.

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SPECIAL DANGER TO OTHER COUNTRIES DURING THE EARLY AND LATE STAGES OF AN EPIDEMIC.

Great importance has always been attached to the danger of the extension of plague when a town is in the throes of an epidemic, but probably there is more danger to countries communicating by sea with an infected port at the beginning or decline of an epidemic than when it is at its height and everyone is in a state of alarm and strict precautions are taken both at the infected port and the healthy port. In the early stages, while there is no suspicion of the disease existing, the infection may readily be transported to other countries, and it depends on whether the imported cases are at once recognised or not as to the disease having a chance of being disseminated. In September, 1896, two cases of plague occurred at the London Docks in ships that left India before plague was even suspected to exist in that country. Early recognition prevented extension. Let us suppose for a moment that the disease had not been recognised and, having found a favourable soil, had spread; then the simultaneous or almost simultaneous appearance of plague in London and Bombay would have perplexed everyone. In 1899 three cases of plague occurred in Asuncion in Paraguay among Portuguese sailors who arrived from Oporto nearly two months before the disease was suspected to exist in Portugal. The disease was not recognised as plague, and if suspicion had not been aroused that one of the cases was yellow fever, for which the authorities were at that time on the watch as it was present in Buenos Ayres, the two deaths would have passed unnoticed and the clue to subsequent events would have been lost. As these cases are interesting from a diagnostic point of view and illustrate the ease with which a centre of infection can be established, I shall give a short account of them.

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A CASE OF SPONTANEOUS RUPTURE OF THE HEART AND HÆMORRHAGE INTO THE PONS VAROLII.

BY PERCY T. GOODMAN, L.S.A. LOND.

ALTHOUGH cases of rupture of the heart have on various occasions been recorded, this lesion is yet sufficiently rare to render apology unnecessary for another account of its occurrence. In the following case the concomitant hæmorrhage into the pons Varolii adds greatly to its interest, such a coincidence being extremely unusual, if, indeed, it has ever been previously chronicled.

On the afternoon of March 21st, 1900, a woman, who had appeared to be quite well in the morning, went out in company with another woman. The day was the anniversary of her first husband's death and also of her second wedding, so in order to celebrate the double event they entered a public-house and had some brandy. She had not been in [illegible] to have been [illegible] he complained [illegible] the right side [illegible] and found her in a state of profound coma. Her breathing was stertorous, her face was flushed, and her pupils were strongly contracted and insensible to light. The conjunctival reflex was quite abolished. The right side of the face seemed flattened, but there was no means of testing the limbs for paralysis. A strong smell of alcohol emanated from the mouth. The pulse was full and of very high tension. On auscultation, owing to the loudness of the breathing, the heart could only be listened to with difficulty, but there seemed to be a modification of the first sound resembling a faint murmur. Every available means of rousing her was tried without success, and in view of the possibility of narcotic poisoning a hypodermic injection of one-fifteenth of a grain of apomorphine was administered, producing immediate vomiting, the vomited material consisting of partially digested food and smelling strongly of spirits. Death occurred at 10 P.M., and the pupils were then seen to be moderately dilated. The woman had suffered from rheumatic fever some years before and had for several months complained of [illegible] and there was no history [illegible] to a suspicion of syphilis. [illegible] a hæmorrhage was found in the substance of the pons Varolii chiefly on the left side, where it was as large as a walnut and was beginning to extend into the cerebellum. The arteries of the brain appeared to be quite normal to the naked eye and there was nothing to denote injury to the cranium. Early tuberculosis was found at the apices of both lungs. On opening the pericardium, which was not greatly distended, about six ounces of blood were seen within the sac, and on the anterior surface of the left ventricle a rupture was discovered two and quarter inches in length, terminating below over the septum near the apex. This rupture was incomplete along its upper two inches, where it involved the outer part of the ventricular wall only, and might be more accurately described as a series of short rents in a line with one another running obliquely downwards from left to right parallel to the muscular fibres. The edges of these rents were ecchymosed. In the lowest quarter inch the rupture was complete, opening into the left ventricle and through the septum into the right ventricle, being sufficiently large to allow of the passage of a probe into these cavities. The coronary arteries were apparently normal and there was no evidence of embolism or abscess. The heart was quite empty and the valves were all perfectly healthy. On section the heart muscle was somewhat paler than normal, but there was no macroscopic sign of fatty degeneration. Along the rent the section presented an appearance strongly resembling the muscular pectinati of the auricular appendages. There was a good deal of congestion in the other organs, which were otherwise normal.

Spontaneous rupture of the heart is described as being an affection almost exclusively of advanced age, generally immediately traceable to some muscular effort or mental disturbance, and men are said to be more liable to it than women. In this case the patient was a woman of middle age, and there appears to have been no extraordinary manifestation of muscular activity which could have produced the lesions described. I do not think that the strain of vomiting was great enough to produce a rupture even in a very much softened heart. People who saw the patient before the attack state that she did not seem to be at all excited; but it is possible that the conflicting emotions aroused by the recollection of her second wedding day and of her first husband, together with the unaccustomed beverage of which she partook, gave rise to a state of mental perturbation great enough to be the originating factor of the lesions which caused her death. That there were no symptoms such as præcordial pain may be accounted for by the supposition that the hæmorrhage into the pons Varolii was the first thing to occur, resulting rapidly in complete unconsciousness, although, on the other hand, the alteration in the first heart-sound (the valves being healthy) would suggest that some change had already taken place in the cardiac muscle. It would seem in this instance that some degenerative process not obvious to the naked eye had been going on both in the heart muscle and in the arteries—possibly as a result of the previous acute rheumatism—which led to their almost simultaneous rupture on the blood pressure becoming suddenly raised. The position of the rent is of great interest, opening as it did into both ventricular cavities and involving a small portion of the septum. Another point worthy of note is that the similarity of the symptoms of hæmorrhage into the pons Varolii with those of opium poisoning was heightened by the dilatation of the "pin-point" pupils at death, showing that this may occur equally in the one case as in the other.

Brick lane, E.

EXPERIMENTS ON INTESTINAL SUTURE.

BY WALTER EDMUNDS, F.R.C.S. ENG.,

AND

EWEN C. STABB, F.R.C.S. ENG.

(*From the Brown Institution.*)

THE following experiments were made to help in determining the best method of circular suture of intestine.

The methods contrasted were by use of (1) Halsted's inflated rubber cylinders; (2) Murphy's button; and (3) Laplace's intestinal forceps. Seven experiments by each method were made on dogs, with the result that all the seven dogs in which the intestine after complete division was re-united circularly by the aid of Halsted's cylinders recovered; of the seven experiments with Murphy's button only five were successful; and of the seven with Laplace's forceps only four were successful. The failures were all due to non-union.

As far, then, as our actual results go the verdict is entirely in favour of Halsted's inflated rubber cylinders. This coincides with the opinions which we formed while making the experiments. The effect of the inflated cylinder is to push back the mucous membrane which otherwise always events itself so much as to interfere materially with the suturing of the outer coats and the adaptation of the peritoneal surfaces. The cylinder also prevents the escape of the intestinal contents, thus dispensing with clamps of any kind.

Murphy's button does not appear to be trustworthy unless external sutures are applied, and this in our experiments we did not do. If this is done the time of the operation is lengthened and the instrument is in some degree reduced to an apparatus for facilitating the application of sutures. It may here be mentioned that the animals did not recover so quickly after the use of Murphy's button as after Halsted's operation. After the latter they passed formed stools on the next day, whereas with Murphy's button only liquid stools were passed for two or three days, and danger came to be considered to be over [illegible] the button is passed, which occurs [illegible] with [illegible]

With respect to Laplace's forceps [illegible] not like the instrument. It certainly [illegible] satisfactorily and as may be stated [illegible] made with its aid [illegible]

The first of these experiments [illegible] Mr. G. A. [illegible] allowed us to [illegible]

occludes the axillary space, and the infiltration may become so extensive and organised as to form a hard mass which may interfere with the respiratory movements or become a dangerous slough. The position in bed is always one which tends to relieve as much as possible any tension on the bubo. Ordinarily consciousness is retained, but even apparently with the most perfect consciousness the intellect seems slow in answering questions, the words or sentences being articulated in a hesitating manner, each syllable being pronounced slowly or the speech is staccato in character and uttered in a hurried and irritable tone. The temperature is not characteristic. It may reach its maximum in a day or two or not until the fourth day. It is of a remittent nature and in favourable cases begins to decline on the sixth and seventh day and reaches the normal on the tenth day. The symptoms usually attain their height on the fourth day. Restlessness, with desire to get out of bed and wander, is often a prominent symptom. Dyspnœa and delirium of a quiet or a noisy nature set in, followed in unfavourable cases by coma and gradual or sudden failure of the heart's action. The pulse, which is soft and easily compressible at the outset, becomes intermittent and dicrotic and often difficult to count, and the patient's extremities become cold and clammy. Recovery usually sets in about the six or seventh day, but no prognosis is safe in the early days of illness. The bubo resolves or more frequently suppurates. By puncturing the bubo even at its earliest stage a small quantity of the gelatinous contents can be sucked out with a sterilised glass pipette guarded at the mouth end by sterilised cotton-wool. If the contents so obtained are then spread out on a glass slide or cover-glass, gently heated as in the ordinary preparation of a microscopical specimen, coloured with carbol fuchsin or gentian violet, and then examined by a $\frac{1}{12}$th oil immersion lens, the field will be seen to be covered with cocco-bacilli or diplo-bacteria, large numbers of them being more deeply stained at the ends than in the centre. No other disease with swollen lymphatic glands presents microbes such as these. Their presence is sufficient to arouse the greatest suspicion at any time, and the material ought at once to be taken to a laboratory where the bacilli can be cultivated and the confirmatory tests applied. When plague is known to prevail in a country the discovery of bacilli by microscopical examination, combined with the clinical features, is sufficient to make the diagnosis of plague a certainty.

In the fulminating, septic, and pneumonic types of the disease in which no buboes may be found, an examination of the blood and sputum for the characteristic bacilli is the chief diagnostic test. In the septic type the bacilli early invade the blood and the patient is prostrated with the intensity and amount of the poison which has penetrated into the system. Besides the common symptoms belonging to all forms of plague this type is characterised by a pallid and apathetic expression and a rapid setting in of extreme nervous prostration, delirium, coma, and death, the patient often suffering from hæmorrhages from the nose, kidneys, or bowels. In the pneumonic type the bacilli are to be detected in the sputum, the disease localising itself at first in the lungs. The symptoms are those of a broncho-pneumonia with much greater prostration. Dyspnœa, cough, and expectoration of a watery fluid tinged with blood are the chief clinical features. The physical signs are moist sounds at the base of the lungs, and the pulse and respiration are rapid, but there is not the same disproportion in their ratios as is observed in acute pneumonia. The patient usually dies on the fourth or fifth day. This type is the most infectious, the sputum teeming with the bacilli; it corresponds with the Black Death of 1348.

The post-mortem characters of all varieties of plague are distinguished by congestions and by small and large hæmorrhages of the internal organs and venous system, and by the presence of plague bacilli in the enlarged lymphatic glands and the serous or sanguinolent exudation around them, in the blood, spleen, liver, bile, urine, peritoneal fluid, and fluid of the brain. It is this universality of the plague bacillus which causes the corpses of persons who have died from this disease to be dangerous and renders it imperative that special precautions shall be taken immediately death takes place to prevent the spread of the infection. A sheet dipped in corrosive sublimate of the strength of 1 in 500 should be wrapped round the body.

THE TREATMENT OF PLAGUE.

A plague epidemic soon dispels any faith in the old methods of curative treatment. Good nursing and stimulant will do much for the patient, but the struggle is between the natural powers of the patient and the weakness or virulence of the microbe. Neutralisation of the toxin and destruction of the plague bacillus without harm to the patient are the rational objects to be aimed at in treating a plague patient and these are not attained by any of the ordinary pharmacopœial drugs. The only known method attempting to deal with the problem is serum-therapy and though Yersin's serum has fallen into disrepute since its failure, or comparative failure, in Bombay yet it appears to me that it is on that system, or some allied system, that we may hope to make any advance in the treatment of plague. An explanation of the success of Yersin's serum in the few cases in China, where in 21 cases it gave a mortality of 7 per cent., and its failure in Bombay may possibly be due to the different methods employed in the preparation of the Chinese serum and the Bombay serum. At least that is the view of the Pasteur Institute and until it is otherwise proven may, I think, be accepted. The Chinese serum was obtained from the horse by injecting it with living and virulent cultures of the plague microbes, but owing to the dangers attendant on this method the Bombay serum was prepared by injecting dead cultures. Of late a return in part to the original method of preparation has been made and the serum as now supplied from the Pasteur laboratory is obtained by injecting horses, first of all with dead cultures and then with living and virulent cultures. This is the serum that was used in the recent outbreak of plague at Oporto. Dr. Calmette and Dr. Salimbeni have published the result of their investigation into the efficacy of this serum as ascertained by them in the treatment of patients at Oporto, and there can be no doubt, as the statistics stand, that the results are highly in favour of the value of the serum. This statement, however, requires qualification, owing to the fact that the comparison is not made between patients treated in hospital with serum and patients not treated with serum, but between patients treated in hospital with serum and patients treated at home without serum. The experiment is accordingly not under the same conditions, but the results are so dissimilar that it is impossible not to give the serum considerable credit for the contrast. It appears that out of 142 cases treated with the serum in hospital 21 of the patients died, which is equal to a mortality of 14·78 per cent., while out of 72 cases treated at home without serum 46 of the patients died, which is equal to a mortality of 63·72 per cent.—i.e., the mortality in hospital was five times less than the mortality at home. Success seems to have been more certain when the serum was used in large doses and when employed intravenously; thus the best results were obtained when, at the beginning of the illness or as soon as the patient came under observation, an intravenous injection of 20 cubic centimetres of the serum was given followed by two subcutaneous injections of 40 cubic centimetres each in the first 24 hours and by subcutaneous injection of from 10 to 20 cubic centimetres, or 40 cubic centimetres on the next and subsequent days until the temperature fell to normal, and even for two days afterwards. No ill results ensued from these injections further than an occasional erythema and articular pains which were no more intense after the intravenous than after the subcutaneous injections.

PREVENTIVE MEASURES.

Of preventive measures for the medical attendant, the nurse, and the relatives who may have close association with plague patients the most important is Haffkine's plague prophylactic. Of preventive measures for a country, in addition to those recommended by the Venice Convention and the destruction of rats, the most important is that its medical men, especially its port health officers and medical officers of health, should be able to recognise plague when they see it, and for this purpose I would recommend that the same methods be adopted in England as in Germany—viz., that under the auspices of the Government there should be instituted a course of instruction on plague to be attended in batches by the medical officials of the country.

Gloucester-place, W.

BRISTOL EYE DISPENSARY.—The annual meeting of the subscribers and friends of the Bristol Eye Dispensary was held on April 3rd under the presidency of Mr. P. J. Worsley. The medical report showed that 1762 patients had been treated during 1899, against 1710 in 1898. The financial statement showed a favourable balance of £8.

quickly subsided after division of the constriction and the abdominal wound was therefore sutured and the patient was placed in bed. Recovery took place without further symptoms. The vomiting ceased, the bowels were moved on the following day, and the sutures were removed on the eighth day. On examining the patient two years later the cicatrix was found to be firm and linear without any stretching or hernia.

As to the method of strangulation in this case no difficulty can arise. It illustrates strangulation of a loop of bowel beneath a tightly adherent diverticulum, a condition of things which, according to Mr. Treves, is frequently met with. What is not so clear is whether the detention of the knuckle of gut had been of some duration—chronic partial obstruction, i.e., becoming suddenly complete and acute—or whether the incarceration was recent and the obstruction acute and complete from the first.

Devizes.

A Mirror of HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

BRADFORD ROYAL INFIRMARY.

TWO CASES OF MEDIASTINAL GROWTHS WITH SECONDARY DEPOSITS IN THE SPINAL CANAL CAUSING PARAPLEGIA.

(Under the care of Dr. H. J. CAMPBELL and Dr H. C. MAJOR.)

CASE 1.—A man, aged 23 years, was admitted into the Bradford Royal Infirmary on March 29th, 1898, under the care of Dr. H. Johnstone Campbell. The symptoms began nine weeks before and consisted almost entirely of pains until March 25th. The pains he described as occurring in the left side of the chest, in the loins on the right side, in the back between the shoulders, in the head, and, indeed, all over the body. The pain in the chest was made worse by stooping and by drawing a deep breath, but not by taking food; it was very violent and took all the strength out of him, and induced him to keep in bed most of the time; still he was quite able to get up and to walk about when necessary. Four days before admission he became unable to do so owing to weakness in the legs, which, he said, would no longer support him. Cough had been a symptom all the time but not hæmoptysis; he had not noticed any loss of flesh. The case, therefore, had been a very obscure one all along; the pains were so widely scattered without objective signs to account for them; the weakness in the legs alleged by the patient was therefore looked upon as fictitious, and he was sent into the infirmary as a case of hysteria. The family history was as follows. His father and mother lived to over 70 years of age. He was the youngest of 14 children; the eldest was an albino, the sixth died lately from "enlargement of the liver, consumption, and dropsy." There were four children living besides himself.

On examination on March 30th (the sixth day counting from the onset of weakness in the legs) the limbs were found to be wasted, but the face was not thin and the patient had not a particularly anxious expression. He could not move himself or sit up in bed owing to loss of power in the iliopsoas muscles, he could draw up his legs freely, and he needed a good deal of help from the nurses. Knee-jerks were exaggerated; there was double ankle clonus; plantar, cremasteric, abdominal, and epigastric reflexes were all absent; the pharyngeal reflex was present. Incontinence of fæces occurred on March 30th. The leg muscles reacted readily to weak faradaic currents; galvanic reactions were not ascertained. Sensibility to touch was normal everywhere; strong faradic currents, however, failed to cause pain. His chief pain was in the third left intercostal space. The spinal column was regular, freely mobile, and had no tender spots. The arms, cranial nerves, and cerebral and mental functions were unaffected. On examining the chest it was unexpectedly discovered that there were distinct physical signs of intra-thoracic growth. On the right side anteriorly there was dulness from the apex to the third rib, and there was complete absence of breath sounds there; behind no definite abnormal signs were to be discovered at this apex. The manubrium was somewhat dull to percussion and was seen to rise slightly at each heart beat. The lower part of the neck looked full and the superficial veins over the neck, thorax, and abdomen were a little dilated. The heart apex was in the nipple line and, except for uncovering of the cardiac arteriosus, the condition was normal. The pulse was 120.

On April 1st (the eighth day) the knee-jerks were very feeble and ankle clonus had disappeared. On the 2nd (the ninth day) the patient complained of his legs being numb and stiff. Examination showed complete cutaneous tactile anæsthesia in the legs and in the trunk up to the seventh intercostal space; hard pinching of the calf muscles produced a sensation but no pain. Over a corresponding area motor power was completely lost and all reflexes were abolished. The bladder was distended and retention of urine had set in. There was incontinence of fæces, digital examination a few days later proving that there was complete paralysis of the sphincter ani. For the next week he suffered from extreme thirst and there was an excessive secretion of urine, about 100 ounces being drawn off daily. There were soon signs of cystitis but under local treatment the urine became clear and acid and kept so. In the chest dulness increased at the right apex anteriorly and distant bronchial breathing appeared; the superficial veins became more dilated. Tenderness in the spine made its appearance on April 3rd (the tenth day) and was found over the fourth, fifth, and sixth dorsal spines and greatest over the middle one of these; movements of the back were now attended with great pain here. Girdle sensation was occasionally felt in the sixth intercostal space. He had no bedsore. The temperature ranged between 99° and 100° F. The pulse was usually rapid, often 140 to the minute. On April 9th the patient sank and died from exhaustion—that is, 16 days from the earliest signs of paralysis or a week from complete loss of sensation and motion in the legs.

Necropsy.—At the post-mortem examination the body was found to be wasted. On making the posterior median incision masses of soft white tumour appeared growing up around the vertebral spines in two places: (1) around the third dorsal spinous process and leading to spontaneous fracture of the sixth; and (2) around the eleventh and twelfth dorsal spines. On removing the laminæ the canal was found to be choked with growth at both situations, the spinal cord was compressed and the bodies of the vertebræ were so soft as to be easily cut with a knife. On opening the chest there was a large mass of growth in the anterior mediastinum, around the great vessels, and extending into the apex of the right lung for about three inches downwards; it had not quite reached the pleura on the posterior surface. In addition, a mass of the size of a walnut was found in the tail of the pancreas, and the lumbar glands were largely converted into soft milky growth. Each of the two masses in the spinal canal was not obviously continuous with that in the body cavity in front of it. The mucous membrane of the bladder was sloughing extensively and at one place a perforation had occurred with a fistula to the bowel, in others the peritoneal coat only was intact. There was much congestion of the vessels in the pelves of the kidneys. The growth was white in colour and soft; microscopically it proved to be a lymphosarcoma.

CASE 2.—A man, aged 32 years, was admitted into the Bradford Royal Infirmary on July 15th, 1893, under the care of Dr. H. C. Major, then senior physician to the hospital. The patient was sent in by his private medical man as a case of "phthisis and paraplegia." Having the other case in mind, this combination at once suggested the idea that perhaps it was really a growth giving rise to the spinal and pulmonary conditions. The physical examination and history of the case seem confirmed this view. The illness had lasted seven months, pains in the chest and back having been until recently the chief complaints. The pain had been situated between the shoulders, more on the left side, going into the clavicle and down the left arm, was extremely sharp, like a knife, stabbing and thrusting, and was worst at night for the first week or after going to bed. When he held his breath the pain did not [illegible]

Some of the specimens obtained may be seen in the museums of the Royal College of Surgeons of England and of St. Thomas's Hospital. When fresh they showed that the adhesions present in the earlier days after operation to a great extent disappear later.

With respect to human surgery we may here express our opinion that the difference in the thickness of the muscular coats in the intestines of dogs and men does not invalidate the conclusions above suggested. In man we recall three operations for the excision of malignant growth of the great intestine. In one case re-union was attempted (by one of us) by simple suturing and failed; in another re-union was attempted (by one of us) with Halsted's cylinders and succeeded; and in a third re-union attempted by Murphy's button with an external ring of sutures was followed by failure, but as a gauze plug had been carried down to the seat of junction only a fæcal fistula resulted which in a short time closed spontaneously.

References.—Halsted: Inflated Rubber Cylinders for Circular Suture of Intestine, Philadelphia Medical Journal, 1893. Laplace: A New Forceps for Intestinal Anastomosis, Annals of Surgery, March, 1899.

GUNSHOT WOUND OF THE HEAD; PERFORATION OF THE BRAIN; RECOVERY.

BY DAVID DURRAN, M.B., C.M. GLASG.,
SURGEON-CAPTAIN, 1ST CAITHNESS VOLUNTEER ARTILLERY.

ON March 2nd, 1897, I was called to the gun-room of the drill hall, where practice with the Morris tube was going on, to see a lad who was supposed to have been shot in the head. I was told that this lad, who had been incautiously bending forward to see the result of the shot and had thus got his head into the line of fire, had suddenly fallen down and was lying helpless. On arrival at the hall I found him on his right side, unconscious and breathing heavily. There was blood oozing from a wound on the head over the left parietal eminence. Brain matter was also observed on the edges of the wound. Examination with a probe revealed a small opening through the skull about three-eighths of an inch in diameter, the bony side being slightly irregular. The patient was conveyed on a stretcher to his house. By this time there was complete insensibility. The pupils were widely dilated and did not react to any stimulus. The pulse was 50 and the breathing was laboured. There was also an effusion under the occipito-frontalis. No exit wound could be discovered. About 36 hours after Dr. Ac[illegible] Asher, who was associated with me in the treatmen[illegible]ing to all case, discovered a small, hard object slightly move[illegible] pallia[illegible] the scalp about two inches above the right c[illegible] of this down upon and when extracted was found, extreme[illegible]ble under crushed out of shape. There was a [illegible], the p[illegible] the nose[illegible]ar. It was cut the skull of a triangular shape and [illegible] bacilli[illegible] to be the bullet inch further up than the spo[illegible]ising i[illegible] small opening through The bullet had penetrated the sk[illegible] of a bo[illegible] situated about half an bone and passing through the [illegible] spnce[illegible] where the bullet lay. parietal bone about two inches [illegible] with bull through the left parietal external auditory meatus, wi[illegible] are brain had pierced the right spent, it was unable to make i[illegible] and above and slightly behind the lodged itself between the peri[illegible] ppo[illegible]ere, its force being almost manner which I have described [illegible]. Its exit through the scalp but

The history of the case is a [illegible] ype[illegible]ranium and the bone in the consciousness and complete re[illegible]cilli. symptom which persisted long[illegible] history of gradually returning with widely dilated pupils. [illegible]s of recovery in two months. The temperature, seldom over 100° [illegible]nd last was blindness of both eyes ing from 50 to 54 for the first [illegible]s an[illegible] There was very little rise in and about a week after it reach[illegible]lli in[illegible]. The pulse was slow, rang- and sleeplessness for the first [illegible]minole fortnight when it rose to 60 sisted for three weeks with d[illegible]ile, [illegible]ed 64. There were restlessness had so little effect on them th[illegible]is u[illegible]10 days. The blindness per- tion could easily be carried out [illegible]ses latation of the pupils. Light was noticed in the retinal vesse[illegible]us at ophthalmoscopic examina- able to move about it was remark[illegible]e at all times. Little change on the right hand he kept away o[illegible]d of[illegible]ls. After the patient was the object were on the left ha[illegible] thed that in passing an object against it in passing. The effu[illegible]ver two feet from it, but if frontalis which was very large bec[illegible]d he invariably brushed This effusion, which was slight at [illegible] Pision under the occipito-

within 24 hours and no doubt lessened the pressure in the brain-vessels. The bullet had evidently passed through the ascending parietal convolution on the left side and through the angular gyrus on the right side.

At the present time, three years after the injury, the exit wound through the skull can easily be made out by a well-marked depression above the right ear but the entrance wound is not so easily found. The sight is as good as it was before the accident and there does not seem to be any permanent injury to the brain.

Thurso, N.B.

INTESTINAL OBSTRUCTION CAUSED BY MECKEL'S DIVERTICULUM AND RELIEVED BY OPERATION.

BY HENRY JOHN MACKAY, M.D. EDIN.,
SURGEON TO THE DEVIZES COTTAGE HOSPITAL.

A YOUNG woman of tuberculous family and with some consolidation of one apex was admitted into Devizes Hospital on Oct. 27th, 1897, complaining of severe abdominal pain and vomiting. The pain had commenced two days before, half an hour after dinner, and had continued with slight remissions up to the time of her reception. The pain was followed six hours later by vomiting, first of food, then of bile, and later and at the time of admission of a dark greenish-brown fluid, offensive in odour, but in which no actual fæcal matter could be detected. She had suffered from occasional bouts of pain for some months previously to the present attack and had attributed this to indigestion. There had been no epigastric tenderness and she had never brought up blood.

On admission the patient's temperature was 98·8° F.; the pulse was soft and regular and 126 in frequency; the breathing was 20, chiefly costal. The skin was warm and slightly moist. No collapse was present. There was no tenesmus and no blood was passed. Rectal examination was negative. The patient lay on her right side with the limbs semi-flexed. The pain was severe, sh[illegible] but not absolutely constant, there bein[illegible] occasional remissions of 20 minutes' duration. Vomi[illegible]ting of the character already described was frequent, without [illegible] afforded her no relief. An enema brought away a [illegible] few hard masses. The urine was diminished in quantity. It was found on examining the abdomen that there was some fulness in the umbilical region below and to the right of the navel. The flanks were relatively flat and there was no distension in the region of the colon. Vermicular movement could be seen passing across the lower part of the abdomen, and observation of this led to the opinion that it concerned a coil of small intestine. Palpation revealed deep tenderness in a spot to the right of the navel. The distended area was felt to consist of tense coils of small intestine. A diagnosis of complete obstruction of the small intestine was arrived at. Of the nature of the stoppage no opinion could be formed except that the physical signs of intussusception were absent. As to the locality of the obstacle, from the slight degree of shock present, the appearance of the abdomen, and the character of the vomit, the opinion was hazarded that the obstruction was probably in the lower half of the ileum. On making an exploratory incision on the following day several tense coils of small intestine presented. The caput cæcum coli was sought for and was found to be empty. So, too, was the adjoining lower end of the ileum. Tracing the latter upwards the gut led to a tight constriction. A cord-like structure lying deeply at the floor of the abdominal cavity bound down beneath it a knuckle of small intestine. The latter was situated roughly about 20 inches from the caput cæcum. The cord was followed upwards and was found to pass deeply and to the left to an attachment on the transverse meso-colon at a short distance from its spinal origin. This attachment was divided between ligatures and the bowel was released. The cord was then traced downwards and was found to originate from the wall of the ileum, a short distance above the ileo-cæcal valve. No appearance of patency could be made out in the diverticulum at a distance of an inch from its origin and accordingly it was divided here between

there are no tubercle bacilli in the sputum, and pain in the chest may be a prominent symptom. Other signs of mediastinal tumour should then be looked for, such as some dulness over the manubrium sterni and localised œdema and enlargement of veins in the arms, neck, or surface of the trunk.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on April 9th, Dr. F. T. ROBERTS, the President, being in the chair.

Dr. LEONARD GUTHRIE exhibited a case of Myotoma Congenita (Thomsen's Disease). The patient was a boy, aged ten and a half years, and he had been brought to the hospital on account of the awkwardness of his movements. The hands exhibited a peculiar condition of tonic spasm somewhat resembling tetany. The wrists also were flexed towards the ulnar side and the elbows were semi-flexed. When asked to grasp the observer's hand he did so with apparent effort and could not let go easily. Sometimes he could not take hold of an object without first pulling his adducted thumb outwards with the fingers of his other hand. For this reason he had a difficulty in feeding himself at times. All the muscles of the upper extremities were in some degree affected. Similar transient spasticity affected the lower extremities. His gait when starting was jerky and he had a difficulty in getting upstairs. This condition of tonic spasm varied greatly. It was always more marked after rest and lessened after exercise and when his attention was distracted from himself. The spasm persisted during sleep. He complained that his legs and arms always felt stiff, but he had no pain. The case seemed to be an early stage of Thomsen's disease although the family history of the complaint was wanting.—Dr. J. A. ORMEROD did not think the case was quite a typical one of Thomsen's disease. There was no enlargement of the muscles nor were the electrical alterations present, though the spasm was worse after rest. He referred to a somewhat similar case which like this had not manifested itself quite early in life. He was rather inclined to regard the case as one of cerebral diplegia or Little's disease.—Dr. T. D. SAVILL asked what was the effect of cold on the spasm. He referred to a somewhat similar case which had been brought before the Clinical Society of London some years back in which the spasm was brought on by exposure to cold and could be relaxed by warmth.—Dr. ROBERT MAGUIRE hesitated to regard the case [illegible] nor did he think it was Little [illegible] name such cases but he believ[illegible] be a lack of higher cerebral [illegible] centres unrestrained. There was certainly no organic disease and the patient would probably get better after [illegible] control became more developed.—[illegible] not wish to speak positively about [illegible] he spoke definitely about the electrical reactions. The spasm was a little more marked after cold. In support of the suggestion that it was in some way connected with deficient cerebral control the spasm seemed to be a trifle more marked when the boy's attention was taken away from the contracting muscles.

Dr. T. D. SAVILL showed a case which presented a curious Pigmented Skin Lesion which went on to Vesiculation, not belonging to any known type of disease, occurring in a woman, aged 24 years. She had come under his care for severe headache associated with marked visual error. One lung was also the seat of tuberculosis. For eight or nine years the skin lesions in question had appeared in succession on different parts of the limbs and trunk. Each lesion was preceded by a smarting pain followed by the appearance of an ecchymosis which subsequently swelled up and became an erythematous area varying in size from a bean to a half crown. One or two days later a vesicle or bulla containing dark-brown serum would appear on the top of the swelling. These lesions appeared in succession at irregular intervals of a few days. One or more generally came after a severe attack of headache. She had never more than two or three at one time, but at the present moment she had some 10 or 12 in different parts of the body showing different stages of the eruption. The patient was also the subject of leucodermia and in one or two instances the bullous lesion appeared in the centre of a patch of leucodermia. The condition resembled hæmorrhagic pemphigus in some respects, but it was probably a neurosis.—Dr. ALFRED EDDOWES suggested that the case was one in which there was a tendency to bruise too readily, and he referred to a case which he had seen some years ago of a woman who bruised so readily that she had a ring of bruises round the waist where her petticoats were tied. A week or so [illegible] found to be covered [illegible] had been beaten [illegible] TAYLOR suggested [illegible] would like to know [illegible] bacilli. If so the case might be an aberrant tuberculosis of the skin.—The PRESIDENT remarked that although he had had a large experience of tuberculous skin lesions he had never seen anything tuberculous like this. They ought to avoid attributing too many things to tubercle.

Mr. E. MUIRHEAD LITTLE exhibited a case of Late Rickets. The patient was a girl, aged 17 years. She was well until she was five years of age, when knock-knees appeared. When seven years old she had to take to crutches. She was said to have broken both thigh-bones, the one six and the other five years ago. When first seen, in October, 1899, her length in the recumbent position was 44 inches. The head and ribs showed signs of rickets. The lower end of the radii and ulnæ were much enlarged. There was cross-legged progression because the shafts of the femora were very much curved forward and outwards; the tibiæ were normally straight. On one knee Macewen's operation had been performed and the bone, instead of being very hard, had proved to be so soft that a mallet was scarcely necessary. Skiagrams showed the bones to be unusually pervious to x rays, as compared with those of normal bones. The quantity of calcium present in the urine was less than half the normal, otherwise the urine was normal. Similar cases recorded by Dr. P. G. D. Drewitt and Mr. H. H. Clutton were referred to. The marked enlargement of the epiphyses in these cases distinguished them from so-called rachitis adolescentium.—Mr. T. H. KELLOCK thought that this case differed altogether from rickets as met with in childhood. Possibly it might be an example of the condition which had been described under the term "late rickets," but personally he would prefer to look for some disease affecting the whole skeleton to explain all the symptoms in this case. Here it was the shafts and not the epiphyses of the long bones which were so much affected that they were markedly curved and distorted. In his belief only mollities ossium or fragilitas ossium, or a combination of the two, could explain the fracture of both femora. Rickets did not give a history like that. Moreover, at the operation the bones were so soft that they could be easily cut through by a chisel. He referred to a case resembling this in which an attempt to treat a fracture by putting it upon splints for five or six months had not resulted in union. Shortly after the patient had broken both femora by turning in bed. The mother and sisters of the same patient had both broken their bones. These cases, like the one before them, ought to be regarded as one of the two diseases he had mentioned.—The PRESIDENT remarked that the case in some respects certainly resembled rickets and the bone ends were certainly enlarged. The changes in the chest were not such as were present in early rickets, but these were usually absent in the disease known by the term "late rickets."—Mr. LITTLE, in reply, remarked that the idea of rickets only affecting the epiphyses was a new one; the whole bone was really involved. Fracture also was common enough, though it was of the greenstick kind in rickets. This patient had never had any pain. He had only used the name "late rickets" because the case resembled that more than anything else.

Dr. H. A. CAREY exhibited a case of Abdominal Aneurysm occurring in a man who had had syphilis 16 years ago. He came under observation owing to a varicose condition of the veins of the left leg and thigh. There was a tumor with marked expansile pulsation in the middle of the left [illegible] extending along the course of the right common iliac artery. The aneurysm appeared to have originated in the [illegible] near the bifurcation and to have invaded both common iliacs, the right more than the left. No pulse could be felt in the right external iliac and femoral arteries, but there was exaggerated pulsation along the course of the left external iliac which expanded [illegible] of the vessel.

coughing made it excessively severe. At first the pain came on every two or three days, but it had been almost constant for the last three weeks. He had been away from work for a month. Two weeks previously (on July 2nd) the legs had felt weak and numb and he had staggered in walking. He now lost power of holding his urine, which continually dribbled away; there was also numbness in the left arm. The weakness gradually increased and on July 8th, six days later, paralysis of motion and loss of sensation were complete below the waist. The urine had to be drawn off regularly by catheter and there was incontinence of fæces. A week later (July 15th) he was admitted to hospital. From the beginning of 1898 the patient had had a cough with yellow, frothy expectoration which never contained blood; the appetite had not failed. He had sweated at night during the month previous to admission and had evidently lost flesh. Three or four years ago he had acquired a chancre, which was followed by a sore-throat.

On examination, on July 16th, the patient looked extremely ill. He was very thin, pale, and had an anxious expression, and the perspiration stood in beads on his brow. Power was completely lost in both legs and in the muscles of the trunk up to the fourth rib. There were retention of urine and incontinence of fæces. The knee-jerks were absent and there was no ankle-clonus. The plantar reflexes were present and were somewhat excessive, especially on the right side; they were accompanied by active cremasteric contraction, although stimulation of the inner side of the thigh would only produce a feeble cremasteric reflex. Abdominal and epigastric reflexes were not elicited.

Tactile and thermal sensations ceased abruptly at the level of the fourth rib. The sensation of pain could be elicited much further down—i.e., on the right side to the lower border of the eleventh root zone, on the left side to that of the twelfth, clearly defining the limits of these cutaneous areas. Pain and numbness were experienced in the left arm. The spinal column was tender to percussion from the second to the fifth dorsal spines, but there was no undue prominence to be seen. The cranial nerves and cerebral and mental functions were unaffected. On the left side of the chest anteriorly expansion was defective, the percussion note was high-pitched, and breath sounds were very faint; posteriorly, at this apex, the breath-sounds and vocal resonance were diminished. At the base dulness, complete silence, and absence of vocal fremitus and resonance were to be found. Exploration for fluid here gave a negative result. At the right apex the vesicular murmur was very loud, contrasting with the other side, but there were no abnormal signs in this lung. The manubrium sterni was rather dull to percussion. The heart was normal in its sounds and position. The tongue was furred, there was no special thirst, the temperature was raised, and a bed-sore threatened to form over the sacrum.

Three weeks after admission (on August 10th) the signs in the left side of the chest had increased; there was dulness now at the apex in front and bronchial breathing was heard in the first and second spaces; whilst behind there were general dulness and loss of breath sounds. On August 19th bronchial breathing could be heard down as far as the third intercostal space; below this there was pleuritic friction. Great enlargement of the liver was present and large nodules could be felt over its surface and edge. The abdominal veins were distended and the legs were œdematous, but there was no ascites. On August 23rd the left pupil was contracted and the right was dilated. The patient had pain in the left arm and this limb was found to be weak. Before this he had suffered little actual pain, but rather great discomfort and weariness. There had been hectic fever and rapid loss of flesh. His cough had been very troublesome but he had had no haemoptysis. Retention of urine lasted two weeks and then gave place to paralytic incontinence; towards the end it collected in the bladder again, needing the passage of a catheter occasionally. Incontinence of fæces was constant. The left cremasteric reflex disappeared but otherwise the reflexes remained as at first. He had continual diarrhœa and a large bedsore formed over the sacrum and extended to the bone. On August 28th severe pain in the neck was complained of, and on the 30th he sank and died from exhaustion six and a half weeks from the day of admission.

Necropsy.—At the post-mortem examination the body was found to be extremely wasted. On making the posterior median incision masses of soft white growth appeared, growing up around the spines at the top of the dorsal region. The second spine was surrounded and the interval between the first and second was occupied by the growth. There was no other deposit in the spine but this. Further dissection and removal of the laminæ showed that the tumour could be traced into the left side of the thoracic cavity, passing between the transverse processes of the fir[illegible] vertebræ, which processes had become [illegible]. It had passed through the [illegible] the left side and invaded the spi[illegible] the cord. Dr. F. W. Eurich, who kindly examined the specimen, reported that the cord was softened at the level of the second dorsal vertebra and its internal markings were lost there; an inch lower down a greyish translucency was seen in the right pyramidal tract but not in the left; the lumbar cord seemed normal. Microscopically the lumbar enlargement showed a normal condition although the loss of knee-jerks and paralytic incontinence had suggested some affection of the lumbar centres as in Case 1. On opening the chest a growth was found in the mediastinum at the root of the left lung, surrounding but not occluding the left bronchus. The left lung was solid and universally adherent to the chest wall, most firmly so above. On section the upper two thirds were found to be converted into a mass of growth, while the lung tissue at the base was solid, airless, and slate-grey in colour. Behind this lung, in the first intercostal space, close to the spine, was the secondary deposit, the extension of which has been already described in the examination from the dorsal surface. The liver was extremely large and full of big round masses of growth which could be cleanly shelled out from the substance of the organ; its weight was six pounds two and a half ounces. The spleen was enlarged and the heart was small and flabby. The bladder mucous membrane was a little injected, but otherwise it was in good condition. The lumbar glands were not affected. The tumour was white in colour and soft; on microscopic examination it presented the characters of a lympho-sarcoma.

Remarks by Dr. HOWARD GLADSTONE.—These cases of neoplasms growing both in the spinal canal and mediastinum came under observation during the time I was house physician to the Bradford Royal Infirmary, and I am indebted to the kindness of Dr. Major and Dr. Campbell for permission to publish their cases.

Mediastinal growths being not uncommon in the district I was able to observe 11 cases among in-patients in 18 months and became much interested in their diagnosis. Correctness in this, although leading to no beneficial treatment, is really important. It is a serious mistake to diagnose a case as fibroid phthisis, chronic bronchitis, or pleurisy with effusion when it is really one of intra-thoracic tumour, shortly to prove fatal; and it is such chronic pulmonary diseases that are most likely to be mistaken for it. Aneurysm of the aorta must of course be excluded by careful examination of the circulatory system. The resemblance, however, is not very close, and the above cases, and, indeed, nearly all those which I saw, did not in the least simulate the clinical picture of a case of aneurysm.

Persistent pain in the chest, often situated between the shoulders, stabbing and throbbing and preventing sleep, is often the earliest symptom: pain, with such characters, occurring in a person at a comparatively early age and not proceeding from the stomach, is suggestive of some serious deep seated disease in the thorax. Defective air entry into a portion of the lungs from pressure is usually the earliest physical sign; the percussion note in the same spot may be at first high pitched and later may be dull. For example, at one base there may be loss of breath sounds—total silence—and hyper-resonance of the percussion note, almost suggesting pneumothorax; a few weeks later there will be dulness at that base, but yet no fluid may be found on exploration. Post-mortem examination here will prove that pressure on the root of the lung by a growth first obstructed the bronchus and led to a relaxed condition of the lung tissue at the base; and, secondly, chronic venous congestion, bronchiectasis, and perhaps invasion by processes of the tumour led to consolidation. In such a case the interscapular regions should be carefully percussed in the early stages for signs of consolidation at the root of the lung and the presence of slight friction should be watched for there.

Again, pressure on the upper bronchus gives signs that must be distinguished from early phthisis. At the affected apex anteriorly expansion is defective, the percussion note is shallow, and the breath sounds are almost absent or feebly bronchial; but crepitations do not appear after coughing,

and could find no evidence that such a course had ever been adopted at St. Bartholomew's Hospital.

Dr. AMAND ROUTH had seen a case of impacted retroverted gravid uterus diagnosed as hæmatocele, but an examination under anæsthesia would always clear up the diagnosis. Every case he had seen had been capable of reposition without abdominal section. He had now in his ward at Charing Cross Hospital a case where retention of urine with this condition had persisted with overflow for the 14 days before admission and where 154 ounces of urine had been drawn off. It had taken three weeks for the bladder nearly to recover its muscular tone and even now there was about an ounce of residual urine, and pus was still present in the deposit.

Mr. A. C. BUTLER-SMYTHE asked how long efforts at reduction had been persisted in previously to the operation in Case 2. He thought that abdominal section in such cases was uncalled for as it increased the risk to the patient.

Dr. HERBERT SPENCER had not yet seen a case of retroversion of the gravid uterus in which it had not been possible to replace the organ. Sometimes the replacement had not been effected at the first attempt and sometimes the organ had righted itself after ineffectual attempts at replacement had been made. In some cases the replacement had at first not been complete (possibly owing to slight adhesions), but by rest and keeping the bladder empty the uterus had been enabled to return to its normal position. He considered that the only cases requiring abdominal section were those in which the retroverted organ was fixed by strong adhesions.

Dr. MUNRO KERR, in reply, admitted that cases requiring abdominal section were very rare, but there was absolutely no doubt that in some cases the uterus could not be replaced by the ordinary measures. As evidence of this he quoted Dr. W. Hunter's classical case, where at the post-mortem examination the fundus could only be raised after the symphysis had been divided. Olshausen and others in such irreducible cases had advised extirpation of the organ, and Jacobs, after opening the abdomen, had only succeeded in raising the uterus after separating the dense adhesions which fixed it to the pouch of Douglas. He thought in these difficult cases that abdominal section was preferable to either extirpation or incision of the uterus.

The following specimens were shown:—

Dr. C. J. CULLINGWORTH: Incarcerated Fibro-myoma in an Unusually Young Subject.

Dr. A. F. STABB: Myxo-myoma (? Sarcoma) of the Uterus.

The PRESIDENT: Tubal Mole with 1-inch Fœtus in Perfect Preservation.

Dr. W. DUNCAN: Tubo-ovarian Mole.

Dr. A. W. ADDISELL: Fibroma of the Ovary.

Dr. MACNAUGHTON-JONES: Ovarian Cystoma Complicating Pregnancy.

Dr. ARNOLD LEA: Sarcoma Vaginæ in a Child, aged three years, with Microscopical Section.

HARVEIAN SOCIETY OF LONDON.

Discussion on the Diagnosis and Treatment of Chronic Purulent Nasal Discharges.

A MEETING of this society was held on April 5th, Dr. W. H. LAMB, President, being in the chair.

Mr. EDMUND ROUGHTON, in introducing the discussion, said that a diagnosis should be sought for by means of (1) questions, (2) [illegible] methods of examinati[illegible] ascertained the natu[illegible] unilateral or bilateral, continuous or intermittent, affected or not by change of posture offensive to the patient or to others, and whether it was accompanied by pain or headache. 2. By rhinoscopy, aided with the nasal probe they endeavoured to localise the situation of the pus, at the same time directing attention to the occurrence of polypi or granulations, atrophy of the mucous membrane, crusts, ulcerations, necrosis, adenoid growths, nasal obstruction, and the possible presence of a foreign body. 3. Special methods of examination were employed when the information gained by questions and by rhinoscopy led to a suspicion of disease of the accessory sinuses. Mr. Roughton limited his remarks on treatment to diseases of the accessory sinuses. In antral suppuration the indications for treatment were: (a) the removal of cause; (b) the evacuation and drainage of pus; (c) antiseptic irrigation; and (d) the removal of morbid material when present. These indications should be carefully borne in mind. Thus it would be futile to irrigate the antrum through the nose whilst it was allowed to be continually re-infected by carious teeth; nor could it be expected to cure by drainage when the mucous membrane of the cavity was polypoid or when the bony walls were carious. On the other hand, needless damage would be inflicted by scraping out an antrum which was simply acting as pus receiver to a diseased frontal sinus. In most cases the treatment should be commenced by alveolar drainage, using a good-sized tube. When this method failed after a fair trial the radical operation through the canine fossa must be resorted to. The treatment of empyema of the frontal sinus was divided into intra- and extra-nasal. The former comprised removal of the anterior part of the middle turbinate and irrigation of the cavity through the infundibulum. These methods should have a fair trial and should always precede extra-nasal treatment. The external or radial operation was recommended as being free from danger and offering a very good prospect of cure at the expense of a scarcely visible scar. The operation should be urged when there was pain or other evidence of imperfect drainage. The treatment of ethmoidal suppuration consisted in removing the middle turbinate and scraping out the affected cells, taking care not to transgress the anatomical limits of the lateral mass of the ethmoid. Any direct operative attack upon the sphenoid should only be undertaken after most careful consideration.

Dr. HERBERT TILLEY agreed with Mr. Roughton that the pain of chronic suppuration of the accessory centres was due to accumulation of pus under pressure and not to inflammation of the nerves in the walls of the sinuses as had recently been suggested by Mr. J. G. Turner. In support of this opinion cases of antral and frontal sinus suppuration were cited in which the pain disappeared immediately free drainage had been secured by the removal of a tooth, irrigation of the antrum from the nose, or the removal of the anterior half of the mid-turbinal and of obstructing polypi and granulation from the region of the mid-meatus. The mucous membrane cushion between the mid-turbinal and the outer wall of the nose was not pathognomonic of antral suppuration; it occurred most frequently in this disease but was sometimes present in chronic inflammatory conditions which were specially localised in the mid-meatal region. In testing for pus in the antrum by transillumination the patient's comparison of the subjective sensation of light in the eyes was sometimes of more value than the surgeon's comparison of the facial illumination. Dr. Tilley strongly supported alveolar drainage as at any rate a preliminary measure in all cases of antral suppuration. It was a simple mode of treatment and often cured cases; furthermore, it afforded the patient the easiest means of treating himself in the intervals between his visits to the surgeon. Puncture in the canine fossa he had relinquished because of the inflammatory swelling of the soft parts produced by the traumatism and in which the heed of the drainage-tube was apt to be lost, and because the method did not provide drainage from the lowest point. Intra nasal drainage was advisable where alveolar puncture would necessitate the removal of a sound tooth—an uncommon contingency. It necessitated a more serious surgical procedure and many patients had great difficulty in finding and catheterising the naso-antral opening. To obviate the difficulty the anterior end of the inferior turbinal might be removed. If the alveolar method failed after a fair trial, as a general rule the radical operation described by Mr. Roughton might be advised. Failure to cure by this means was sometimes due to insufficient curettage of the upper and inner region of the antrum which was cellular in structure and closely associated with the anterior ethmoidal cells which were often diseased. Dr. Tilley had tried irrigation of the frontal sinuses in a few cases of empyema, but they were only benefited, never cured. The solutions included boric and carbolic lotions, peroxide of hydrogen solution, and iodoform emulsion. There were undoubted risks in the radical operation and at least six fatal cases of septic osteomyelitis had been recorded, but the present methods of treatment reduced such risks to a minimum. He advised (1) preliminary intra nasal treatment including removal of the mid-turbinal and all chronic inflammatory products from the mid-meatal region; (2) providing free drainage into the nose at the radical operation; (3) the removal of all degenerate

The left femoral pulse was unaffected. With absolute rest, restricted diet, and large doses of potassium iodide the pulsation had much diminished, the tumour was more solid, and the distension of the veins of the left leg had almost disappeared. The chief points of interest were the absence of pain, the considerable vertical extent of the arterial lesion, and the marked improvement under appropriate treatment and strict diet.

Dr. ALFRED EDDOWES showed a case of Psoriasis and Osteo-arthritis occurring in the same patient, a married woman, aged 31 years. There was no history of rheumatism or gout in the family. The outbreak of psoriasis commenced 17 years ago simultaneously with the appearance of menstruation, a coincidence not uncommon. Five years ago she suffered a good deal of worry and mental strain, and four years ago the enlargement of the joints had commenced. He showed photographs illustrating a similar combination of disease in a male patient, aged 33 years. He believed there was an undoubted connexion between the rheumatic diathesis and psoriasis.—Dr. EDDOWES also exhibited a youth suffering from Simple General Ichthyosis in which he intended to try the effect of thyroid gland.—Dr. ERNEST KINGSCOTE referred to a case of ichthyosis, universal excepting the face and hands, and of a more severe degree than that before the society. The patient was placed in a continuous bath and one and a half grains of thyroid extract were given per diem, and in three weeks the skin had become quite normal. It was kept healthy by Turkish baths and when last seen the patient had had no relapse.

Dr. ROBERT MAGUIRE showed a man, aged 45 years, the subject of Diver's Paralysis Eight weeks ago he was diving in 160 feet of water when his air-tube became entangled, and on severing this he had come to the surface of the water so rapidly that he had shot four feet above the surface. The pressure of the depth when he was working was 90 lb. to the square inch or six times that of the atmosphere; and consequently the sudden relaxation of pressure was very great. Gradual relaxation did not produce the disease, but this sudden change acted chiefly on the lumbar enlargement, producing paraplegia as in this man, or sometimes on the cervical enlargement. The latter produced wrist-drop and this patient had previously been so affected.—Dr. A. M. GOSSAGE mentioned that this same patient had been under his care and then he had had loss of sensation. This was altogether the seventh attack of paraplegia. The former attacks had been associated with a good deal of alcohol.—Dr. WILLIAM PASTEUR referred to cases of diver's paralysis in St. Bartholomew's Hospital. He would like to ask it there had been any bleeding from the nose or ears.—To this Dr. MAGUIRE replied in the affirmative.

Mr. F. C. WALLIS showed a case of Repeated Fracture of the Patella occurring in a man, aged 69 years, who 35 years ago had fractured his left patella. Since the inguinal injury, which was treated by rest, the patient had refractured the patella twice, the last time about five months ago. The patient was a carpenter by trade and had until the last few weeks been quite able to do his work. The patient's present condition showed that the main part of the patella was widely separated from the tibia and the intervening gap was filled up by a large translucent fluctuating swelling which had gradually appeared since the last accident.

OBSTETRICAL SOCIETY OF LONDON.

Incarcerated Retro-displaced Gravid Uterus.—Exhibition of Specimens.

A MEETING of this society was held on April 4th, Mr. ALBAN DORAN, the President, being in the chair.

Dr. J. MUNRO KERR (Glasgow) read a paper on Incarcerated Retro-displaced Gravid Uterus. He pointed out that three varieties of backward displacement of the gravid uterus might be met with—viz., "retroflexion," "retroversion," and "partial or incomplete retroversion," and that each form was illustrated by one of the cases. Case 1.—An incarcerated, retroflexed, gravid uterus, which after several fruitless attempts at replacement righted itself. This occurrence was pointed out to be not very uncommon. Case 2.—This case was reported in full by Professor Murdoch Cameron in the *British Medical Journal* of Oct. 31st, 1896. It was one of incarceration of the retroverted gravid uterus in which the uterus could not be replaced until Professor Cameron opened the abdomen, then performed cystotomy and emptied the bladder of a large quantity of blood-clot. He then stitched up the bladder and abdomen. The pregnancy continued to full time. The treatment adopted in this case was discussed. Case 3.—Partial retroversion (sacculation) of the gravid uterus caused by a myoma in the anterior wall. Reduction of the displacement; continuance of pregnancy. The causes of this form of retro-displacement were described. Case 4. — Extra-uterine pregnancy simulating and mistaken for a retroflexed gravid uterus. Some reported cases were referred to and the differential diagnosis of the two conditions was discussed.

The PRESIDENT had seen a case of retroverted gravid uterus, where the cervix was to the right and the elastic fundus to the left, exactly simulating extra-uterine pregnancy, but a few days' delay cleared up the diagnosis. When examining such a doubtful case under anæsthesia care should be taken lest a gravid tube be palpated roughly. He referred to Unterberger's case where a gravid uterus, displaced by a fall in the first month, caused distension of the bladder which forced open the urachus and allowed the urine to flow from the umbilicus. Rupture of an ovarian cyst through the umbilicus was diagnosed, but Unterberger emptied the suspected cyst by passing a catheter through the umbilical opening and another through the urethra. The uterus, retroverted and retroflexed, sacculated and partially incarcerated, righted itself and delivery occurred at the fifth month.

Dr. ARTHUR GILLS had reported to the society two cases where extra-uterine gestation had been mistaken for retroversion of the gravid uterus, and he now narrated a case which he had seen with Dr. Martin of Olapham where a retroverted uterus simulated ectopic gestation. The mass in Douglas's pouch was reduced under anæsthesia and was then found to be distinctly bi-lobed, the left lobe feeling like a gravid tube. In a fortnight's time, however, the uterus had recovered its normal shape and abortion ensued two months later.

Dr. A. H. N. LEWERS criticised the treatment of Dr. Kerr's second case. He did not consider that abdominal section should be recognised as a method of treatment. He had seen many cases at the London Hospital where the retention of urine had been extreme, over five pints of urine having been drawn off, and in at least two of these there was hæmaturia, but in none had abdominal section been suggested. His treatment was after emptying the bladder to replace the uterus, preferably under anæsthesia, or to encourage the uterus to rise spontaneously by rest in bed and regular evacuation of the bladder. Such spontaneous reposition was not unusual. In Professor Cameron's case (Case 2) he suggested that the urethra might have been dilated and the clots removed by forceps and irrigation, and if the bladder had been kept empty for a few days and the patient kept in bed he believed the uterus would have been spontaneously replaced.

Dr. R. BOXAL emphasised the advantage of rest and specially of anæsthesia in reducing the impacted uterus. As an instance of spontaneous reduction occurring after rest in bed he narrated a case of retroverted gravid uterus with a fibroid in the posterior uterine wall which had been mistaken for an extra-uterine pregnancy. He failed to reduce the uterus by gentle manipulation, but a few days in bed, followed by an anæsthetic, allowed the uterus to spontaneously regain its position. This at once revealed the true nature of the case.

Dr. CHARLES A. MORRIS referred to a case which he had seen in the late Dr. Matthews Duncan's ward in which there was an extreme retention of the urine with hæmaturia. An entire cast of the bladder was subsequently passed per urethram and complete recovery ensued. He thought few cases would call for abdominal section, the possible exception being where the uterus was bound down by firm adhesions, but in such cases abortion would probably take place at an earlier period than an operation would be contemplated.

Dr. HUBERT ROBERTS asked if Case 4, where an extra-uterine gestation had been diagnosed as a retroverted gravid uterus, was one of intra-peritoneal hæmatocele following a rupture. He thought the best way to differentiate between these two conditions was, as Dr. Cullingworth has insisted, to examine bimanually under anæsthenia, when in the case of hæmatocele the body of the uterus would be felt to be lying above the pubes in front of the swelling. Dr. Roberts did not believe that abdominal section could ever be necessary to effect reduction of a retroverted gravid uterus

answer to questions. The lips were partially separated and saliva escaped; the mouth was elongated laterally owing to the action of the muscles of expression. The palate reflex was absent, the pterygoids were paralysed, and the temporal and masseter muscles were normal. The vocal cords were normal. The case was one of amyotrophic muscular atrophy, there being atrophy of some of the intrinsic muscles of the hands, presence of the masseteric reflex, and over-extension of the great toes, exaggerated on producing the plantar reflex.—Mr. George G. Hamilton showed a patient upon whom he performed the operation of Colectomy for Carcinoma of the Sigmoid flexure, and advocated the use of Murphy's button in such cases, with special reference to the correct application of the button.—Dr. Glynn read a note on the Use of Thyroid Extract as an Emmenagogue. He had met with many cases of young girls who, through some slight developmental changes, had a temporary amenorrhœa or a delay in menstruation, and in such cases the administration of thyroid extract in doses of half a grain once a day, generally given at bedtime, proved sufficient to re-establish or start the function of menstruation.—Dr. William Carter observed that the cases mentioned by Dr. Glynn were those of young people, and from the well-recognised influence of the thyroid secretion on developmental changes he thought that its effect in such might be different from those in people of mature age, as it had been established by Chéron, and his results had been copied into the most recent books on therapeutics that a marked effect of thyroid extract was to diminish and even check all forms of uterine hæmorrhage.—Dr. J. E. Buchanan, Dr. Barr, Dr. Gemmell, and Dr. A. O. Wilson also took part in the discussion which followed, and Dr. Glynn replied.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 29th, the President, Dr. D. Burgess, being in the chair.—Dr. Sinclair White showed: 1. A Sarcomatous Scapula removed from a man, aged 42 years. The tumour occupied the supraspinous fossa and had a history of four months' duration. There was no special difficulty encountered during the operation and the patient made an uneventful recovery. 2. A Sarcomatous Left Upper Jaw removed from a girl, aged eight years. Although practically the whole of the superior maxilla was excised there was very little deformity. 3. A Cancerous Rectum excised after the method of Kraske from a man, aged 42 years. The fæces were diverted by a preliminary colotomy and the artificial anus was subsequently closed by a plastic operation. The patient was rapidly regaining flesh and strength.—The President showed (1) a Malignant Growth of the Spinal Column; (2) a case of Cerebral Diplegia in a child and read notes of another case of the disease in an adult aged 29 years; and (3) a case of Locomotor Ataxy with Aortic Aneurysm.—Dr. W. S. Porter showed (1) a Melanotic Sarcoma of the Spinal Column and (2) a case of Aortic Aneurysm.—Mr. H. Hallam showed (1) a case of Sporadic Cretinism in a woman, aged 42 years; the thyroid was atrophied and supra-clavicular lipomatous swellings were present. 2. A girl, aged 11 years, niece of the above, with an Enlarged Thyroid. Her parents were cousins, her father being brother of the first patient. No definite symptoms of cretinism were present but there was a suggestion of coarseness of hair and feature. 3. A case of Sporadic Cretinism in a boy, aged 11 years, who had markedly improved under three months' treatment with thyroid extract.—Dr. Godfrey Carter read a paper on Electric Heat and Light Baths. He pointed out that the hot bath flourished in England in the first three centuries of the Christian era. The Turkish bath was introduced into England about 50 years ago; its great disadvantage was that the patient breathed the hot air of from 125° to 240° F. Few people could, however, inhale hot air at a temperature of from 150° to 200° F. without incurring great risks. The human body is capable of supporting with impunity exposure to an atmosphere of a temperature far above that of boiling water provided that the air be dry and not inhaled.

ÆSCULAPIAN SOCIETY OF LONDON.—A meeting of this society was held on April 6th, Mr. A. W. Galloway, the President, being in the chair.—Dr. Hilton Hassall read a paper on the Part Played by Micro-organisms in the Causation of Certain Diseases of the Nervous System. In some instances microbes had been definitely proved to be responsible for the production of these maladies, while in others the mode of origin of such diseases was largely a matter of surmise. After relating the ways in which micro-organisms were supposed to bring about morbid changes in the nerve elements he discussed the diseases of the nervous system proved or supposed to be due to microbic infection, as they fell into one or other of the following groups, though he admitted that it was not always possible to draw a hard-and-fast line between certain affections placed in one class as opposed to those placed in another: (1) cases in which definite morbid changes were found in the nervous system, which were ascribed to the action of micro organisms and in which the microbe was proved to exist in the affected parts; (2) morbid changes present, but the micro organism only found in some other parts of the body and not in the affected parts of the nervous system; (3) morbid changes met with in the nerve elements and ascribed to the action of microbes or their toxins, but in which the micro-organisms had not as yet been proved to exist at all, much less in the nervous system; (4) no gross morbid changes present in the nervous system, yet the mode of onset of the malady and its subsequent course were best explained by assuming that it was due to microbic infection, and a micro organism was known to exist in the body, though it had not been isolated from the nervous system; and (5) cases similar to those included in the last group, but in which no micro-organism had been proved to exist either in the nervous system or in any other part of the body.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 4th, Dr. Michie, the President, being in the chair.—The following motion, proposed by Dr. Ransom and seconded by Dr. Hunter, was carried unanimously: "That the Nottingham Medico-Chirurgical Society desires to call the attention of the medical profession to the frequency with which diachylon is now bought for internal use and to the great dangers attending such use, and suggests the advisability of measures to restrict its indiscriminate sale."—Dr. Hunter read a note on Gastralgia in which he considered that many of the so-called cases of dyspepsia in young women were true neuroses and were benefited by quinine and ordinary diet rather than by bismuth and milk.—Dr. Handford read notes on a case of Posterior Basic Meningitis in a girl, aged five years, who died after an illness of 14 weeks.—The following cases and specimens were shown by Mr. Anderson: (1) A patient, aged 61 years, after Prostatectomy, of the Middle and Lateral Lobes by the Suprapubic Operation; 10 ounces of gland tissue were removed with complete relief of all former symptoms; (2) a Large Pedunculated Cylindroma of the Bladder removed by operation; (3) Primary Carcinoma of the Bladder; (4) with Mr. Chicken, Gall stones, those from the gall-bladder being laminated, while one which was encysted in the duct was formed by agglomeration; and (5) Portion of Bowel removed by operation for Intussusception in a child, aged five months.

LIFE ASSURANCE POLICIES FOR CHILDREN.—In the last annual report of the Clerical, Medical, and General Life Assurance Society the directors state that they have often had occasion to discourage proposals upon the lives of children, because no pecuniary interest existed such as would make an ordinary assurance policy valid in law. This was to be regretted in the cases where the desire of the parents was to set aside money in such a form as would stimulate a child's interest in thrift and the directors have reason to hope that they can grant assurances to children, however young, on a principle which, while meeting the thrifty aim of the parent, will also render them as effectually sound and legitimate cases of business. By this method the society grants a policy under which the full sum assured will be payable on death occurring only after the age of 21 years, should death occur earlier all the premiums paid will be returned, while if the premiums themselves be claimed earlier any surrender value will be held for the insured. The premium payable on such assurances at very young ages is much less than on those effected at or after the age of 21 years. For instance, the annual payment upon a policy of £1000 opened before the child is three years of age is only £7 13s. 4d., or less than half of the amount that would be payable if the proposal for the same were delayed until the age of 21 years.

mucous membrane from the sinus by curettage and then frequently packing it until a healthy mucous membrane was produced. The external wound was then allowed to close and remarkably little scarring was produced. If the sinus were small the whole anterior wall was removed and the cavity was obliterated. If it was a large one only a portion of the anterior wall was removed and the cavity was treated as already stated. In dealing with suppurating ethmoiditis thorough intra-nasal treatment should be exhausted before resorting to external operation. By the adoption of the former method a cure might sometimes be brought about, but even failing this the improvement was sometimes so marked that the patient would consider the symptoms practically cured.

Dr. SCANES SPICER, Dr. WM. HILL, Dr. DUNDAS GRANT, Dr. STOLAIR THOMSON, and Dr. H. L. LACK also took part in the discussion.

Mr. ROUGHTON, in reply, agreed with Dr. Dundas Grant that dulness on transillumination was caused more by thickening of the antral lining than by pus in its cavity, and consequently that absence of shadow should be regarded rather as a favourable prognostic than as a negative diagnostic sign. The fatal results following operations on the frontal sinus referred to by Dr. Tilley and Dr. Lack were more often due to the disease than to the operation; when really due to the operation they were attributable to two causes acting in combination—viz., sepsis and absence of efficient drainage.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

Rotunda Hospital Report.—Atmo-kausis and Zesto-kausis.

A MEETING of this section was held on March 16th, Dr. A. V. MAGAN, the President, being in the chair.

Dr. PUREFOY, replying to criticisms made on the Rotunda Hospital Report by members of the section,[1] said that it was surprising to him that a teacher of Professor Smith's attainments should not be familiar with the term "mixed" applied to accidental hæmorrhage. The term had some advantages, but Dr. Purefoy was not prepared to defend it. He did not think that there was any good ground for Professor Smith's suggestion that some of the cases described as accidental hæmorrhage were more probably cases of low insertion of the placenta. It was true that when dealing with hæmorrhage in the sixth month of pregnancy it might be quite impossible to determine whether the placenta was low down or not. Observation in the hospital for some years past had each year furnished accumulating proof that the use of the vaginal tampon in severe accidental hæmorrhage was a wise and judicious proceeding; but Dr. Purefoy took care in speaking to the students to point out that many cases met with could still be treated by assisting the uterus to contract and then rupturing the membranes. He adhered to the opinion that the position of the twins was correctly described and that they were correctly described as a case of locked twins, the nature of the complication being in no way altered by the fact that one head was collapsed. The method of performing Porro's operation was no doubt old-fashioned, but Professor Smith's disapproval did not make him dissatisfied with it. Dr. Smyly formulated the very serious charge against the hospital staff of introducing a new and unwise treatment of puerperal eclampsia, but Dr. Purefoy failed to see how he deduced from the narration of the case any grounds for suggesting that a new mode of treatment had been adopted. The patient, a primipara, was admitted to hospital in a bad condition, with marked œdema and scanty, albuminous urine. Dr. Purefoy still thought that the emptying of the uterus by the safest method was the proper proceeding. It was true that eight hours afterwards an eclamptic fit occurred, which Dr. Smyly attributed to the operation, but Dr. Purefoy did not agree with him. Dr. Purefoy then went on to reply to the criticisms of Dr. Kidd, Dr. Jellett, Mr. Hastings Tweedy, and the President.

The PRESIDENT read a paper on Atmo-kausis and Zesto-kausis.—Mr. HASTINGS TWEEDY thought that the instrument had a great future before it. If even a part of what was claimed for it was realised it would almost revolutionise the treatment of endometritis. When used for septic endometritis, where the germs had penetrated to a considerable degree, he feared if the cauterisation could destroy these germs it would destroy the whole endometrium.—Dr. JELLETT said, that, judging from the effect of steam on the hand, a ten-second or 15 second application would not give in any ordinary case a very deep amount of cauterisation of the uterus. The instrument would be an adjunct to the curette but he could see no ground for supposing that it would take its place.—The PRESIDENT, replying, said that he had given the results of some 800 cases from the reports of the most eminent gynæcologists in America and Germany. In a very short time the instrument had met with an extraordinary reception abroad and was looked upon as one of the best additions to our therapeutics. The depth of cauterisation was regulated by the time the instrument was allowed to act. If it were desired to close the cavity [illegible] probably require two operations. As [illegible] mucous membrane Dr. O'Sullivan had told him that he had used superheated steam and found it did not kill streptococci.

[1] THE LANCET, March 10th, 1900, p. 707.

LIVERPOOL MEDICAL INSTITUTION. — The thirteenth ordinary meeting of this society was held on April 5th, the President, Mr. Edgar Browne, being in the chair.—Dr. Stopford Taylor exhibited a case of Dermatitis Repens involving the back of the hand and fingers. The disease had been arrested and was [illegible] towards recovery under a dressing of [illegible] forcibly rubbed in with the finger.—Dr. Taylor also exhibited a case of Tuberculous Ulceration of the Skin on the Right Side of the Neck corresponding to the shirt-collar band. The ulcer was six inches in length and two inches in width and had spread rapidly, having been in existence but four months.—Dr. W. J. Allen related a case of Embolism of the Mesenteric Artery occurring in a patient, after a normal labour and associated with mitral stenosis. Symptoms of collapse came on some time after delivery. There were no signs of hæmorrhage or rupture of the uterus to account for such collapse, and the condition was discovered on examination after death.—Dr. T. R. Bradshaw showed a woman, aged 30 years, the subject of Diffuse Scleroderma. The condition was almost universal, but affected the hands and forearms to an extreme degree, the fingers being hide-bound and almost fixed in a position of slight flexion. The affection seemed to involve the sheaths of the flexor tendons, as was shown by the existence of creaking on passive movement. The onset was acute a year ago and was marked by pain, redness, and swelling in the fingers.—Dr. F. H. Barendt considered this case to be typical of the disease; the pathological process involved brought scleroderma and Dupuytren's contraction of the palmar fascia—sclerodactyly—and those rheumatic nodules known sometimes as Heberden's nodes into the same category. He suggested the administration of thyroid extract rapidly pushed till physiological reaction occurred. The prognosis was not always unfavourable—in fact, cases were recorded where the disease not only was arrested but a certain degree of involution took place.—Mr. R. W. Murray showed a man, aged 40 years, upon whom he had operated for Aneurysm of the Femoral Artery in Hunter's Canal. The aneurysm was of recent date and was increasing; it was as large a swelling as would be caused by a substance of the size of the closed fist buried in the thigh muscles. The general health was good and there was no sign of disease of the vascular system. The operation consisted in excising the sac as far as possible after ligature of the artery above and below. The excision was only partial owing to extensive gummatous infiltration of the adjacent structures. The man had resumed his work.—Mr. K. W. Monsarrat remarked that the unusual site of the aneurysm was probably to be explained by the affection of the arterial walls having been secondary to the tertiary syphilis of the muscles in the vicinity and a direct extension from the latter.—Dr. T. R. Glynn exhibited a man, aged 39 years, with Bulbar Paralysis; the duration of the disease was 16 months. The family history was good; there was a history of ague, but not of syphilis. The affection commenced with speech trouble, followed in three months by difficulty in deglutition. The tongue was completely paralysed, the seat of fibrillary tremors, and atrophied. Speech was lost; he emitted a laryngeal sound of nasal quality in

of afterwards having something that they wish for. We do not for an instant mean to say that a child should be allowed to eat anything he likes, but he should never be forced to eat anything obviously distasteful. The author gives us the impression that he considers happiness a matter entirely within every man's power to attain. This is true in part, but there are forms of unhappiness which are unavoidable.

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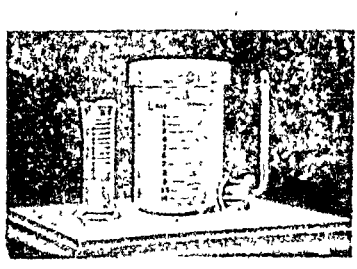

and after all the cream has risen to the surface the bent tube is turned downwards so that the separate portion of the milk from which the cream has risen may flow out. The graduations of the sugar measure correspond to the sugar contained in the known quantity of milk thus withdrawn from the graduated milk jar, and the proper amount of sugar having been measured off and added to the milk the whole is made up to the original volume with boiled water, or preferably with cold fresh barley water. The milk is now prepared and may be sterilized in bulk or in bottles. The price of the apparatus is 10s. 6d. It may be obtained through any druggist or on applying to Mr. William Tegwyn, Wholesale Druggists' Sundriesmen, 16 Mark Street, Regent-street, W.

Reviews and Notices of Books.

Bubonic Plague: its Course and Symptoms and Means of Prevention and Treatment, according to the Latest Scientific Discoveries, including Notes of Cases in Oporto. With an Appendix specially written by the Author for the English Edition. By Dr. JOSÉ VERDES MONTENEGRO, ex-Interne of the Central University of Medicine, Associate Physician of the Hospital de la Princesa, and Professor at the Municipal Micrographical Laboratory, Madrid. Authorised Translation by W. MUNRO, M.D. Edin., Author of "Leprosy," late Medical Officer of St. Kitts, W.I., &c. London: Baillière, Tindall, and Cox. 1900. Price 3*s.* 6*d.* net.

THIS work gives a very good and interesting account of plague. Not only has the very voluminous literature bearing on this subject been traversed in search of information in order to bring the volume up to date, but the results of the author's reflections thereon are set forth, with the addition of numerous observations drawn from his own large field of experience. Dr. Montenegro's work has been translated by Dr. Munro, and the author has specially written an appendix for the English edition in which he has been enabled to add details of later investigations and results than were possible when the original book was first published in the Spanish language. As we have said, the literature about plague is already very voluminous and the reader views the accumulation of books, reviews, and reports—official and otherwise—with an embarrassed feeling akin to that which we may suppose a mouse to feel when suddenly encountering a large mass of provender; he does not know where to begin.

Plague is an acute infectious fever caused by the bacillus pestis of Kitasato and Yersin and it is the only known disease of the class which attacks epidemically and simultaneously man and certain of the lower animals. It differs from some other infectious maladies in not being a water-borne disease, but the results of investigation point to the probability of its being rat-borne—at any rate as one of the vehicles for its spread. The factors for the dissemination and prevalence of the disease are the presence of the bacillus, susceptible material for it to work upon, and a suitable environment.

The knowledge of plague which we have acquired of late years has modified very much the ideas which were derived from reading about its terrible epidemics in the past; but it must be confessed that notwithstanding the enormous amount of labour—scientific, clinical, and hygienic—that has been devoted to the subject and the prophylactic methods for fortifying the system against the attacks, of which those living centuries ago had not the faintest conception, there still remain many points which require to be cleared up, especially as to the life-history of its bacillus discovered almost simultaneously by Kitasato and Yersin in 1894.

The subject does not manifestly lend itself to any brief discussion. One of the briefest and best *précis* of the information acquired in India and elsewhere in regard to plague that we have met with is contained in the official Report of the Sanitary Measures in India, 1897-98, Vol. XXXI, published in 1899.

As Dr. Montenegro remarks, energetic action can only arise from clear ideas derived from a correct interpretation of the phenomena of the disease, and it has been his aim and object in the present work to set forth what his ideas on the subject are. He does not claim that his conclusions will be final, for scientific men of our time live in a constant state of mental instability as to their opinions throwing aside some ideas and replacing them by others. In his brief appendix from Madrid, dated Feb. 1st, 1900, he discusses the subject (as he tells us, with his notes and commentaries before him) of all that has been done up to the very date of publication. This enables him to comment on the latest observation under such headings as "Bacteriology," "Means of Infection," "Contagion," "Clinique," and "Sero-therapeutics," and what he has to say is both pertinent to the subject and well worth reading—as, indeed, is the whole work.

Le Système Nerveux Central. (The Central Nervous System) Par JULES SOURY. Paris: Georges Carré et C. Naud. Vols. I. and II. 1899. 4to, pp. 1865.

THIS elaborate work, dealing with the structure and functions of the central nervous system and including a critical history of theories and doctrines, is divided into the following parts: (1) antiquity, (2) modern times, and (3) the contemporary period. M. Soury displays wide learning and remarkably painstaking efforts in his account of the ideas of the ancients with regard to the nervous system including the mind. The subject matter is arranged in chronological order under the great teachers and schools of those times. The names of Aristotle, Galen, and Plato stand out naturally in great prominence. The second period brings the narrative down to, and includes the discovery of, cerebral localisation. The teachings and writings of many remarkable men are described in this part of the work, commencing with Varolius. Anatomists and physiologists, such as Willis, Malpighius, Vieussens, Haller, Vic d'Azyr, Bichat, Rolando, Flourens, Broca, as well as philosophers such as Descartes, Spinoza Hobbes, Kant, all belong to this period. The remarkable advances in our knowledge of the functions of the nervous system brought about by the researches of Fritsch and Hitzig (1870), Ferrier, and many other experimentalists are noted at the end of this epoch. The clinical observations of Broca and Hughlings Jackson had done more than suggest the fact that certain functions of the brain were limited to definite areas of the cortex before the important experimental researches of the above-named investigators were made. Subsequently it was pointed out that sensory functions also had their seat in the motor cortex. Under the heading of "The Contemporary Period" the advances in our knowledge are largely chronicled in an anatomical order. After describing the various motor and sensory paths the author deals with functions of the cerebral cortex, the crebral lobes, and the sensory motor centres. Having given some account of the emotions, including pain, M. Soury passes on to the consideration of the centres for sight, hearing, and smell. The modern theory of neurons is fully discussed in connexion with the researches of Golgi, Ramon y Cajal, van Gehuchten, and Lenhossek. A very complete index, both as regards the subject matter and the names of authors, is appended. The index of the subject matter is really, more strictly speaking, an elaborate summary of the contents of the book. It is impossible to close these volumes without being impressed by the amount of labour which their compilation must have involved. They constitute a most valuable work of reference which not only sketches out our present knowledge of the anatomy and physiology of the nervous system, but also shows the laborious steps by which this knowledge has been built up.

LIBRARY TABLE.

Life and Happiness. By AUGUSTE MARROT. London: Kegan Paul, Trench, Trübner, and Co., Limited. Paris: Librairie Tischbacher. Pp. 82. Price 2*s.* 6*d.* net.—This little book consists in the main of plain and simple directions for living a healthy, honest life. Though the author is not a medical man his directions as to food, washing, clothing, ventilation, and light are very sensible. Especially are we glad to see his objection to making children eat too much, or to making them eat what they do not want, on condition

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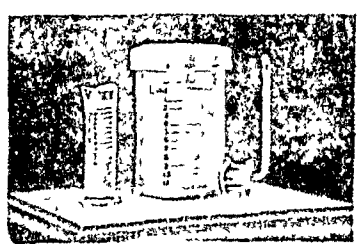

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that neither husband nor wife gave evidence, obvious considerations of decency precluding two persons from being allowed to contradict one another on oath in open court on questions of the greatest privacy, involving the bastardising of the child of one or both of them. When all the circumstances and probabilities of an adulterous connexion are considered it will be felt that the finding of the jury in the SOMERS case was reasonable and in all probability correct, although such questions must always involve doubt and difficulty on the part of those called on to determine them.

IN 1632 Dr. GOULSTON, a Fellow of the Royal College of Physicians of London, left a sum of money for the maintenance of a lecture to be delivered annually within the College, the lecture to be read from time to time "by one of the four youngest doctors in physic of the said College, upon two or three or more diseases." It was further enacted that this lecture "should be read" between Michaelmas and Easter, on three days together, both forenoon and afternoon, on some dead body if possibly it can be procured, which shall then and there be dissected for the diseases treated of, and shall afterwards be buried." With the passage of time the original details of the Goulstonian Trust have necessarily undergone some modifications, but the lecturer is still appointed from one of the four junior Fellows elected each year, and the subject chosen is generally of a scientific rather than of a purely clinical character, inasmuch as the lecturer has presumably had less clinical experience than his hearers. The words of Sir WILLIAM JENNER in delivering the Goulstonian Lectures nearly half a century ago expressed in appropriate language the feelings which should guide the Goulstonian lecturer in the choice of his subject. "It is fitting," he said, "that on this occasion the junior Fellow of the College should treat only of matters concerning which he has reason to hope that his knowledge is inferior to that of his hearers in a less degree than on any other." In accordance with this spirit most of the Goulstonian lecturers of recent years had taken the opportunity of bringing before the College the results of original researches in which they have been engaged, and this was done by Dr. P. HORTON-SMITH whose excellent dissertation upon the bacteriology of typhoid fever is completed in THE LANCET this week.

Dr. HORTON-SMITH's Goulstonian Lectures exhibit in their author marked powers of original observation, and in them he has presented us with a monograph on the bacteriology of typhoid fever of great scientific value and interest—an opinion which we are sure our readers will endorse. He cleared the ground by referring to the controversies which have arisen as to the identification of the typhoid bacillus. In the first place he pointed out that there is not the smallest difficulty in distinguishing this bacillus from what may be called the classical bacillus coli communis. They resemble each other superficially but differ essentially in that the typhoid bacillus does not, for example, form gas bubbles in dextrose gelatin and does not clot milk or form indol—points by which the two can readily be distinguished. The real difficulty in diagnosing the typhoid bacillus arises from the fact that the typical bacillus coli communis is by no means the sole representative of this great group. The fact has to be recognised that the term "bacillus coli" does not refer to a single bacillus but to a great group of microbes, some of which are identical with the classical bacillus coli communis, while others very closely resemble the typhoid bacillus. Dr. HORTON-SMITH discusses the various forms of such microbes as have been described and the different tests which have been proposed to distinguish them from the true typhoid bacillus, and this part of his work will be of practical ability to many bacteriologists. He detailed 10 tests which may be applied, but considered two of them of considerably more importance than the others—namely, the agglutination test carried out in high dilutions (1 in 1000) and Pfeiffer's test. The agglutinating power of the blood in typhoid fever has also been taken advantage of in clinical work under the term "the Widal test," and Dr. HORTON-SMITH considers that for this purpose a 1 in 20 dilution with a short time limit (one hour) gives admirable results. He states that a positive reaction so obtained has a diagnostic value about equal to that of the eruption—that is to say, that in extremely rare cases both may be observed in cases which are not cases of typhoid fever. Pfeiffer's test, we may remind our readers, consists in injecting into the peritoneum of a guinea-pig a ten times fatal dose of the bacillus in question together with a very small quantity (0·001 cubic centimetre may be quite sufficient) of typhoid serum from a highly immunised animal. If the bacillus in question be the typhoid bacillus, then while a control animal injected only with the bacillus will die the other animal will recover, the bacilli being converted first into granular masses—a process known as Pfeiffer's phenomenon—and then gradually disappearing under the influence of the lysogenic properties of the serum. The practical utility of the test from a clinical point of view is impaired by the fact that it can only be applied in a properly appointed laboratory, but the value of such proceedings for prophylactic purposes such as the examination of soil and water cannot be overrated.

In one place in his lectures—that where he discusses the distribution of the bacillus of typhoid fever in the body—Dr. HORTON-SMITH betrays a desire to reform our present classification of the disease. The typhoid bacillus can always be found in the stools in the early periods of the disease. It can also be always demonstrated in the Peyer's patches and the mesenteric glands. It does not, however, remain limited to these situations, but very soon, and in all cases, passes into the blood—from which it can very often be isolated—and thus is distributed to the most diverse organs. Thus it can always be found in the spleen and in the liver. It gives rise in the skin to the typical eruption. It is in most cases present in the marrow of the bone and in the bile. It is frequently present in the urine, not uncommonly in the kidneys, and occasionally it may be detected in the lungs. Dr. HORTON-SMITH, therefore, logically contends that this conception of the disease which regards it merely as affecting the alimentary canal can no longer be maintained. So far as concerns typhoid fever as an intestinal disease pure and simple, we should, he thinks, rather look upon it as a medical form of septicæmia in that always and in all cases the bacillus gets into the blood and

THE LANCET.

LONDON: SATURDAY, APRIL 14, 1900.

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This very difficulty was recently experienced at a trial in the Queen's Bench Division where it proved too much for the jury who were unable to arrive at a verdict. The issue has now been finally decided before Mr. Justice LAWRANCE and a special jury and the case is well worth medical attention. A couple named SOMERS, who had been married for more than a year but were childless, separated on or about August 12th, 1876, and paid visits in different houses, never apparently meeting again. On Sept. 12th the wife wrote to her husband to state that she had eloped with a man named MILWARD, but in the divorce petition which ensued the date of adultery was fixed as Sept. 7th, and the decree was granted without apparently that date being questioned. On June 18th, 1877, after the decree *nisi* had been granted, but before it had been made absolute, a child was born. This child, now a young man of full age, was registered on baptism as the child of MILWARD and was, it would seem, treated as such by all those connected with him until questions arose as to dealing with certain funds held in trust under the marriage settlement of Mr. and Mr. SOMERS. To a share in these trust funds the child was *primâ facie* entitled as a son born during the continuance of the marriage—i.e., before the making absolute of the decree of divorce; and a suit in the Chancery Division to compel the trustees to deal with the funds led to an action in the Queen's Bench Division, the question for the jury being whether there was or was not issue of the marriage of Mr. and Mrs. SOMERS. A child born in wedlock is by law presumed to be the child of the husband until it is proved that it is impossible that this can be the case. Now the dates show that the child of Mrs. SOMERS was born 281 days after her admitted elopement with the co-respondent and 305 days after the date named in the petition as that upon which the adultery took place, while August 12th, the date given as the last proved opportunity of access to Mrs. SOMERS by her husband, would make the period of gestation of a child born to him 311 days—precisely the period named in the case of protracted gestation recorded in our columns by Dr. PHILLIPS. Had Dr. PHILLIPS been called as a witness to prove his experience he would probably have been asked to admit in cross-examination that the date of coition given by him rested on the evidence of the patient in question, who would be likely as a single woman and a child in years to minimise her fault by asserting a single act of unchastity to have occurred, and thus would fix the date of her first fall rather than the date of any subsequent lapse as the only possible date of her impregnation. Dr. PHILLIPS'S testimony was, perhaps, not invited because of the weakness which we have indicated, but it would have undoubtedly weighed heavily with those members of the first jury who saw that the evidence of the numerous medical witnesses called before them was inconclusive. For if this evidence went to prove that it was exceedingly unlikely that the child was the child of Mr. SOMERS, it did not, and could not, prove that the protracted gestation was impossible, while Dr. PHILLIPS'S case would have been a well-authenticated example of the abnormality the existence of which was under dispute.

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Dr. HORTON-SMITH'S Goulstonian Lectures exhibit in their author marked powers of original observation, and in them he has presented us with a monograph on the bacteriology of typhoid fever of great scientific value and interest—an opinion which we are sure our readers will endorse. He cleared the ground by referring to the controversies which have arisen as to the identification of the typhoid bacillus. In the first place he pointed out that there is not the smallest difficulty in distinguishing this bacillus from what may be called the classical bacillus coli communis. They resemble each other superficially but differ essentially in that the typhoid bacillus does not, for example, form gas bubbles in dextrose gelatin and does not clot milk or form indol—points by which the two can readily be distinguished. The real difficulty in diagnosing the typhoid bacillus arises from the fact that the typical bacillus coli communis is by no means the sole representative of this great group. The fact has to be recognised that the term "bacillus coli" does not refer to a single bacillus but to a great group of microbes, some of which are identical with the classical bacillus coli communis, while others very closely resemble the typhoid bacillus. Dr. HORTON-SMITH discusses the various forms of such microbes as have been described and the different tests which have been proposed to distinguish them from the true typhoid bacillus, and this part of his work will be of practical ability to many bacteriologists. He detailed 10 tests which may be applied, but considered two of them of considerably more importance than the others—namely, the agglutination test carried out in high dilutions (1 in 1000) and Pfeiffer's test. The agglutinating power of the blood in typhoid fever has also been taken advantage of in clinical work under the term "the Widal test," and Dr. HORTON-SMITH considers that for this purpose a 1 in 20 dilution with a short time limit (one hour) gives admirable results. He states that a positive reaction so obtained has a diagnostic value about equal to that of the eruption—that is to say, that in extremely rare cases both may be observed in cases which are not cases of typhoid fever. Pfeiffer's test, we may remind our readers, consists in injecting into the peritoneum of a guinea-pig a ten times fatal dose of the bacillus in question together with a very small quantity (0·001 cubic centimetre may be quite sufficient) of typhoid serum from a highly immunised animal. If the bacillus in question be the typhoid bacillus, then while a control animal injected only with the bacillus will die the other animal will recover, the bacilli being converted first into granular masses—a process known as Pfeiffer's phenomenon—and then gradually disappearing under the influence of the lysogenic properties of the serum. The practical utility of the test from a clinical point of view is impaired by the fact that it can only be applied in a properly appointed laboratory, but the value of such proceedings for prophylactic purposes such as the examination of soil and water cannot be overrated.

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This very difficulty was recently experienced at a trial in the Queen's Bench Division where it proved too much for the jury who were unable to arrive at a verdict. The issue has now been finally decided before Mr. Justice LAWRANCE and a special jury and the case is well worth medical attention. A couple named SOMERS, who had been married for more than a year but were childless, separated on or about August 12th, 1876, and paid visits in different houses, never apparently meeting again. On Sept. 12th the wife wrote to her husband to state that she had eloped with a man named MILWARD, but in the divorce petition which ensued the date of adultery was fixed as Sept. 7th, and the decree was granted without apparently that date being questioned. On June 18th, 1877, after the decree *nisi* had been granted, but before it had been made absolute, a child was born. This child, now a young man of full age, was registered on baptism as the child of MILWARD and was, it would seem, treated as such by all those connected with him until questions arose as to dealing with certain funds held in trust under the marriage settlement of Mr. and Mr. SOMERS. To a share in these trust funds the child was *primâ facie* entitled as a son born during the continuance of the marriage—i.e., before the making absolute of the decree of divorce; and a suit in the Chancery Division to compel the trustees to deal with the funds led to an action in the Queen's Bench Division, the question for the jury being whether there was or was not issue of the marriage of Mr. and Mrs. SOMERS. A child born in wedlock is by law presumed to be the child of the husband until it is proved that it is impossible that this can be the case. Now the dates show that the child of Mrs. SOMERS was born 281 days after her admitted elopement with the co-respondent and 285 days after the date named in the petition as that upon which the adultery took place, while August 12th, the date given as the last proved opportunity of access to Mrs. SOMERS by her husband, would make the period of gestation of a child born to him 311 days—precisely the period named in the case of protracted gestation recorded in our columns by Dr. PHILLIPS. Had Dr. PHILLIPS been called as a witness to prove his experience he would probably have been asked to admit in cross-examination that the date of coition given by him rested on the evidence of the patient in question, who would be likely as a single woman and a child in years to minimise her fault by asserting a single act of unchastity to have occurred, and thus would fix the date of her first fall rather than the date of any subsequent lapse as the only possible date of her impregnation. Dr. PHILLIPS'S testimony was, perhaps, not invited because of the weakness which we have indicated, but it would have undoubtedly weighed heavily with those members of the first jury who saw that the evidence of the numerous medical witnesses called before them was inconclusive. For if this evidence went to prove that it was exceedingly unlikely that the child was the child of Mr. SOMERS, it did not, and could not, prove that the protracted gestation was impossible, while Dr. PHILLIPS'S case would have been a well-authenticated example of the abnormality the existence of which was under dispute.

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then into the various organs, while the symptoms, excepting as far as they are intestinal, are referable to the poisons there produced. True, in nearly all cases there is a definite local and primary disease whence the secondary dissemination of the micro-organisms takes place, but the fever, with this limitation, is septicæmia. We do not quite hold with the Goulstonian lecturer here. Though scientific ideas as to the specific fevers have had to be considerably altered since the foundation of the science of bacteriology, and though in all probability many new discoveries will be made which will require further alteration, we think a new classification of typhoid fever is at present premature and prefer to regard the disease as a specific fever having its main local manifestations in the intestines rather than to include it under the head of septicæmia. If we join issue with Dr. HORTON-SMITH in this matter we none the less congratulate him on the success of his labours. His Goulstonian Lectures display him as an original observer and a sound reasoner.

THE twenty-fourth section of the Lunacy Act of 1890, in dealing with the examination of pauper lunatics, provides for the remuneration of the medical man called in for this purpose in its fifth sub-section, which runs as follows: "The guardians of the union to which the workhouse belongs shall pay such reasonable remuneration as they think fit to the medical practitioner who, not being an officer of the workhouse, examines persons for the purpose of certifying under this section." The construction of the words "such reasonable remuneration as they think fit" was the point at issue in an action brought against the Chertsey Board of Guardians by Mr. J. L. A HOPE, a medical man in practice at Addlestone, who sued the guardians in somewhat unusual circumstances of considerable interest to his brother practitioners.

His claim was for £7 7*s.* for certifying seven paupers as lunatics at the rate of one guinea for each examination. The guardians did not deny that they were in the habit of paying a guinea for such examinations, but they had decided that a fee of half a guinea in each case, or £3 13*s.* 6*d* in all, would be a reasonable remuneration, because the seven paupers in question were examined, as their counsel phrased it, "*en bloc.*" With regard to this expression counsel afterwards explained that they were not examined *en bloc*, but were brought into the room *en bloc* for the purpose of examination—a process which he appeared to consider facilitated the work of the medical man in dealing with them. The principle to be acted on, in the opinion of the Chertsey guardians when they fixed the fee that they were willing to pay, is, no doubt, one well known in the circles of retail commerce—it is summed up in the words "a reduction on taking a quantity"; but the very proper result of the case will convince the guardians, and other persons who need the information, that commercial precepts do not necessarily spell good law. The contention of the guardians in refusing to pay more than half the habitual fee for such certifications was based upon an idea that the Act gave them absolute discretion in the matter, and that their estimate of what was reasonable and fit must be accepted without discussion. But his Honour Judge LUSHINGTON considered that the reasonableness of the sum offered was a fit subject for his consideration, and he proceeded to hear evidence as to the custom observed by boards of guardians and medical men in other districts on similar occasions. From his subsequent observations, when he came to give judgment for the plaintiff for the seven guineas claimed, it is plain that he attached considerable weight to this evidence of custom, so that the plaintiff was fortunate in being able to put competent witnesses, both lay and medical, into the box to depose to a guinea being the usual minimum fee paid to a medical man for examining and certifying paupers as lunatics. The testimony of Mr. ENGALL, clerk to the Staines Board of Guardians with 2[illegible] years' experience, who spoke to the full fee being paid by the board that employed him when so many as four lunatics were examined upon a single occasion, was particularly to the point and valuable. In the course of the action a fact came to light which served to put the guardians of Chertsey in an unfortunate position. The need to examine so many as seven paupers at a time with a view to their possible certification as lunatics arose in a manner not creditable to the methods of those responsible. It appeared that the Local Government Board had had their attention called to the fact that the guardians were dealing with a person as a lunatic for whom they had no certificate, and that the Board had made a representation in the matter. Whereon the workhouse authorities thought that they ought to protect themselves in respect of other persons in a similar plight. Counsel for the guardians said that the workhouse authorities probably had certificates with these persons originally, but as the documents could not be found they took steps to obtain fresh ones. It is conceivable that if the learned county court judge had not upheld Mr. HOPE's claim we might have heard of other guardians being actuated by a similar spirit of economy and saving up their lunatics with the idea of having them examined when enough had accumulated to justify a 50 per cent. reduction.

In considering the matter of custom Judge LUSHINGTON was no doubt also influenced by the fact that no single witness was called by the defendants to prove any precedent for their view or to show that any other board of guardians had ever adopted the principle upon which they claimed to act. With the responsibility cast upon the medical man in making such an examination his Honour was fully impressed. It should be carried out, he said, in the most patient and thoughtful manner, and he expressed surprise at the use of the term *en bloc* in such a context. His views in this matter we entirely endorse. One of the most anxious duties of the medical man is the examination of his fellow citizens with a view to deciding if they shall be deprived, for their own good, of their personal freedom, and we are proud to think that the same scrupulous care is taken to arrive at the exact mental condition of the pauper and the duke. Mr. HOPE is to be congratulated on his success in upholding the dignity of his profession, and we trust that the Chertsey Board of Guardians and all other authorities who need the lesson will learn that however wide the discretion allowed by an Act of Parliament to those on whom it confers duties may seem to be, it is a recognised principle, whether stated in so many words in the Act or

not, that powers thus given should be reasonably employed with reference to all the circumstances. And reasonableness, outside the phraseology of the shop-window, does not necessarily mean cheapness.

Annotations.

"Ne quid nimis."

THE PLAGUE IN AUSTRALIA.

THE cases of plague which have occurred in Sydney so far are five in number: a lorry driver, who was attacked on Jan. 19th and who recovered; a sailmaker, who was attacked on Feb. 15th and died on Feb. 22nd (the report of the case and diagnosis were made after death); a labourer, who was attacked at midnight on Feb. 26th, in isolation; a publican, who became definitely ill on March 1st at midday, in isolation; and a labourer, the date of whose illness is not precisely given. In the official report upon the first case it was intimated to all acquainted with the subject that infection had been communicated by a flea and it was mentioned that an advertisement had been inserted in the daily press requesting information as to the occurrence of sickness among, or the disappearance of, rats. The inference thus drawn from the first case has turned out to be perfectly correct. On Feb. 14th a landing-waiter reported in response to the advertisement that a greater number of dead rats than usual were to be seen and for about five days past had been seen at a certain wharf. Search was at once directed and during the afternoon seven dead rats were delivered at the laboratory. At least two exhibited lesions which were consistent with death from plague, but it was considered necessary to proceed systematically in order to ascertain the form of septicæmic disease exhibited. This business was not so quickly concluded as might be expected, for the material was usually putrid, and no person was available who had ever seen the disease in rats. Several days were thus consumed, during which time a rat-catcher, who was hired for the purpose, delivered fresh specimens, both alive and dead, many of which had nothing the matter with them. The disease was first quite certainly identified with plague on Feb. 24th, that being the day on which glands from the patient in the second case were first submitted and examined. Down to the beginning of March no evidence that the rats were dying in large numbers had been obtained, but they were steadily dying day by day in larger numbers than usual. The epidemic among them was most probably entirely confined to a long row of wharves in the heart of the city. Now, the first case of plague occurred in a lorry driver who was constantly obliged to visit this very row of wharves; the second in a sailmaker who occupied premises which overlook one of these wharves (and he had removed five dead rats from his water closet shortly before he was attacked); the third in a wharf labourer who was employed at the wharf from which the earliest specimen rats were obtained, and the fourth in a publican who dwelt in the street where that wharf lies, and opposite to it. The fifth case was discovered in a suburb three or four miles away, and occurred in a man who had not been into any part of the city for at least a fortnight, but who worked for a produce dealer who got supplies of hay, corn, &c., from the implicated wharves. No suspicious illness existed, however, in the house of his employer. Every possible care has been taken by Dr. Ashburton Thompson and his staff to prevent the spread of the disease. The practice hitherto followed has been the removal of cases and all members of the household to isolation, with subsequent disinfection of the premises. Persons who have been in contact with the disease are detained for 10 days. As at Alexandria no illness of any kind has occurred among these, and under the described circumstances it seems probable that the removal of the patient, and perhaps his immediate attendant, would be a more reasonable and a sufficient step if combined with surveillance of the remainder of the household at home. A moderate (and now not quite sufficient) stock of Haffkine's prophylactic is at command. Some weeks ago steps were taken towards replenishing it. Every effort has been made by the Department of Public Health to avoid exciting panic; but whether from success in this endeavour or from implicit confidence in the efficiency of the central health authority (a flattering but in this case an embarrassing supposition for this authority), not merely the public but all municipal authorities regard the situation with equanimity and even with indifference. The fact is that an essentially bad system of local government has persisted for so long that the people have learned to await everything which is necessary or desired at the hands of the central government and have lost much of their initiative in local affairs. Their efforts rarely go beyond a deputation to a Minister. It is possible that an awakening is preparing in connexion with plague, and then scapegoats will of course be easily found. Since the above was written we learn from a Reuter's telegram in the *Times* of April 10th that altogether 93 cases of plague and 29 deaths from the disease have occurred at Sydney and one death at Fremantle, W.A.

RELATION OF ALCOHOLISM TO SUICIDE.

DR. W. C. SULLIVAN, Deputy Medical Officer of H.M. Prison, Pentonville, contributes an interesting article on the above subject to the current number of the *Journal of Mental Sciences* (April, 1900). The aim of the paper is to determine the rôle which alcoholism plays in the increase of suicide in England and to establish the distinctive characters which constitute the type of alcoholic suicide. Dr. Magnus Huss, in his classical work on Chronic Alcoholism (1852), stated "that the suicidal impulse is a more frequent accompaniment of the melancholia of drunkards than of melancholia from other causes, and, further, that amongst the uneducated classes suicide frequently follows on the disordered emotional tone, which sooner or later results from the abuse of alcoholic liquors." The majority of observers—Morselli, Westcott, Ferri—argue that the two phenomena of alcoholism and suicide show an approximate correspondence in the relations of geographical distribution and of time to justify the inference of their relationship as cause and effect. On the other hand, Colojanni in Italy, and, to a certain extent, Strahan in England, question whether this relationship is potent or considerable enough to influence the statistical movement of suicide. After quoting the Registrar-General's returns of the deaths attributed to intemperance (1867–1897) and the figures in Mr. Whittaker's memorandum published with the report of the Licensing Commission which give the consumption of beer and spirits in the United Kingdom for the years 1842–1893, Dr. Sullivan shows from a careful discussion of the facts and figures that they represent really a decided increase of alcoholism in this country of late years. The statistical returns of actual and of attempted suicide are next discussed and curves are plotted from which it appears "that suicidal tendencies have grown in a degree entirely out of proportion to the increase in population, and that this growth has been much more considerable in the category of suicidal attempts than in that of actual suicides. It also appears that abortive suicidal attempts differ widely from actual suicides in that their predominant cause tends to operate at a relatively early age (the period [illegible] to [illegible] years to females

cost of 10s. per head is intended to re-invigorate the health of the children which is too often impaired by dwelling in crowded alleys and close streets or in the limited space of model dwellings; but apart from physical benefits derivable from fresh air and good food it is easy to conceive that there must be an equally important moral benefit arising from the new conditions of life, not the least important factor of which is cleanliness. We wish the society success in its efforts. When the mission was founded 18 years ago 269 children were dealt with. In the year under notice 3171 children enjoyed a country holiday. The income in the first year was about £250 from all sources; last year it amounted to £2075. If more money had been given, especially early in each year, many more poor ailing children could have been sent away; but sufficient has been received year by year to admit of all those being sent whose need was urgent. It is worthy of note that every effort is made to obtain a portion of the cost of the holiday from the parents who invariably pay the railway fare.

INTESTINAL ABSORPTION.

THE process by which the absorption of the materials ingested into the stomach and intestinal canal is accomplished has been at different times very variously explained by physiologists. Bostock, writing in 1844, remarks that it has been generally supposed that the fluids of the intestine enter the villi upon the principle of capillary attraction, though he admits that this view is not without its difficulties; and in a note he adds that Boerhaave supposed that the peristaltic motion of the intestines had a considerable influence in propelling the chyle into the mouths of the lacteals. It was thought in Bostock's time that the lacteals had open mouths and many physiologists admitted in addition the existence of a certain kind of elective attraction. A few years previously the experiments of Dutrochet, which were subsequently greatly extended by Graham, brought the doctrine of osmosis into prominence and an explanation founded on the difference in the density of the fluids within and without the vessels was supposed to be afforded of the process of intestinal absorption. But whilst some support was given to it by various skilled observers numerous facts were observed which militated against it and even if it were in some measure true it is certain that osmotic phenomena could not afford an explanation of the absorption of oil globules or of minute particles of foreign substances and that hence some other agency must be involved. A memoir by Professor E. Waymouth Reid in which the subject of intestinal absorption is considered at considerable length appears in the Philosophical Transactions published in February in the present year. His experiments were performed on anæsthetised dogs. Two loops of intestine of equal length were withdrawn from the abdomen and covered during the whole duration of the experiment with cloths wrung out of warm water. The loops of gut were provided with glass cannulæ at each end. The materials injected were solutions of serum, peptone, and sugar at the temperature of the body. The main results of his inquiries are contained in the following propositions—that a physi[illegible] logical activity of the intestinal epit[illegible] [illegible]n the [illegible] of absorption is demonstrated, first, [illegible] capable of being effected by an a[illegible] serum or even plasma under co[illegible] filtration into blood capillaries or [illegible] and absorption are excluded; and, [illegible] cessation or diminution of the absorption [illegible] epithelium is removed, injured, or poisone[illegible] fact that removal at any rate must increa[illegible] for osmosis and filtration. It may be remark[illegible] term "adsorption" Professor Reid signifies "a [illegible] with some degree of assimilation, a sort of dyeing of the gut membrane" with the solutions. It may be taken for granted that the state of nutrition of the cells is the main factor in their activity and this is intimately associated with the blood-supply. The activity of the cells is characterised by a slower uptake of the organic solids of the serum than of the water and a rather quicker uptake of the salts than of the water, the relations varying in different regions of the alimentary canal. No evidence was obtained of the existence of specific absorptive fibres in the mesenteric nerves. The bile has not a stimulant action on the cells. Weak alcohol acts as a stimulant without evidence of concomitant increase of blood-supply. The cells exhibit an orienting action upon salts in solution and especially upon common salt. It can be shown that in a loop of gut with injured cells sodium chloride enters the lumen from the blood at a time when it is being actively absorbed from a normal control loop in the same animal. It was shown in the course of Professor Reid's experiments that distilled water acts very deleteriously on protoplasm, the epithelial cells being detached by simple washing out with it. In experiments made with peptone and glucose it was shown that the chief factor in the absorption of peptone is an assimilation (or adsorption) by the cells, whilst in the absorption of glucose, diffusion variable in accordance with the permeability of the cells, and consequently in all probability related to their physiological condition, is the main factor.

THE COAL SMOKE ABATEMENT SOCIETY: SILENT WITNESSES.

THERE were two summonses at the West London Police-court recently against each of the following firms—namely, Messrs. Fuller, Smith, and Turner, of the Griffin Brewery; Messrs. Thornycroft and Co.; Chiswick Soap Company; and Messrs. J. T. Duggins and Co., Dye Works, British-grove, in respect of their smoky chimneys causing a nuisance. Mr. Collins, clerk of the Chiswick Council, supported the summonses. Mr. John H. Clarke, sanitary inspector for the district of Chiswick, stated that acting upon the instructions of the district council he kept special observations upon the chimneys complained of and produced his notebook with certain dates and times when black smoke was emitted. He reported thereon to the council and produced their minutes as his authority for these proceedings. He also produced photographs showing the position of the different chimneys and the smoke issuing from them. Inspector George Petty of the Coal Smoke Abatement Society gave corroborative evidence. In the case of the Griffin Brewery the magistrate looked at the photograph and remarked that "the chimney had been caught in the very act." A representative of the firm stated that steam fuel had been used in consequence of the high price of Welsh coal, but arrangements had been made for the supply of the latter. Three photographs were produced of the premises of Messrs. Thornycroft and the magistrate inquired of the works manager, who attended, what he had to say to those silent witnesses. The [illegible] manager in answer said it was a serious matter to [illegible]ness, as a special kind of coal was required for the [illegible] chimney of which was the chief offender. In the [illegible] photographs were produced and the defendant [illegible] been stopped. Mr. Rose remarked [illegible] to convict in cases of factory [illegible] chimney was permitted to go [illegible] he was bound to enforce the Act. [illegible] a penalty of £5 in each of the [illegible]s, to include the expenses of [illegible]trate stating that they were [illegible] fourth case two photographs

were produced showing a chimney and a large quantity of smoke issuing from it. Mr A. B. Watson, who defended, suggested that a mistake had been made in photographing a chimney which was not on his client's premises. He took a technical objection to the summons and said it was for the abolition of a nuisance for which notice to abate had not been served. Mr. Rose overruled the objection and said it was the same smoky chimney against which a notice had been served. However, the magistrate, acting on the suggestion of Mr. Watson, adjourned the summons for a month for further observations of the chimney and to await the action of the council with respect to other chimneys in the locality. These cases are interesting for two reasons. Firstly, we understand that the Chiswick District Council did not act spontaneously but only when the powers of the Local Government Board had been exercised against it. The Coal Smoke Abatement Society which supplied the evidence instigated the Local Government Board to put pressure upon the Chiswick District Council with results that should be of value to all communities where the local authorities will not act. Secondly, the value of the silent witness is demonstrated and no evidence against an offensive chimney will be complete for the future unless supplemented by photography.

APPENDICITIS IN A HERNIAL SAC.

IN the *Boston Medical and Surgical Journal* of Jan. 4th Dr. B. Tenney has published a case of appendicitis in a hernial sac. An old woman, aged 79 years, complained of severe abdominal pain and pain in the right groin. For some days she had been more constipated than usual and had attempted to vomit several times. Below Poupart's ligament was a tender, doughy swelling which gave no impulse on coughing. She had first noticed the swelling six years previously after unusual exertion. Strangulated omental hernia was diagnosed. Taxis had to be abandoned because it was painful. On the following day the symptoms were worse and the swelling was larger. Under local anæsthesia by Schleich's method the swelling was opened and a teaspoonful of pus and scybala were evacuated by incision. In a mass of fat with a pedicle leading to the femoral ring the vermiform appendix was found. It was tied and cut off close to the ring, to which it was adherent. Hernia of the vermiform appendix only is rare. According to Bajardi 57 cases of inguinal, 40 of femoral, and one of obturator hernia had been recorded in 1895. The crises in hernia of the appendix present the same symptoms as in appendicitis within the abdomen, but the local tenderness is a prominent symptom.

THE SALE OF INTOXICANTS TO CHILDREN.

THE country and the House of Commons may be equally congratulated on the progress made by the Bill for prohibiting the sale of intoxicating liquors to children. The Committee stage has still to be gone through, but the second reading passed without a division—an encouraging evidence of healthy public opinion on the subject. Habit at any age, and no matter of what kind, is masterful, and youth is for several reasons especially open to the attractions of alcohol. Sense is then keener, impulse more natural, education, and its later growths conviction and experience, are still only in the making. Furthermore, there can be no question that control of childhood and youth where it is exercised commonly administered from without. The parent or teacher provides in most cases a great part of the moral energy required for good conduct. This arrangement is natural. We cannot but feel that it is a consequence of social evolution rather than the effect of an artificial system. If it be such, how are we to regard the action of a force of intelligent natural opinion on the external influences which surround the social life of childhood. Surely, this is also a natural, and not, as some contend that it is, an artificial and superfluous form of control. We cannot agree with those who regard the measure prohibiting the sale of intoxicating liquors to children as an uncalled for interference with parental rights and responsibilities. It facilitates the exercise of these domestic powers, but it does not clash with them. Neither does it supersede them, for its field of operation lies outside the home. To the child who may be liable to temptation and perhaps tainted by hurtful tendencies not infrequently inherited, it provides one more effectual safeguard on the way through life. There are not too many such safeguards, and we therefore hope that whatever changes a Parliamentary Committee may introduce into the measure it will not do anything to weaken its great moral and sanitary value.

SANITARY INSPECTORS' QUALIFICATION.

THE Sanitary Committee of the Manchester Corporation have just passed a resolution declaring that the provision made by the Victoria University for granting certificates of competence to sanitary inspectors and the preparatory course of instruction arranged in conjunction therewith by the Technical Instruction Committee of the corporation are ample and satisfactory. The proof of this is that the inspectors have shown themselves most efficiently trained and have discharged their duties in a highly satisfactory manner. The committee are therefore opposed to the Public Health (Sanitary Inspectors' Qualification) Bill now before Parliament, because it is feared that the Victoria University qualification will not be accepted. In the opinion of the committee and of a great many more it would be injurious to the public interest and a great injustice to candidates for inspectorships in the north to compel them to make a journey to London to obtain a diploma, for these men belong to the artisan class and can ill afford either the time or the money that would be required.

THE ETIOLOGY OF CANCER

THERE is in medicine no greater *quæstio vexata* at the present time than that of the etiology of malignant disease, and never before have such determined efforts been made to solve this difficult problem. The Middlesex Hospital has recently organised a special department with skilled pathologists and with registrars to investigate the pathology of malignant disease, and the material obtainable from the special wards at that hospital is so plentiful that we may hope for important results. In 1899 the Cancer Society of London sent a special commissioner to the United States to examine and to report on the work being done in that country in this subject, and from his report we gather the following particulars. The New York State Legislature has founded a laboratory where scientific research work is conducted for the investigation of the cause of cancer. Similar research work is also being carried on at Boston in the Medical School of the Harvard University. The New York State Laboratory is under the supervision of the medical department of the University of Buffalo. The pathologist is Dr. Harvey Gaylord, the bacteriological department is under the charge of Dr. R. D. Pease, and an able physiological chemist, Dr Clews, has been appointed to investigate the chemistry of the disease. A great deal of work has been done in attempting to obtain cultivations from malignant tumours, and the procedure adopted in the laboratory is as follows: full precautions are taken against contamination and many inoculations are made from the specimen, several culture media being used. Anaerobic cultures have also been tried and inoculation experiments

are also made on animals. A complete microscopic examination is also made, both when the tissues are fresh and when they are hardened. Elaborate records are kept of each investigation in a card catalogue, which renders reference very simple. It is too early yet to base any conclusions on what has been done, but the investigations are so careful and thorough that the results should be thoroughly trustworthy. Many of the opponents of the parasitic theory of the origin of cancer have so fully satisfied themselves that cancer is not a parasitic disease that all these elaborate investigations may appear useless, but it is essential that the question should be thoroughly investigated, for the acquisition of a full knowledge of the etiology of the disease will go far in indicating to us the best methods both of prevention and treatment.

FOREIGN PRACTITIONERS IN ITALY.

WE directed attention a few weeks ago to the anxiety of some of our compatriots in Italy as to the probability of legislation there to their disadvantage. The case of Italy raises the whole question of the rights of foreign practitioners in an acute and pressing form; and it is certain that it will have to be faced at the approaching meeting of the General Medical Council. It is to be hoped that those who are opposed to the recognition of foreigners belonging to countries where medical education is fairly equal to our own and to which English people repair in great numbers will prepare themselves for the discussion. The question is pretty sure to be raised in Parliament and if such proposals are to be resisted it should be on forcible grounds.

Dr. F. S. Toogood, as chairman, and Mr. S. R. Russell Matthews and Mr. R. B. Anderson, as honorary secretaries respectively of a "Provisional Joint Committee of Societies against Midwives' Registration," wish to invite through our columns subscriptions to a voluntary fund for resistance to Midwives Registration. Their letter is dated from Lewisham Infirmary, where, we presume, subscriptions may be sent.

THE Corporate and Medical Reform Association, Limited, earnestly invite donations to a "Continued Special Fund" to be used in resistance to the Midwives Bill. Cheques and postal orders may be sent to the Honorary Secretaries of the Association at 2, Southampton-street, Strand.

AT a meeting of the President and Fellows of the Royal College of Physicians of Ireland, held on April 9th, the President admitted Sir James Reid, M.D. Aberd., Resident Physician and Physician-in-Ordinary to the Queen, to the honorary Fellowship of the College.

THE Colonial Office received a telegram on April 6th from Sir Charles Bruce, the Governor of Mauritius, stating that for the week ending April 5th only one fresh case of bubonic plague had occurred and one death.

Mr. George Brown will take the chair at a meeting condemning the registration of midwives to be held to-day (Thursday, April 12th), at 4 30 P.M., at the Charing-cross Hotel.

Mr. B. Moore, late Assistant Professor of Physiology, University College, London, has been appointed Lecturer on Physiology at the Charing Cross Hospital Medical School.

Dr. W. S. Church was re-elected on Monday last President of the Royal College of Physicians of London by a practically unanimous vote.

THE PARIS UNIVERSAL EXHIBITION.

(FROM OUR SPECIAL CORRESPONDENT.)

THOUGH the Exhibition is not complete, there will be more than enough to see when the doors are opened to the public on April 15th. Many hostile criticisms have been published, and a few days ago M. Chapuis introduced a motion in the Chamber of Deputies demanding that the opening should be postponed till May 1st. He received but scant support and his motion was thrown out by 399 votes against 27. The fact is, that no great Universal Exhibition has ever been completely ready on the opening day, and some adversaries of the present Government have endeavoured to make political capital out of the delays and miscalculations which have occurred on this as on all previous and similar occasions. In England, these political considerations should not be allowed to obscure the main fact of the case. These were succinctly brought forward in the Chamber by the responsible Minister, M. Millerand, Minister of Commerce. It was on Nov. 21st, 1895, that a project of law in favour of holding the Exhibition was introduced in the Chamber, and on Feb. 3rd, 1896, an amendment opposed to the scheme was presented. It was not before June, 1896, that the amendment was rejected and the law sanctioning the Exhibition approved by both the Chamber of Deputies and the Senate. But the Palace of Industry, in the Champs Elysée, which had served for the first Universal Exhibition ever held in Paris and which dates as far back as the year 1855, could not at once be appropriated because in 1897 an exhibition of paintings and a horse show were to be held in that building. The removal of the greater part of this vast structure and the construction on its site of the magnificent Palace of the Fine Arts could not be commenced till the year 1898. Also the vast alterations of the gigantic gallery for machinery on the Champs de Mars, which was so much admired at the Exhibition of 1889, could not be commenced before last year. The same delay occurred with regard to the Army and Navy Palace, and this was due in a measure to the critical condition of the great iron industries which were not able to meet the orders received. Nevertheless the great palaces will be ready by April 13th and the art collections which they contain will constitute one of the most marvellous sights the world has ever seen. The Trocadéro with its varied colonial buildings and exhibits is likewise ready. On the Champs de Mars the great hall for festivals where the inauguration ceremony is to take place will be finished in time. It is the exhibits of the metal trades and of electricity that are the most backward. In 1889 it was not till June 1st that an official fête was held to celebrate the completion of the Exhibition. Three weeks after the inauguration of the Exhibition of 1889, some 17,000 tons of goods had been introduced on the grounds. But this year, on April 1st—that is, two weeks before the inauguration of the Exhibition—the goods introduced by the exhibitors amounted to 20,000 tons. As a matter of fact the present Exhibition is more advanced than the previous Exhibitions at the time of opening; yet it has been a much greater undertaking. In 1889 the site covered by the Exhibition measured 960,000 square metres and the buildings thereon occupied 290,000 square metres. To-day the site measures 1,080,000 square metres, but the increase is much greater in regard to the size and importance of the buildings, for these extend over 460,000 square metres of ground. Taking all these facts into consideration there is every reason to believe that those who visit the Exhibition, even during the first days, will not be disappointed. Many things will not be in their place, remnants of scaffolding may be seen here and there, but more than enough will be ready to engage the attention and to occupy many days of close and instructive investigation.

Already the festivals in connexion with the Exhibition have commenced. The first was held on Saturday last in Old Paris which is one of the most attractive features of the Exhibition. This mediæval street is built on the banks of the Seine, so that its picturesque aspect may be seen to great advantage from a distance, from the bridges or from the other side of the river. The fête was organised by the Society of Authors and of Journalists and M. Loubet, President of the Republic, several members of the Government, and many other distinguished persons were present

Thus at least this part of the Exhibition is ready. On April 21st there is to be a big banquet at the *Hôtel de Ville* to celebrate the opening of the Exhibition. The President and Madame Loubet will be entertained by the town. After the dinner there will be a ball to which, to avoid too great a crowd, not more than 4000 persons will be invited. Thus there can be no doubt that the Exhibition season really opens this month.

Unfortunately, however advanced the preparations may be at the Exhibition the town itself is far from ready. For a year or so the traffic in the streets of Paris has been greatly impeded by all manner of undertakings, the most notable being the construction of an underground railway. The inhabitants put up with the inconvenience under the impression that it was all for the Exhibition and would be terminated before the opening day. In this they are bitterly disappointed. The underground railway is not yet completed and there are many supplementary tramway lines that are still in course of construction. The Rue de Londres and the Rue d'Amsterdam are blocked for the laying down of wood pavement and by the construction of an electric tramway line. It is not possible to get through the Rue de la Boetie, while the Rue du Quatre-Septembre, the Rue Richelieu, and even the Place de la Bourse are in a deplorable condition. The Pont de l'Alma, which crosses the Seine in one of the busiest parts of the Exhibition, is undergoing repairs just at the moment when the traffic is most heavy. The planks and poles of the scaffoldings that are being carted away, the trees, shrubs, and flowers that are being brought to . . . . . together with the goods of . . . . . all hours of the day. Ever . . . . . of the streets are still in the hands of the labourers and the *quai* from the Chamber of Deputies to the new Orleans railway station is "up." It was thought that the moment the Exhibition was opened there would be no more public works continuing in Paris and that a serious, perhaps a dangerous, labour crisis would ensue. This evidently will not be the case.

Many thousands of labourers and other workers flocked from the provinces and from abroad to Paris so as to be employed either at the Exhibition or on the embellishments of the town. This migration was fraught with some peril. It caused overcrowding in the poorer quarters, and there was danger of epidemic diseases being imported; indeed, some cases of small-pox occurred. It was thought that many of these provincials would acquire a taste for Paris life and refuse to go back to their own parts of the country when the public works were completed, and that if they remained they would overcrowd the labour market and thus tend to reduce wages all round. As at the same time the cost of living would increase considerably in consequence of the Exhibition there might, it was feared, be much poverty. This would mean overcrowding and insufficient food, and therefore a greater susceptibility to disease. To make matters worse, the weather has been most unpropitious and so cold for the season that most of the workers connected with the clothing trades have been thrown out of employment, for ladies especially have hesitated to order spring dresses. Under these circumstances it is perhaps fortunate that the public works are not all finished, and that the cessation of the supplementary work caused by the preparations for the Exhibition will not be so sudden as was anticipated. Thus the labour crisis will not be so acute, and this is an advantage not only from the political and economical, but also from the public health, point of view.

These economic conditions show that the sanitary reformer in visiting Paris during the Exhibition will find interesting problems to study apart from the exhibits themselves. In the Exhibition Class 3, which is devoted to hygiene, will be very interesting, and all the classes from 101 to 112 are connected with matters affecting the public health. Then there are Class 16 devoted to medicine and surgery and Class 15 to instruments of precision. Group V., with its two classes, is devoted to electricity, and here also are matters of interest from the medical and sanitary point of view. Indeed, it is difficult to find a group that does not contain something of special interest to the medical practitioner and the sanitary reformer. For instance, Group VI. is reserved for civil engineering and transport, drainage, ventilation of railway carriages, &c., while Group VII. is appropriated to agriculture, and how much does the health of the people depend on agricultural products? Then Groups VIII. and IX. take in horticulture, forestry, and botany, in which are included medical plants. The effect of forests on climate also needs very careful study. Group X. comprises all that relates to wines, &c., and alimentary substances. Group XI., mines and metallurgy, involves the problem of the ventilation of mines, safety from accidents, &c. Group XII., includes the dwelling, its decoration, its furniture, its warming and ventilating. Class 74 is devoted especially to the last two important sanitary problems. Group XIII., textile and clothing industries, raises the question of sanitary clothing. The importance of Group XIV., embracing all chemical industries, need not be insisted upon, while Group XV., miscellaneous industries, will include many things utilised by medical men. Group XVI. comprises hygiene, social economy, poor relief, factory legislation, and many other social problems on which public health depends. Group XVII. in treating of colonies also deals with the health of the colonists. Finally, Group XVIII., the armies and navies of the world, includes the military and naval medical and the sanitary services. It will be seen therefore that the medical man and the hygienist will have much to see and to learn at the great Exhibition which will so soon open its doors to visitors from all parts of the world.

Paris, April 8th.

ANNUAL REPORT OF THE REGISTRAR-GENERAL FOR 1898.

II.

A CONSIDERABLE portion of the Registrar-General's Report for 1898 is devoted to a discussion of the question of death certification. Of the half million or so of deaths recorded in England and Wales during this year, 92 per cent. were certified by medical practitioners and 6 per cent. by coroners after inquest, whilst nearly 2 per cent. were altogether uncertified. These proportions, however, require correction on account of the cases in which inquests were held on the bodies of persons who had been under medical care at the time of death. Such cases, although actually occurring under medical care, are placed in the column headed "inquests," and consequently do not appear in the medically certified list. In England and Wales more than 34,000 inquests were held during the year under notice. There is no doubt that in a large proportion of these cases medical evidence as to cause of death (with or without a necropsy) was taken at the inquest; but except in cases where a post-mortem examination is stated in the coroner's certificate to have been made it is impossible to ascertain whether or not medical evidence was given at the inquest, and, if given, what was the purport of that evidence. Out of more than 8000 inquests recently held in England and Wales it appears that the coroner's certificates contained information of post-mortem examinations having been made regarding 11 per cent. only of that number. The Registrar-General complains that the verdicts of coroners' juries are frequently so worded as to obscure the medical evidence given at the inquest concerning the cause of death, and he justly deplores the fact that the reliability of the national system of death registration should thus be seriously impaired, inasmuch as a large portion of his staff is occupied in the endeavour to maintain the efficiency of that system.

It appears that the attention of the Home Office has recently been drawn to this question in the course of an investigation into the alleged danger of poisoning by water gas, the Registrar-General accordingly has sent an extract from the report of a committee of that office which deals somewhat ominously with the difficulty referred to. The extract runs thus: "Lastly, we are so much impressed by the small accuracy and untrustworthiness of the statistics relating to particular causes of mortality which can be gathered from returns of coroner's verdicts that we realise, though the matter is outside the terms of reference to us, the necessity that some steps should be taken to ensure that the verdicts should lend themselves more readily to classification by the Registrar-General; and in particular we consider that

[illegible]

in every case where the coroner is in possession of a medical certificate of death, or where medical evidence has been taken at the inquest, a copy of that certificate or an abstract of that evidence should be appended to the coroner's certificate when sent to the Registrar-General."

We fully endorse the Registrar-General's opinion that if effect were given to this reasonable suggestion of the committee it is certain that a marked improvement would speedily appear in the national records of causes of death.

In this connexion we cannot ignore the fact that medical certificates of death, which were originally furnished as an act of grace by members of our profession, are now in all cases demanded by statute under penalty in case of default. It therefore seems to us unjust that the State, after exacting this service without payment from the medical profession, should suffer their own officers to confiscate a portion of the certificates thus obtained and so render them unavailable for the chief purpose which they were primarily designed to serve.

The extent to which medical aid is administered to the dying varies considerably at different ages as well as in different parts of the country. The minimum amount of such protection is expressed by the percentages of total deaths that have been medically certified at the several ages. But these figures by no means represent the actual proportions of the community that are cared for in their last illness, for, as has already been explained, we have at present no means of determining how many of the persons on whose bodies inquests are held had actually been under medical care at the time of death.

In the course of last year coroners' inquests were held in respect of rather more than 6 per cent. of the total deaths. The proportion varied considerably in different localities. In North Wales the percentage was 3·7 and in Herefordshire 4·1, whilst it ranged upwards to 6·6 in Cheshire, 7·4 in Southern London, 7·9 in Gloucestershire, and 10·1 in Northern London. In the present report a special classification of coroners' verdicts has been attempted for the purpose of showing the extent to which the finding of the juries can be utilised for statistical purposes. In a considerable proportion of the cases the causes of death are so specified in the coroners' certificates as to admit of some kind of classification, although there is, of course, no guarantee that the causes stated represent anything more than lay opinion, for there appears to be no means of ascertaining in how many of the cases medical evidence is given at the inquests. In 4873 instances—i.e., 14 per cent. of the total inquest cases—the returns of cause of death were so indefinite as to be worthless for scientific purpose.

Of the total deaths from natural causes on which inquests were held last year, the causes of 2345 deaths, or 15 per cent., were attributed by coroners' juries to "heart failure," "syncope," or "convulsions," without statement of definite disease, and the cause of 1516 other deaths, or 10 per cent., were so returned that they could be relegated only to the indefinite class. In some counties, among which may be mentioned London, Wiltshire, Devonshire, Somersetshire, Gloucestershire, and the East Riding of Yorkshire, the ill-defined cases formed but a small proportion of the inquests on deaths from "natural causes"; but in other counties, for example, in Berkshire, Norfolk, Cornwall, Lancashire, Cumberland, and North Wales, they ranged from 23 to 44 per cent. As might have been expected the statistical value of the verdicts of coroners' juries varies greatly in different parts of the country. Thus, in Kent and in some other counties bordering on the sea there is a large excess of "open verdicts" on persons found drowned, the juries being apparently unable to determine whether the drowning was accidental or otherwise. In London and a few other counties satisfactory information as to the causes of violent deaths is generally given in coroners' certificates, but in most of the south midland counties, as well as in Staffordshire, Yorkshire, and Northumberland, large numbers of the violent deaths are returned as "accidental" merely, no indication as to the cause or nature of the accident being derivable from the certificates. Reviewing the whole question, the Registrar-General concludes with the remark that inasmuch as the verdicts of juries are the only available source of information concerning deaths which are the subject of inquest, defects such as those above referred to are of serious importance in relation to the national registration of cause of death. In the year 1899 the deaths of 10,441 persons, or nearly 2 per cent. of the total deaths, were altogether uncertified. The proportion of uncertified deaths varies greatly in different localities. The lowest proportions were 0·1 per cent. in North London, 0·8 in Monmouthshire, and 0·9 in Wiltshire, the highest proportions being 4·2 in North Wales and 6·1 in Herefordshire. About three-fourths of the uncertified deaths in the year under notice were registered as such, after reference to coroners, but without inquest; the remaining deaths which had neither been certified nor referred to coroners include the following: (*a*) cases attended by qualified though unregistered medical practitioners; (*b*) cases informally attested; (*c*) cases attended by midwives; and (*d*) cases that had received no skilled attendance whatever in their last illness. A high proportion of uncertified deaths in a given locality does not necessarily indicate official laxity in regard to the registration of deaths, for the highest percentages of deaths neither medically certified nor reported to coroners occurred in Cornwall, the North Riding of Yorkshire, Durham, Bedfordshire, Herefordshire, Huntingdonshire, and North and South Wales; but this list includes only three (viz., Cornwall, Herefordshire, and North Wales) of the seven counties with the highest proportions of uncertified deaths. Uncertified deaths are commonly most numerous among infants and least numerous among persons at ages from 15 to 25 years, the proportion again increasing steadily as ages advances.

THE WAR IN SOUTH AFRICA.

THERE is a lull in the news from the theatre of war at the present time. Meanwhile the intelligence that has been received of late, although it has no real significance and can have little or no influence on the future results of the campaign, is not calculated to exhilarate us but is admirably adapted to give rise to a sharp recrudescence of adverse criticism and inimical comment on the part of the foreign press. A little success or failure on one side or the other is the barometer which surely indicates the tone that will be adopted. Our conduct of the war and our motives in having undertaken it will not be judged by any moral standard as to whether these were right or wrong but will materially depend upon the character of the latest news. Briefly stated the situation in South Africa appears to be at the present time that Lord Roberts is not ready to make any movement owing to the want of horses to supply the place of the large number of those lost during the campaign and to the want of adequate supplies of warm clothing for the army under his command. It is absolutely essential, moreover, to secure his lines of communication before an advance is made into the Transvaal. General Buller's force after the relief of Ladysmith was, we may suppose, too much exhausted and depleted of stores and transport to undertake a passage over the Drakensberg, and it remains at Ladysmith till ready for the next move. The Boers have most skilfully taken advantage of this state of unpreparedness by successful movements of an offensive kind, in which they have shown a remarkable combination of enterprise and caution. Whether the Boers will care to incur the risk of being attacked by the Basutos by making a movement into their country in order to outflank General Brabant's column remains to be seen. The news from Mafeking is, to say the least, as good as could be expected. The splendid way in which that garrison has held out makes the desire for its speedy relief a more or less personal concern on the part of everybody in this country.

Such appears to be the present state of affairs at the theatre of war. Troops, stores, and remounts are still arriving in the country and the difficulty is their distribution where they are needed along the lines of railway and other means of transport at our disposal.

As regards the medical history of the campaign the strain on the medical service in the field must be very great with the number of sick and wounded still on their hands notwithstanding the large number of those who have already arrived in this country or are on their homeward voyage. As regards Ladysmith the information contained in a communication from the special correspondent of the *Standard* and published in that journal on April 7th is worthy of record. On Nov. 2nd, 1899, the investment of Ladysmith began. The garrison consisted of 572 officers and 12,924 men. On March 1st, 1900, when the siege was

there were in hospital 1996 officers and men, of whom 708 were suffering from enteric fever, 341 from dysentery, and 189 from

sions for enteric fever were 1776, for dysentery 1857. The number of deaths from enteric fever up to March 1st was 393, or more than 20 per cent., from dysentery 117, or 6 per cent., and from wounds 59. To added those of officers and

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the troops be protected by warm clothing. There is, unhappily, a large amount in the aggregate of enteric fever in the army in South Africa at the present time, and dysentery seems also to be prevalent to some extent.

We hope that amid the multitude of cases of enteric fever which have occurred during the present war the opportunity has not been lost sight of for keeping a record of those soldiers who have and those who have not been inoculated against that disease, with the view of instituting a comparison between them. As a large number of the troops were, we understand, inoculated either before embarking or during the voyage out to the Cape there should be the requisite amount of material in that country for instituting a comparison of the kind and of arriving at some conclusion as to the prophylactic influence or otherwise of the experiment.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE Council held a quarterly meeting on April 5th, the Senior Vice-President, Mr. H. G. HOWSE, being in the chair.

The thanks of the Council were given to Mr. N. C. Macnamara for his presentation to the museum of casts of portions of the skeleton of prehistoric man.

The Jacksonian prize for the year 1899, on "The Pathology, Diagnosis, and Treatment of Inflammatory Affections of the Nasal Fossæ and the Associated Sinuses and Air-cells," was awarded to Dr. Lambert Lack, whose dissertation bore the motto "*Labor ipsa voluptas.*"

The recommendation of the Jacksonian Committee that the subject for the Prize for 1901 should be "The Diagnosis and Treatment of Bullet Wounds of the Chest and Abdomen" was adopted.

The John Tomes prize, given for "original and other scientific work done either partially or wholly within the three years ending Dec. 31st, 1899, by Licentiates in Dental Surgery of the licensing bodies of Great Britain and Ireland," was awarded to Mr J. H. Mummery.

The Council approved certain alterations in the regulations for the examinations for the diploma of Fellowship, by which candidates who do not possess the diplomas of the two Colleges may enter for the Fellowship. These alterations will have again to be submitted for the approval of the Council and then forwarded to the Crown for sanction and ratification.

A letter was read from Mr. Davies-Colley resigning his seat on the Council. It was resolved—

That Mr. Davies-Colley's resignation be accepted and that the Council hereby express their deep regret that illness should be the cause of such resignation, and their sincere appreciation of Mr. Davies-Colley's services to the College as a member of the Council and Court of Examiners.

The Senior VICE-PRESIDENT stated that the vacancy on the Council thus occasioned would be filled by the Fellows at the annual meeting for the election of members of Council on July 5th next.

The Council proceeded to elect to the Fellowship two

ng, and Brigade-
l, I.M.S., and
Tugo of Newcastle were elected.

A telegram was sent to H.R.H. the Prince of Wales, expressing the sincere and loyal congratulations of the assembled Council on his happy escape.

PROCEEDINGS AT THE CANNON-STREET HOTEL IN REGARD TO THE MIDWIVES BILL.

THE following letter addressed to Dr. Glover and covering copies of the resolutions which we published in our last issue has been sent to us for publication:—

The Infirmary, Lewisham, S.E., April 5th, 1900.

DEAR SIR,—Your letter of April 2nd to Drs. Toogood and Henry was read, yesterday, as you desired, to the meeting convened by a Committee of Societies of S.E. London, and adjacent parts of Kent and Surrey, to consider measures to resist the registration of midwives. The meeting, after passing the two preceding resolutions, and the third, by which it resolved itself into a Committee for the purpose of giving effect to those resolutions, in reply to your letter adopted the fourth of those, copies of which we furnish herewith.

We very earnestly assure you that this fourth motion was proposed and resolution adopted, in no spirit of personal unfriendliness; but because it was the conviction of all present that the profession can never be united and organised for its common interests, until it can secure as its representatives, on all its corporations, men in harmony with its legitimate aspirations, and working together for those aspirations, instead of disregarding them, and opposing and paralysing each other.—We are, dear Sir, yours very truly,

(Signed) F. S. TOOGOOD.
J. P. HENRY.

To Dr. J. Grey Glover,
A Direct Representative for England on the General Medical Council.

Dr. Glover has sent us his reply also for publication:—

Highbury place, N.

GENTLEMEN,—I have received from you a letter covering the following resolution moved by Dr. Lorimer Hart and seconded by Mr. Joseph Smith at a meeting presided over by Mr. George Brown and in its later and attenuated stage by Dr. Toogood.

That whereas the General Medical Council and others who support the registration of midwives on the mistaken expectation of "influencing important details" have signally failed to amend the worst provisions of the Bill before Parliament, it is time that honestly mistaken

invites him by resigning his seat and seeking re-election to afford to his constituents a just opportunity of reconsidering their relations to him.

It is pleasant to have the assurance conveyed in your covering letter that no personal unfriendliness is meant by such a resolution. I accept the assurance, though it is very difficult to construe the procedure of the gentlemen concerned in this matter as either reasonable or courteous. The impression produced on others affected by your views and methods may perhaps be gathered from the fact that two only of a large number of Members of Parliament whom you invited attended, and that the great profession to which we belong was, in the end, with its 23,000 members, represented by 17 persons, who thought it seemly to ask a Direct Representative to resign because of a disagreement with him as to the best means of dealing with the question of midwives.

I am sure nothing would more effectually surprise you or lower me in the esteem of the great body of the profession than that I should treat such a resolution seriously. I shall only remind my constituents generally that as a matter of fact my vote in THE LANCET ballot was given against this Bill and will still be given so until I am satisfied that the midwives to be licensed shall be required in all unusual cases to appeal for help to the medical profession.

It is only fair to the General Medical Council to say that it has in most important ways [illegible]

Bill. Even as the Bill stands at present the Council has secured a control over licensed midwives which would probably not have been conceded if Parliament had thought that the profession was represented by the 17 modest gentlemen who ask me to resign a trust which was given me for the third time by thousands of registered practitioners on the most explicit understanding that I would support such legislation under certain conditions.

Believe me, Gentlemen, yours very truly,

J. G. GLOVER.

F. S. Toogood, Esq., M.D. Lond., &c.,
John P. Henry, Esq., M.D. Dub.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

Reports to the Local Government Board upon Epidemic Enteric Fever in the Borough of Falmouth, by Dr. G. S. BUCHANAN.[1]—Many of those who have been accustomed to think of Falmouth solely as a "health resort" will, after reading Dr. Buchanan's report, have certain misgivings as to whether, in seeking the health which, in so far as nature is concerned, they may reasonably expect to find there, they may not be unfortunate enough to fall victims to one or another of the sanitary defects revealed in the report before us. The inqury here in question was apparantly set on foot through the instrumentality of 59 ratepayers of the borough who complained to the Local Government Board as to "diverse insanitary conditions" as well as of the quantity and quality of the water supplied to the inhabitants. We have here, indeed, an excellent example of a central authority coming to the assistance not only of certain ratepayers, who are unable to awaken their own town council to vigorous action, but also of the public at large.

The population of Falmouth is about 12,000 and the place is still an important "port of call," though in this sense it compares unfavourably with its notoriety in the old sailing days. Like many old Cornish towns Falmouth is not well-arranged from the view-point of space about houses, and doubtless there are many dwellings therein without the damp-proof course of modern days. We must, however, confess to no little astonishment at learning from Dr. Buchanan that even at the present time the by-laws in force in this district do not provide for these elementary precautions in new buildings. The sewers could not in the cases which the inspector examined be regarded as water-tight, and at times the joints were found to be quite open, and although parts of the sewage are subjected to what is known locally as "treatment," the state of the foreshore on to which the sewage discharges is, according to the report, "an intolerable nuisance." Certain house drains connected with good private dwellings were being exposed at the time of the inspection, and Dr. Buchanan, taking advantage of the circumstance, found them "seriously defective," faulty construction of house drains in Falmouth being, it appears, by no means a thing of the past. The water-supply, which is obtained from a gathering ground liable to suffer pollution, is in the hands of the Falmouth Water Company which supplies both Falmouth and Penrhyn with water. Certain filtering arrangements have within recent years been provided, but they are apparently somewhat crude, and there would be a difficulty, we gather, in carrying out Koch's maxims with regard to the filter-beds. Intermissions in connexion with a certain high level supply are frequent, and on every Friday there is a general pipe-mending which involves a turning off of the supply from both the high and low levels. The mains and service-pipes are often defective, and this fact, coupled with the unsound condition of the sewers and drains and with the frequent intermissions of supply, affords opportunities for the insuction of polluted matter which should be anything but reassuring to the inhabitants of Falmouth.

During 1899 up to Sept. 30th there were 112 cases, yielding 12 deaths, of enteric fever, and these cases Dr. Buchanan divides into two groups, [illegible] were distributed fairly evenly [illegible] of the year, and the other of 74, all of which were confined to August and September alone. In both groups the cases were almost exclusively restricted to a certain area of the town which is spoken of in the report as the "central area" and to this point reference will again be shortly made.

In seeking for the cause of the outbreak Dr. Buchanan passed in detailed review occupation, milk-supply, sewers, soil-pollution, and shell-fish, but after considering all the facts, as well as the possibility of the pollution of the public water-supply at its source, he is not inclined to accept any of these possible agencies as having had chief concern in the distribution [illegible] mouth during 1899. The confinement of the cases to the "central area" suggested some factor common to that area which was not shared in by the district outside such area. A theory of the local pollution of the water mains seemed to Dr. Buchanan to afford a key to the peculiar distribution of the disease, and he was able to demonstrate by an ingenious experiment that under certain conditions the existence of which are probable in Falmouth a direct insuction of water from polluted soil or from a leaking drain might well take place. It appears that when the water is turned off to allow of the usual weekly repairs a connexion is purposely established between the high and the low level supplies, and this weekly connexion furnished Dr. Buchanan with a clue which goes far to explain the local prevalence of the disease, more particularly the outbreak which occurred in August and September. Under the heading of "Measures Adopted in Repression of the Epidemic" Dr. Buchanan tells us "there is not much to chronicle." The cases in the earlier part of the year passed "almost unnoticed" by the Town Council, and when the disease became epidemic in August the presence of the visitors' season conduced rather to suppression of the facts than to efforts to combat the march of the outbreak. The alarm, however, led to certain measures being taken, notably perhaps to a gratuitous supply of "Jeyes' fluid" and the remedy, often "in a slipshod fashion," of defective drainage. The council have no isolation accommodation and no disinfecting apparatus, and no attempts were apparently made to procure the use of either. In 1898, we are told, the Town Council conceived the righteous idea of promoting a Bill in Parliament to purchase the undertaking of the Falmouth Waterworks Company, but the ratepayers refused to sanction the proposal, and it was whispered in Falmouth to Dr. Buchanan that the reason for this refusal was a mistrust on the part of the ratepayers "of the capacity of their own representatives for carrying out so large an undertaking." It is needless to mention in detail the excellent advice with which the admirable report we are noticing concludes, but we may perhaps express a wish that Falmouth may now recognise the responsibility which rests upon her, not only in regard to her own people, but to the greater public, the members of which are attracted to her shores.

[1] Eyre and Spottiswoode. Price 1s. 6d.

VITAL STATISTICS OF LONDON DURING MARCH, 1900.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in each of the 43 sanitary areas of London. With regard to the notified cases of infectious diseases in the metropolis, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 6·6 per 1000 of the population, estimated at 4,589,129 persons in the middle of this year. In the three preceding months the rates had been 8·8, 8·0, and 7·0 per 1000 respectively. The rates were considerably below the average in Paddington, Marylebone, St. Giles, St. Martin-in-the-Fields, Strand, and Clerkenwell sanitary areas; while they showed the largest excess in St. Olave Southwark, Bermondsey, Rotherhithe, Lewisham (excluding Penge), Lee, and Plumstead. Three cases of small-pox were notified during March, of which two belonged to Hackney, and one to Poplar sanitary areas; three small-pox patients were admitted into the Metropolitan Asylums Hospitals during the month, and three remained under treatment on March 31st. The prevalence of scarlet fever showed a slight increase upon that recorded in the preceding month; among the various

(Specially compiled for THE LANCET.)

Sanitary Area.	Estimated population in the middle of 1900.	Notified Cases of Infectious Diseases. Small pox.	Scarlet fever.	Diphtheria *	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Deaths from Principal Infectious Diseases. Small pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 Persons living.	Deaths from all causes.	Death rate per 1000 living.	Deaths of Infants under one year to 1000 births.
LONDON	4,639,129	3	877	856	—	250	2	12	321	—	2321	6·6	—	205	24	142	166	—	37	—	39	613	1·7	6726	19·1	138
West District.																										
Paddington	150,164	—	3	10	—	1	—	—	6	—	30	5·0	—	1	—	3	1	—	—	—	—	5	0·5	157	15·7	134
Kensington	177,[illegible]	—	21	5	—	5	1	—	17	—	72	6·4	—	13	—	3	1	—	—	—	3	20	1·5	195	14·6	124
Hammersmith	110,[illegible]	—	12	3	—	7	—	—	5	—	47	5·6	—	10	—	6	—	—	1	—	—	17	2·0	136	16·1	139
Fulham	[illegible]	—	5	47	—	11	—	—	9	—	69	9·5	—	17	—	4	3	—	—	—	1	25	2·4	164	15·7	74
Chelsea	50,715	—	17	9	—	1	—	1	3	—	31	4·2	—	5	1	2	1	—	—	—	1	10	1·3	132	17·8	116
City of Westminster	141,123	—	—	11	—	3	—	—	4	—	40	6·4	—	—	1	1	1	—	1	—	—	4	0·6	102	16·4	102
Westminster	211,507	—	11	7	—	—	—	—	8	—	26	6·6	—	1	—	1	1	—	—	—	—	3	0·8	85	21·4	182
St. James, Westminster	214,407	—	4	3	—	1	—	—	—	—	8	4·9	—	1	—	—	—	—	—	—	1	2	1·2	33	20·0	128
North District.																										
Marylebone	139,777	—	11	6	—	6	—	—	15	—	43	4·0	—	3	1	—	1	—	2	—	5	12	1·1	221	20·6	129
Hampstead	81,706	—	13	7	—	4	—	1	2	—	33	5·3	—	1	—	1	—	—	—	—	—	2	0·3	73	11·6	91
St. Pancras	146,[illegible]	—	24	30	—	15	—	—	9	—	77	4·1	—	25	1	4	6	—	3	—	4	43	2·3	401	21·3	126
Islington	241,541	—	30	27	—	13	1	—	26	—	146	5·4	—	16	1	5	7	—	—	—	2	32	1·2	470	17·4	126
Stoke Newington	35,715	—	12	5	—	5	—	—	3	—	25	9·1	—	—	1	1	—	—	—	—	—	2	0·7	36	13·1	120
Hackney	122,210	2	45	41	—	17	—	1	17	—	126	7·3	—	1	3	6	21	—	3	—	1	35	2·0	282	16·3	133
Central District.																										
St. Giles	56,[illegible]	—	1	2	—	—	—	—	1	—	4	1·4	—	1	—	—	—	—	1	—	1	3	1·1	67	23·7	131
St. Martin-in-the-Fields	11[illegible],5	—	2	1	—	—	—	—	—	—	3	3·3	—	—	—	—	1	—	—	—	—	1	1·1	18	19·8	222
Strand	22,743	—	1	1	—	—	—	—	2	—	4	2·3	—	2	—	—	—	—	—	—	—	2	1·1	41	23·6	242
Holborn	21,[illegible]	—	3	7	—	1	—	—	—	—	11	4·9	—	—	—	1	—	—	—	—	—	1	0·4	50	22·3	179
Clerkenwell	69,007	—	6	6	—	3	—	—	2	—	18	3·6	—	—	2	2	3	—	—	—	—	7	1·4	110	21·7	163
St. Luke	43,[illegible]	—	2	5	—	2	—	—	6	—	15	4·2	—	1	—	1	11	—	—	—	1	14	4·5	105	33·7	223
City of London	9,922	—	3	6	—	3	—	—	2	—	14	6·8	—	—	—	3	—	—	—	—	—	3	1·6	57	27·6	121
East District.																										
Shoreditch	120,[illegible]	—	21	21	—	5	—	1	11	—	60	7·5	—	5	1	4	7	—	—	—	1	18	1·9	211	22·8	160
Bethnal Green	12[illegible],331	—	23	20	—	5	—	—	11	—	70	7·1	—	10	1	7	12	—	1	—	3	34	3·4	211	21·3	155
Whitechapel	[illegible]	—	9	15	—	7	—	—	3	—	61	8·1	—	3	1	3	1	—	—	—	—	8	1·3	125	19·6	172
St. George-in-the-East	4[illegible]	—	9	6	—	4	—	—	6	—	24	6·4	—	—	—	1	2	—	1	—	—	4	1·1	79	21·1	124
[illegible]	[illegible]	—	6	15	—	4	—	—	4	—	29	6·4	—	7	—	2	6	—	1	—	—	16	3·5	103	23·9	171
Mile End Old Town	11[illegible]	—	14	14	—	6	—	—	7	—	40	4·6	—	6	—	4	3	—	1	—	—	14	1·6	178	20·2	110
[illegible]	1[illegible]	1	31	40	—	17	—	1	22	—	93	7·5	—	7	—	11	19	—	1	—	1	39	3·0	283	22·7	143
South District.																										
St. Saviour, Southwark	[illegible]	—	5	10	—	7	—	—	1	—	16	8·7	—	3	—	—	—	—	2	—	—	3	1·6	43	23·[illegible]	217
St. Olave, Southwark	[illegible]	—	14	29	—	7	—	—	4	—	42	5·0	—	5	2	4	5	—	2	—	2	18	3·3	143	17·0	190
Bermondsey	[illegible]	—	13	2	—	7	—	—	7	—	60	6·3	—	7	1	7	5	—	—	—	1	21	2·2	208	21·7	131
Rotherhithe	[illegible]	—	[illegible]	1	—	1	—	—	1	—	5	9·6	—	—	—	1	3	—	—	—	1	5	0·9	29	34·5	156
Lambeth	[illegible]	—	25	30	—	6	—	—	3	—	67	10·2	—	2	—	5	8	—	2	—	1	18	2·7	157	23·8	181
Battersea	4[illegible]	—	12	40	—	7	—	—	8	—	57	11·7	—	14	—	1	1	—	—	—	1	17	3·4	76	24·0	176
Camberwell	[illegible]	—	31	47	—	15	—	—	17	—	130	8·3	—	11	—	5	8	—	3	—	2	27	1·3	468	19·5	142
Dulwich	[illegible]	—	42	24	—	15	—	—	9	—	111	8·1	—	4	1	2	9	—	7	—	1	24	1·8	244	17·9	111
Wandsworth	[illegible]	—	72	32	—	15	—	—	17	—	124	7·4	—	7	1	4	1	—	3	—	1	17	1·0	277	16·6	121
Clapham	[illegible]	—	—	20	—	5	—	3	14	—	142	7·2	—	6	2	15	1	—	—	—	—	22	1·1	344	17·7	123
Greenwich	[illegible]	—	43	44	—	4	—	1	17	—	114	8·1	—	2	2	9	11	—	1	—	1	26	1·8	266	18·8	130
Deptford	[illegible]	—	34	16	—	7	—	—	10	—	70	9·8	—	3	1	6	3	—	1	—	3	17	2·4	112	15·6	5[illegible]
Woolwich	[illegible]	—	[illegible]	[illegible]	—	—	—	—	—	—	20	1·3	—	1	—	1	2	—	—	—	—	4	1·3	60	21·6	16[illegible]
Lewisham	[illegible]	—	8	[illegible]	—	2	—	—	1	—	33	10·6	—	—	—	4	—	—	1	—	—	5	1·6	4[illegible]	14·4	127
Plumstead	[illegible]	—	—	[illegible]	—	3	—	1	5	—	[illegible]	13·7	—	3	—	3	1	—	1	—	—	8	1·0	77	15·3	111
Poplar District	[illegible]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 27 cases of membranous croup.

† Including deaths from membranous croup.

sanitary areas this disease was proportionally most prevalent in Stoke Newington, Whitechapel, St. Olave Southwark, Lewisham, Woolwich, and Plumstead. The Metropolitan Asylums Hospitals contained 1654 scarlet fever patients at the end of March, against 2797, 2126, and 1827 at the end of the three preceding months; the weekly admissions averaged 162, against 197, 180, and 152 in the three preceding months. The prevalence of diphtheria showed a further considerable decrease from that recorded in recent months; the proportional prevalence of this disease was highest in Fulham, St. Saviour Southwark, St. George Southwark, Bermondsey, Lee, and Plumstead sanitary areas. There were 1236 diphtheria patients under treatment in the Metropolitan Asylums Hospitals at the end of March, against 1679, 1572, and 1402 at the end of the three preceding months; the weekly admissions averaged 148, against 184, 189, and 165 in the three preceding months. The prevalence of enteric fever in London showed a continued decrease from that recorded in recent months; among the various sanitary areas this disease was proportionally most prevalent in Fulham, City of London, Poplar, St. George Southwark, Rotherhithe, and Battersea. The Metropolitan Asylums Hospitals contained 263 enteric fever patients at the end of March, against 406, 289, and 274 at the end of the three preceding months; the weekly admissions averaged 35, against 40 in each of the two preceding months. Erysipelas was proportionally most prevalent in Westminster, Marylebone, St. Luke, St. George-in-the-East, Poplar, and Rotherhithe sanitary areas. The 12 cases of puerperal fever included three in Camberwell, two in Wandsworth, and one each in Chelsea, Hampstead, Hackney, Shoreditch, Poplar, Greenwich, and Plumpstead sanitary areas.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various sanitary areas of the metropolis, the deaths occurring in the public institutions of London having been distributed among the sanitary areas in which the patients had previously resided. During the four weeks ending March 31st the deaths of 6726 persons belonging to London were registered, equal to an annual rate of 19 1 per 1000, against 27·3, 27·3, and 20·4 in the three preceding months. The lowest death-rates last month in the various sanitary areas were 11·6 in Hampstead, 13 1 in Stoke Newington, 14·4 in Lee, 14 6 in Kensington, 15·3 in Plumstead, and 15·6 in Woolwich; the highest rates were 23 9 in Limehouse, 24·0 in Rotherhithe, 27·6 in City of London, 31·8 in St. George Southwark, 33 7 in St. Luke, and 34 6 in St. Olave Southwark. During the four weeks of March 613 deaths were referred to the principal zymotic diseases in London; of these, 205 resulted from measles, 24 from scarlet fever, 142 from diphtheria, 166 from whooping-cough, 37 from enteric fever, 39 from diarrhœa, and not one either from small-pox, from typhus, or from any ill-defined form of continued fever. These 613 deaths were equal to an annual rate of 1·7 per 1000, against 2 1, 1 9, and 1 8 in the three preceding months. The lowest death-rates from these diseases last month were recorded in Paddington, St George Hanover Square, Westminster, Hampstead, Stoke Newington, and Holborn sanitary areas; and the highest rates in St. Luke, Bethnal Green, Limehouse, St. George Southwark, St. Olave Southwark, and Rotherhithe. The 205 deaths referred to measles were 49 below the average number in the corresponding periods of the ten preceding years; this disease was proportionally most fatal in Hammersmith, Fulham, St. Pancras, Limehouse, St. Saviour Southwark, and Rotherhithe sanitary areas. The 24 fatal cases of scarlet fever were less than one-half of the corrected average number; the greatest proportional fatality from this disease occurred in Hackney, Clerkenwell, St. George Southwark, Camberwell, and Greenwich sanitary areas. The 142 deaths resulting from diphtheria showed a slight decline from the average number in the corresponding periods of the ten preceding years; among the various sanitary areas this disease was proportionally most fatal in Hammersmith, City of London, Bethnal Green, Poplar, St. George Southwark, Lewisham, and Lee. The 166 fatal cases of whooping-cough were 113 below the corrected average number; this disease showed the highest proportional fatality in Hackney, St. Luke, Bethnal Green, Limehouse, Poplar, St Olave Southwark, and Bermondsey. The 37 deaths referred to enteric fever were slightly in excess of the average number in the corresponding periods of the ten preceding years; among the various sanitary areas this disease was proportionally most fatal in St. Pancras, Hackney, St. George Southwark, Rotherhithe, Battersea, and Wandsworth. The 39 fatal cases of diarrhœa were 12 below the corrected average number; this disease showed the highest proportional fatality in Kensington, Marylebone, St. Pancras, Bethnal Green, St. George Southwark, and Lewisham sanitary areas. In conclusion, it may be stated that the aggregate mortality from these principal zymotic diseases in London during March was nearly 16 per cent. below the average.

Infant mortality in London last month, measured by the proportion of deaths of children under one year of age to registered births, was equal to 138 per 1000. The lowest rates of infant mortality were recorded in Fulham, St. George Hanover Square, Hampstead, Mile End Old Town, Battersea, Lewisham (excluding Penge), and Plumstead; and the highest rates in St. Martin-in-the-Fields, Strand, St. Luke, St. Saviour Southwark, St. George Southwark, and Bermondsey sanitary areas.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE undermentioned staff surgeons have been promoted to be Fleet Surgeons in Her Majesty's Fleet:—William Manley Lory and William Spencer Lightfoot.

Surgeon E. J. Finch to the *Defiance*.

IMPERIAL YEOMANRY.

Herbert Whyte to be Medical Officer with the temporary rank of Captain.

SCOTS GUARDS.

Surgeon-Major George S. Robinson to be Surgeon-Lieutenant-Colonel.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel J. S. Macadam (r p.), A.M.S., is posted to Portsmouth for general duty in the Southern District, and Surgeon-Major E. T. Crouch, A.M.R., has been appointed to the medical charge of Fort Grange and Fort Gomer and Browndown Camp.

The undermentioned Majors to be Lieutenant-Colonels:—Frederick R. Barker, Alfred Keogh, Charles B. Hill, Henry J. Michael, Arthur W. P. Inman, Thomas M. Corker, Thomas B. Moffitt, Charles A. Webb, Henry Martin, Arthur E. J. Croly, Robert O. Cusack, William D. A. Cowen, Robert H. Forman, Samuel J. Flood, John Watson, Octavius Todd, James D. Day, John G. Harwood, Robert D. Donaldson, Henry L. E. White, Arthur H. Burlton, Edward North, George F. Poynder, George F. A. Smythe, Henry L. Battersby, Augustus Hewett, Peter Mulvany, Thomas F. MacNeece, Arthur P. O'Connor, Douglas Wardrop, George T. Goggin, John M. Jones, Alfred Asbury, Fitzroy B. Maclean, Raglan W. Barnes, and John Lees Hall.

MILITIA MEDICAL STAFF CORPS.

Surgeon-Lieutenant John Henry Porteus Graham, from 4th Volunteer Battalion Liverpool Regiment, to be Surgeon-Lieutenant.

VOLUNTEER CORPS.

Artillery: 1st Ayrshire and Galloway: Robert Currie Robertson to be Surgeon-Lieutenant. 1st Cumberland: Surgeon-Major J. Little resigns his commission, with permission to retain his rank and to wear the uniform of the corps on his retirement. *Royal Engineers:* 1st Gloucestershire: Charles Ewbank Lansdown to be Surgeon-Lieutenant. *Rifle:* 3rd Volunteer Battalion the Queen's (Royal West Surrey Regiment): Second Lieutenant Josiah Field Hall resigns his commission and is re-appointed Surgeon-Lieutenant. 1st Volunteer Battalion the Royal Fusiliers (City of London Regiment): John Russell Ryan to be Surgeon-Lieutenant. 2nd Volunteer Battalion the Prince of Wales's Own (West Yorkshire Regiment): Surgeon-Major S. Johnston to be Surgeon-Lieutenant-Colonel. 3rd (Dumfries) Volunteer Battalion the King's Own Scottish Borderers: George Duncan Logan to be Surgeon-Lieutenant. 3rd (Dundee Highland) Volunteer Battalion the Black Watch (Royal Highlanders): William Stevenson Malcolm to be Surgeon-Lieutenant. 2nd (South) Middlesex: The undermentioned gentlemen to be Surgeon-Lieutenants:—Edmund Percival Isaacs and Samuel Frederick Holloway. 1st (Hallamshire) Volunteer Battalion the York and Lancaster Regiment: Surgeon-Lieutenant D. G. Newton to be Surgeon-Captain; Sidney Frederick Barber to be Surgeon-Lieutenant.

2nd Volunteer Battalion the York and Lancaster Regiment: Francis Joseph Sadler to be Surgeon-Lieutenant. 2nd Volunteer Battalion the Durham Light Infantry: Surgeon-Lieutenant J. O. Potter resigns his commission.

VOLUNTEER MEDICAL STAFF CORPS.

The Manchester Companies: George Arthur Wright to be Surgeon-Lieutenant.

TRANSVAAL WAR NOTES.

The General of Communications, Cape Town, reports that the following officers of the Royal Army Medical Corps were discharged from hospit[illegible] ling March 25th:—Lieutenant H. [illegible] Major F. A. Harris, Lieutenant G. [illegible] G. Delap. Civil Surgeons: H. M[illegible]

Miss Dutton of Conway has collected £65 towards the establishment of a "Conway" bed in the Welsh Hospital.

TRANSVAAL WAR CASUALTIES.

It is officially stated that the initials of Lieutenant Irvine, reported killed at the action near Bloemfontein Waterworks on March 31st, should have been "G. H." and not "F. S." Lieutenant G. H. Irvine, R.A.M.C., attached to the Royal Horse Artillery, was killed at Sanna's Post. Such mistakes are, we fear, sometimes unavoidable, and sympathy will be extended to the friends of both officers.

THE NAVAL MEDICAL SUPPLEMENTAL FUND.

At the quarterly meeting of the Directors of the Naval Medical Supplemental Fund, held on April 10th, Inspector-General W. H. Lloyd in the chair, the sum of £72 was distributed among the several applicants.

DEATHS IN THE SERVICES.

Surgeon Arthur William Nourse, R.N., aged 26 years, at the Naval Hospital, Chatham, on April 8th. He was appointed surgeon to the General Depôt ship *Pembroke* on Oct 28th, 1899.

Mr. G. E. Leary, M.R.C.S., L.R.C.P., who was educated at Mason's College, Birmingham, has been nominated as a Surgeon-on-Probation for the Royal Army Medical Corps by the Secretary of State for War and has joined the Army Medical School at Netley.

Lieutenant-Colonel J. T. Lewtas, I.M.S., who has been doing duty in the medical division of the Royal Victoria Hospital, Netley, has received orders to proceed to Woolwich for duty.

The s.s. *Majestic* came into the Southampton Docks on April 9th, bringing 350 invalids, most of the patients being men who formerly garrisoned Ladysmith. They were all admitted to the Royal Victoria Hospital, Netley.

On April 6th the s.s. *Shannon* arrived at Southampton from Bombay. She brought 360 invalids for the Royal Victoria Hospital, Netley.

On April 8th the s.s. *Greek* arrived at Southampton; she carried 176 invalids who were sent on to the Herbert Hospital.

OXFORD UNIVERSITY.—Mr. R. W. Payne, M.B., Christ Church, has been elected to a Radcliffe Travelling Scholarship of the value of £200 a year, tenable for three years.

ROYAL INSTITUTION.—Solid hydrogen was the subject of the Friday evening discourse delivered by Professor James Dewar before a crowded audience at the Royal Institution on April 6th. At the outset he remarked that his experiments had disproved the opinions hazarded long ago by many eminent chemists to the effect that hydrogen, if it ever were solidified, would be found to possess metallic properties. Among the numerous experiments shown was one in which liquid hydrogen was used to solidify liquid air in an apparatus on the principle of Wollaston's cryophorus. The liquefaction of hydrogen in a glass tube was also exhibited, an experiment which was of importance in connexion with the determination of its density. The solidification of hydrogen was then shown, liquid hydrogen under reduced pressure suddenly assuming the appearance of a white mass of solidified foam, the temperature of which was found to be −256° C., or 15° C. above the temperature of "absolute zero."

Correspondence.

"Audi alteram partem."

"THE STATISTICS OF THE ANTITOXIN TREATMENT OF DIPHTHERIA."

To the Editors of THE LANCET.

SIRS,—[illegible] LANCET of April 7th, (p. 1030) [illegible] rawn attention to the Hon. Ste[illegible] Mr. Paget's remarks with reg[illegible] ("Some Accidental Omissions [illegible] on Experiments on Animals," [illegible] widely disseminated pamphlet states that whereas Mr. Paget alludes to a whole mass of evidence from foreign sources, "he accidentally forgets all about Somerset House, where he could have found the following informing though melancholy figures":—

Total deaths from diphtheria,	1892	5222
" " " "	1897	4443
" " " "	1892	6552
" " " "	1897	7054
Death rate per 1,000,000 living from diphtheria,	1892	154
" " " " "	1897	110
" " " " "	1892	222
" " " " "	1897	206

In the next issue of *Treatment* I deal fully with the statistical side of the question and I need only point out here that although Mr. Coleridge's figures are correct and the quinquennial periods which he has chosen seem quite fair, if the figures for the years between 1892 and 1897 be inserted they show the very reverse of what Mr. Coleridge would have people believe. The following table is taken from the Registrar-General's report for 1897:—

TABLE G.—*Diphtheria and Croup: Deaths per 1,000,000 Persons Living (p. xxiii.).*

Year.	Diphtheria.	Croup.	Diphtheria and croup.
1882	152	175	327
1887	110	143	253
1892	222	70	293
1893	318	71	389
1894	292	68	360
1895	260	54	314
1896	292	51	343
1897	246	35	281
1898*	244	27	271

* The figures for 1898 are taken from the Registrar-General's report for 1898.

I cannot occupy your space in an inquiry as to the relationship between diphtheria and croup, especially as the question is discussed in the 1st Registrar-General's report (1893, p. xxii.) which states: "It is safe to assume that the greater part of the deaths referred to the certificates to croup, as well as some of those referred to laryngitis and to ill-defined sore-throat, were really due to diphtheria." The above table shows, therefore, that the death-rates from diphtheria and from diphtheria and croup together reached their highest point in 1893, *before the introduction of antitoxin treatment*, which in England was commenced in the latter part of 1894. Since then, with the exception of the slight irregularity of 1896, the death-rates from diphtheria and from diphtheria and croup have steadily declined, the figures for 1898 being most striking.

For London the statistics show the same reduction, and the *case mortality*, which is the only true test of the value of treatment, has fallen from 23·6 per cent. in 1894 to 11·3 per cent in 1898. In spite of the increase of population, too, it is noteworthy that the *total deaths* from diphtheria in England and Wales have actually *decreased* from 8502 in 1893 to 7061 in 1898. The figures of Somerset House on which Mr. Coleridge relies, so far from supporting his statements, prove, if they prove anything, the very reverse. By cleverly choosing his years and by lumping the combined mortality of croup and diphtheria Mr. Coleridge has managed

to adduce figures in support of his views which are quite unwarranted by the statistics. But there is a more serious aspect to this matter. It is inconceivable that the figures I have quoted were not before Mr. Coleridge when he was compiling his tables. The inference is therefore that he has suppressed them.

I am, Sirs, yours faithfully,
RICHARD T. HEWLETT.

Jenner Institute, S.W., April 9th, 1900.

To the Editors of THE LANCET.

SIRS,—Dr. F. de Havilland Hall in THE LANCET of April 7th affects to be "astounded" that I should "instruct the public" on the inefficacy of antitoxin as a cure for diphtheria by telling them that the Registrar-General's statistics show that the death-rate per 1,000,000 living has gone up instead of down since the treatment was introduced. He mentions the names of Dr. E. W. Goodall and Mr. J. L. Hague as holding opinions of a certain nature on the subject and he seems to think that the citation of individual opinions is a more scientific method of induction than reference to Government statistics. With the modern serum-injector if Government statistics do not endorse his hypothesis so much the worse for the statistics. A serum is invented, its value as a preventive of a disease is asserted, and forthwith the incredulous are called upon to prove its failure or accept the nostrum with a chorus of applause.

But surely if it is understood that the usual laws of evidence are to be inverted when the value of serums are discussed it is high time that some stern reprimand were administered to the officials at Somerset House who continue to "astound" the serum-injectors by thoughtlessly recording the fact that the death-rate per 1,000,000 living from the diseases prevented by serums ascends steadily contemporaneously with their employment. For if this new system of induction is to be maintained what condemnation can be too strong for a public department which has the effrontery to publish figures showing that during 1897 more people were killed by vaccination than died from small-pox, and that in 1898, which is the last recorded year, only 59 unvaccinated persons died from small-pox, while 107 vaccinated persons died from it, and 26 more were killed by vaccination itself. Fortunately, the general public never read the returns, and as long as they accept the statements of serum-injectors as facts and the serum injectors base their statements on their own sanguine opinions, the Registrar-General and his absurd figures may safely be disregarded. If, however, the public should ever develop an unwarrantable curiosity about the Somerset House figures, it will no doubt have to be explained that the rise in the death-rate in diphtheria that has synchronised with the introduction of antitoxin is most assuring, and that nobody but a fool would hesitate to accept it as a proof of the efficacy of the treatment.

I am, Sirs, your obedient servant,
STEPHEN COLERIDGE.

National Anti-Vaccination Society, 92, Victoria street, London, S.W., April 9th, 1900.

*** Dr. Hewlett's letter puts a proper value upon Mr. Coleridge's figures and deductions.—ED. L.

"THE TREATMENT OF ACUTE RHEUMATISM."

To the Editors of THE LANCET.

SIRS,—In the course of your editorial remarks on the above subject in THE LANCET of April 7th, p. 1069, you say that "Dr. T. J. Maclagan was the first in England to substitute salicin for the salicylates," thereby implying that the salicylates were in use before I used salicin. This is not accurate. If you will refer to my original paper published in THE LANCET of March 4th and 11th, 1876, you will see that I began to use salicin in the treatment of acute rheumatism in November, 1874, more than a year before anything was known of its treatment by salicylate of soda. My observations on the treatment of acute rheumatism by salicin and the German observations on its treatment by salicylate of soda were independent and contemporaneous. If there is priority I claim it for my 1874 cases, which were undoubtedly the first cases of acute rheumatism treated by any of the salicyl compounds. Your editorial remarks on April 29th, 1876, are more just to me than your recent ones on April 7th, 1900. You then said that "Dr. Maclagan explained in THE LANCET of March 11th how he came quite independently of, and prior to, any other physician to treat rheumatic fever with salicin."

The question of priority is not one of general interest or great importance. What is of importance is that the profession should recognise that salicin and salicylate of soda, though having a like destructive action on the rheumatic poison, have quite different actions on the system. Salicin is a bitter principle derived from the bark of the willow. It is a bitter tonic resembling quinine in taste and appearance and may usefully be prescribed as a bitter tonic in suitable doses quite apart from its anti-rheumatic action. It has none of the depressing action on the heart and on the nervous system which are so frequently found to follow the administration of salicylate of soda. On account of this depressing effect I, like every other observer, have frequently had to stop the use of the salicylates; I have never had to give up salicin. There may of course be some people who are intolerant of salicin as there are some who are intolerant of quinine, of opium, of ipecacuanha, or of any other drug, only I have never met with one. Whether or not the deleterious effects of the salicylates are due to impurities in the drug it is not easy to determine. Of this I am sure, that the natural salicylate as prescribed by chemists is as potent for evil as the artificial.

As anti-rheumatics, all the salicyl compounds, salicin, salicylic acid, saliretin, saligenin, oil of winter green, salicylous acid, populin, &c., are pretty much on a par. Probably the true anti-rheumatic agency is the radicle salicyl which is the basis of all. The question as to which compound we shall use is simply one [illegible] venience. The two most convenient are [illegible] of soda. The point in favour of salicylate of soda is its solubility. The points in favour of salicin are that it is freed from suspicion of impurity and that it does not tend to depress the cardiac and nerve centres.

To get their full beneficial effects in acute rheumatism [illegible] should be given in large and frequent doses—from 20 to [illegible] grains every hour till fever and acute symptoms disappear; after that every two, then every four, and after a few days every six hours. This dose should be continued for a fortnight. It takes about an ounce of salicin or salicylate of soda to abate the acute symptoms. The more quickly that ounce is passed through the system the better. I generally do it within 24 hours.

I am, Sirs, yours faithfully,
T. J. MACLAGAN.

April 9th, 1900.

SIR WILLIAM BANKS ON CANCER.

To the Editors of THE LANCET.

SIRS,—In his lecture on Cancer Sir William Banks said: "There have been attempts made on certain abstruse developmental grounds to overthrow the possibility of the hereditability of acquired diseased variations [modifications?] ..... but nothing has come of them." It would be interesting to learn what Sir William Banks thinks should come of them. What actually has resulted is that nearly everyone who has devoted serious attention to the subject is convinced that acquired modifications are not in the least heritable. The lecturer added: "A great deal of philosophical froth has been beaten up and much learned verbiage has been poured about, but I have never seen abstract philosophy do much in disease." Neither have I; but this is not a question of abstract philosophy, but of science founded on common sense and evidence. The school to which Sir William Banks belongs holds that acquirements are heritable. His own contribution to the question is that certain hypothetical modifications produced by cancer are heritable. The onus of proof rests with him and his school. His opponents cannot prove that acquirements are not transmissible, since it is logically impossible to prove a universal negative. But they say on developmental grounds that such transmission is wildly improbable. For twenty years they have called for evidence and have shattered all evidence hitherto produced. Sir William Banks has long studied the modifications produced by disease and the surgeon's knife; no man is better fitted to deal with the question; if, drawing on his vast experience, he can prove the transmission of even a single acquirement, he will confer immense benefit on science and will succeed where many famous thinkers and workers have

failed. His illustration of tuberculosis is decidedly not happy. He says, "If you were to take a fine, wholesome, clean-blooded man, the descendant of a race who had for generations been free from all morbid [illegible] into him, you could not [illegible] die out locally. It requires a [illegible] a sour, impoverished soil, to give the appropriate pabulum for pathological weeds, which seed and spread through it and ruin it. We know how the tubercle weed gets sown." Well, but the simple fact is that races that have longest been tainted with tubercle, the English for example, are precisely the most resistant to it, whereas races, wholesome, clean-blooded, the descendants of races which had for generations been free from all morbid diathesis, perish if you put tubercle into them. For example, the native races of America, Australasia, and Polynesia, to whom tubercle was unknown before we introduced it to them, become extinct if placed under conditions so favourable to the spread of the disease as those which normally obtain among Englishmen. Were acquirements transmissible the English should be the estans the strongest [illegible] n, in this instance at transmitted, but that there has been a considerable survival of the fittest. I greatly admire Sir William Banks's eloquence, but under the circumstances I do not think he should bring the charge of abstract philosophical froth and learned verbiage against his opponents. They at any rate insist on concrete evidence. Will Sir William Banks supply it?

I am, Sirs, yours faithfully,

G. ARCHDALL REID, M.B., F.R.S. Edin.

Southsea, March 16th, 1900.

"A PARASITIC CRUSTACEAN AS A FOREIGN BODY ON THE CORNEA."

To the Editors of THE LANCET.

SIRS,—In connexion with Dr. Rayner Batten's unusual case of a parasitic crustacean occurring on the cornea of a fishmonger (THE LANCET, April 7th, 1900, p. 1002), it may be of interest to say that early in 1899 I noticed that one of the pikes in the fish-house at the Zoological Gardens had what appeared to me to be a fresh-water crustacean on the front of the eye. If I remember aright, for I have not been to the Zoological Gardens since, the parasite was attached to the front of the right eye and exhibited lively movements of the limbs. Such cases are possibly well known to naturalists.

I am, Sirs, yours faithfully,

GEORGE PERNET.

Upper Gloucester-place, N.W., April 8th, 1900.

"SMALL-POX AND VACCINATION."

To the Editors of THE LANCET.

SIRS,—The letter from Sir Samuel Wilks in THE LANCET of April 7th will be read with interest and will lead, let us hope, to some attention being given by the profession to the removal of the prejudices which have developed, particularly among the working classes, against vaccination. Whether those prejudices had any reasonable foundation appeared to me to deserve inquiry, and as the out-patient department of a children's hospital supplies one with the means to study such a question as this as well as others connected with the evils of overcrowding and poverty I thought the vaccination question worth attention. I came to the conclusion that the whole system of public vaccination was being entrusted to those who really could not observe the care and devote the time and trouble required to secure the poor children upon whom they operate from some troubles, which no one appreciated more fully than Edward Jenner himself. I came to the conclusion from seeing between 2000 and 3000 children a year for 15 years that there were some reasons for the poor having to complain of the bad effects of vaccination.

It is just a century ago since Jenner published in 1800 in one volume, "An Inquiry into the Causes and Effects of the Variolæ Vaccinæ," &c., and this contained the whole of his "First Treatise on the Variolæ Vaccinæ" published in 1798, his "Further Observations" (1799), and his "Continuation of Facts and Observations, &c." (1800). In his introduction to the second of these he makes this important remark: "To guard the public mind from prejudice and to enforce the necessity of the scrupulous precaution in the conduct of inoculation with vaccine matter I was induced to offer to the world 'Further Observations, &c.'" These three treatises are well worth reading, for they contain evidence that Jenner saw where troubles might arise and how to deal with them. On p. 135 we find the following: "Perhaps the difference we perceive in the state of the arms may be owing to some variety in the mode of action of the virus upon the skin of those who breathe the air of London and those who live in the country. That the erysipelas assumes a different form in London from what we see it put on in the country is, in fact, very generally acknowledged. In calling the inflammation that is excited by the cow pox virus erysipelatous perhaps I may not be critically exact, but it certainly approaches near to it."

The chief cause of complaint that came under my personal observation at the hospital was the occurrence of some form of erysipelas which had been followed by various troubles. Those remedies which Jenner suggested for them would probably have been used if the children had remained under the care of the vaccinator, but as it is usual for no relations to exist after the second visit, that is, a week after vaccination between the child and the vaccinator, and nothing was done till some weeks later when the child was brought to the hospital, I could not but regret that our system of public vaccination has certain disadvantages which could easily be remedied and which are the cause of the prejudice against which Jenner was anxious "to guard the public mind." Let us hope that this will be done before long, and let the profession show that they appreciate the work of such a man as Edward Jenner and the interest taken by Sir Samuel Wilks in this very important and interesting subject.

I am, Sirs, yours faithfully,

ROBERT J. LEE.

Gunterstone road, West Kensington, W., April 7th, 1900.

PROCEEDINGS AT THE CANNON-STREET HOTEL IN REGARD TO THE MIDWIVES BILL.

To the Editors of THE LANCET.

SIRS,—Your report of the meeting held at the Cannon-street Hotel on April 4th to protest against the Midwives Bill states that Dr. Lorimer Hart alleged that as chairman I gave him permission before leaving the meeting to propose a motion calling upon Dr. Glover to resign his seat as a Direct Representative on the General Medical Council. This is not accurate. After Dr Glover's letter was read Dr. Lorimer Hart rose and said he wished to move a resolution arising out of Dr. Glover's letter, but that he might not interfere with the regular order of business he would ask my permission to postpone the motion until after the other business had been disposed of. I replied that as chairman I had no power to give permission; the matter rested with the meeting. I then asked for a show of hands as to whether Dr. Hart's request should be complied with and the vote was unanimously in favour of granting permission. Having another important engagement I was compelled to leave the meeting before Dr. Hart's motion could be brought forward, but in any case I should not have remained in the chair whilst a resolution reflecting upon Dr Glover was being discussed.

I am, Sirs, yours faithfully,

GEORGE BROWN.

THE MIDWIVES BILL.

To the Editors of THE LANCET.

SIRS,—If a licensed midwife under the Bill has an abnormal case—say one requiring forceps or version and the administration of chloroform—and if her patient is unable to pay a medical man, how will the difficulty be met? [illegible] Confinements that have not been so and are not really undertaken by medical men under the Bill [illegible] hand. Will there now be a [illegible] medical man to attend on receiving a notice from the licensed midwife that the patient is not required [illegible] abnormal case and when he [illegible] trouble, and merely may bring in a fee—although [illegible] Unless the Bill [illegible] arrangements we shall have [illegible]

all the medical men of a neighbourhood to obtain assistance which will only be given out of humanity and which will often, and rightly, be refused.

Licensed midwives attending cases from an institution will be able to obtain help if required, but I am referring to the midwife's private case where medical aid is required by the circumstances. I am, Sirs, yours faithfully,

FAIR PLAY.

"DIFFICULT DIGESTION DUE TO DISPLACEMENTS."

To the Editors of THE LANCET.

SIRS,—Your reviewer having found the record of cases tedious and the plan of the book not convenient for ready reference, no doubt was not able to spare enough valuable time to correctly quote the only passage cited, making the author write just what he does not. On page 16 of my little work I say: "For this reason let me premise my remarks on gastroptosis by stating at once that, for myself, the term is not fairly applied to a stomach in which the upper border of the fundus does not appear to fall below the level of the seventh costal cartilage at its most dependent point," &c. The remainder of the remarks made by your reviewer are so disparaging that I must ask you of your courtesy to publish this letter in order to correct the false impression which the mis statement of my views would otherwise leave on your readers, some of whom are doubtless aware that a phonometer is a tuning-fork and so will be able to gauge the value of criticism by one who evidently displays less familiarity with the subjects discussed in the book than

Yours faithfully,

THE AUTHOR OF "DIFFICULT DIGESTION DUE TO DISPLACEMENTS."

April 7th, 1900

*** Our reviewer regrets if he has misunderstood the author's definition of "gastroptosis," but the words in the review are not a quotation. The word "phonometer" means, according to Gould's Medical Dictionary, "an instrument for measuring the intensity of the voice or current of air inspired during phonation." Dunglison's "Dictionary of Medical Science" and the Standard Dictionary say the same. We do not know any authority for making the word mean something else.—ED. L.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Natural History of Anopheles.—The Famine.—The Plague in Calcutta and Bombay.

SOME recent observations with reference to the anopheles species of mosquito show that the original statements about their habitat will require modification. Their larvæ are to be found in ponds which never dry up and which contain small fish in abundance. Certain open ponds subject to considerable rippling from the wind have been found swarming with them, although it is true that in sheltered areas around floating obstacles they were still more numerous. As the larvæ hatch out day after day it has been found that kerosene oil only kills a certain number, that the effect is consequently only temporary, and that after a short period the pond can be found swarming with them again. These facts would seem to imply that the wholesale destruction of the breeding places of the anopheles is not so simple a matter as was supposed, and that after all drying up of every pond known to be their habitat is the only practical solution of the difficulty.

The numbers under famine relief continue to mount up—the total now being considerably over 5,000 000—otherwise little change has taken place in the situation in the distressed tracts since last week. There is some reason to fear that charitable relief has been in many instances much abused. There are said to be mills asking for labourers, but the labourers prefer to receive food and do nothing. Although labour is enforced in some districts before relief is bestowed, this is a point to which sufficient attention has not been given. Able-bodied men should be compelled to work. For example, it is reported that in the Bombay Presidency the numbers relieved were 932,524 workers and 269,621 dependents, and 92,303 gratuitously relieved in villages and poorhouses. Several relief works have been started during the week on tanks, roads, canals, and railroads. Expenditure has been incurred for the supply of fodder to affected districts and large loans have been sanctioned to certain affected native States amounting to something like £200,000 The high temperature now prevailing throughout western India is expected to favour an early burst in the south-west Monsoon. As usual the Bengal Presidency is free from this recurrent disaster and is blessed with abundant harvests.

Like the famine there has also been a great increase in plague. The total deaths throughout India last week from plague amounted to 4725. Over 3000 deaths occurred in Bengal. The Patna district reports 2044 deaths and Calcutta 744 deaths. In Aden there were 19 deaths. In Calcutta the death-rate has now reached 104 5 per 1000 per annum. In Bombay it still remains at the enormous rate of 170 per 1000 per annum. There are rather less cholera and small-pox than usual in Calcutta, but these diseases continue prevalent in Bombay. The plague deaths in Calcutta wholly account for the excess mortality. In Bombay, however, the excess mortality of over 2000 is hardly explained by the return of 780 deaths from plague, and the other epidemic diseases do not account for the difference. As I have repeatedly pointed out, these weekly returns of plague deaths in Bombay city are absolutely worthless, and it is time that some other system of recording should be adopted to bring the returns into harmony with existing facts. A much larger proportion of plague deaths was brought to light last year.

Since Jan. 1st there have been 2720 deaths from plague in Calcutta. In Bombay, allowing a very free estimate for deaths from other causes, there have probably been 18,000 deaths from plague, but the official figures are short of this number by at least 10,000. Rats are not nearly so numerous in Calcutta as in Bombay. It is reported that large numbers of dead and dying rats have been seen coincidently with the outbreak of plague in Sydney.

March 22nd.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Sterilised Milk Depôts.

THE City Council have sanctioned the recommendation of the health committee to establish a depôt or depôts in suitable parts of the city for the preparation and sale of sterilised milk for infants and that £1000 should be placed at the disposal of the committee for that purpose. The idea was to endeavour to interest mothers in the better feeding of their children, with the view of counteracting the injury which is often caused by improper nourishment. The bottles which would be provided at the depôts would be properly cleansed before they were filled with sterilised milk, and would be again cleansed when brought back for refilling. It appeared that in those places where the experiment had been tried the best results had followed. The new departure is a step in the right direction and any honest attempt to grapple with the question of infant mortality in large cities will be welcomed.

The Liverpool Ladies' Charity.

At the annual meeting of the friends and subscribers of the Ladies' Charity and Lying-in Hospital the Lord Mayor deplored the lack of interest which was taken in this most deserving charity. The debit balance had now reached £800, or £100 in excess of the loss on the previous year. Last year 1439 out-patients had received medical attention, and in consideration of the advantages which they received in the matter of clothing, &c, an extended grant from the Hospital Saturday and Sunday Fund was strongly appealed for by the treasurer of the institution.

The Home for Epileptics at Maghull.

In response to the appeal made by the committee for funds in aid of the extension of the work of the home, allusion to which was made in a former issue of THE LANCET, donations amounting to £2500 have been already acknowledged by the honorary treasurer. Contributions amounting to £182 2*s.* have also been guaranteed annually for five years by Mr. William Rathbone, Dr. W. Alexander, and other friends in support of the institution.

Small pox at the Liverpool Workhouse.

Several cases of small-pox have occurred at the Liverpool

Workhouse within the last fortnight. One of the ward-mistresses has been removed to Parkhill Hospital suffering from the disease.

Queen Victoria District Nursing Association.

The annual report for 1899 stated that the association employs 32 trained nurses who are located in different parts of the city. 131,009 visits had been paid last year, involving the nursing of 5939 poor patients. The expenses for the year had reached £2300, which was equivalent to 10s. for each case. It is pleasing to find that the association is in a prosperous condition. The homes for the nurses, of which there are four, are in every respect comfortable and healthily situated. The central home in Prince's-road contains the administrative department and is the gift of the David Lewis trustees. A substantial addition to the latter building is in course of construction. Much credit is due to Mr. Herbert J. Rathbone, the indefatigable honorary secretary, for his efforts in furthering the success of the association.

April 9th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Death of Sir Douglas Maclagan.

By the death of Sir Andrew Douglas Maclagan the medical profession in Scotland have sustained a great loss and none the less because it is in a sense sentimental. Sir Douglas Maclagan's days of active work had been over for several years before death took him at the ripe age of 88 years; but his presence amongst us was a possession that we valued. He was a link with past men whose names are medical history, and was himself a remarkable type of a great physician of the old school. The funeral took place on Monday afternoon, April 9th, in the Dean Cemetery, Edinburgh. The Senatus of the university, representatives of the Royal College of Surgeons of Edinburgh, the Royal College of Physicians of Edinburgh (of both of which corporations the deceased had been president), and of other public bodies were present. The pall-bearers were Dr. R. C. Maclagan (son); the Archbishop of York (brother); Mr. P. S. Maclagan, Mr. C. P. D. Maclagan, Mr. D. D. Maclagan, and Mr. C. P. Maclagan (nephews); Mr. D. P. Maclagan (grandson); and Mr. T. T. Maclagan.

Sanitary Work on Deeside, Aberdeenshire.

Contracts have now been entered into for the erection of a district hospital at Braemar. A contract has also been entered into for the extension of the water and drainage works at Aboyne village and another for the extension of the water main in the village of Kincardine O'Neil. For all these works the plans were prepared by Messrs. Jenkins and Marr, C.E., Aberdeen.

Epidemic in Aberdeen.

Whooping-cough has assumed an epidemic form in Aberdeen. The number of fresh cases reported to the medical officer of health last week was 99.

April 9th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

An Honorary Degree for Sir James Reid.

THE Senate of the Royal University of Ireland met on April 5th, and after adopting an address of welcome to Her Majesty agreed that the degree of M.D. hon. causâ should be conferred on Sir James Reid, Bart., physician to the Queen. At a meeting of the President and Fellows of the Royal College of Physicians of Ireland held on April 6th the degree of honorary Fellow of the College was conferred on the same gentleman.

The Irish Hospital at the Seat of War.

Lord Iveagh received a telegram (April 2nd) from the Hon. Rupert Guinness, his eldest son, referring to the work of the Irish Hospital. Just after the hospital camp was fixed at De Aar a message came from Lord Kitchener requesting that five ambulances should be despatched to accompany his expedition against the rebels in the West. Mr. Parker, Dr. Kidd, Dr. Cunnillan and Mr. Hoskins, with 15 men and the necessary stores, were sent on without delay. This party has now returned to Naauwport after the completion of Lord Kitchener's operations. It is understood that the Irish Hospital will go forward to Bloemfontein as soon as the railway line is open for through traffic.

A New Nursing Home in Connexion with the City of Dublin Hospital.

Princess Christian performed the ceremony of laying the foundation stone of a new nursing home in connexion with the city of Dublin on April 9th. The Countess Cadogan and a brilliant assembly witnessed the proceedings.

Death of Major James Minniece, R.A.M.C.

[illegible] co the
de. [illegible] South
Af[illegible] school.
Ma[illegible] Bay, March 7th,
from typhoid fever, at Ladysmith. Major Minniece was the youngest son of a Londonderry gentleman, Mr. J. A. Minniece, J.P., and after studying at Foyle College he went to Queen's College, Belfast, and in 1881 he graduated M.D., M.Ch. and L.M. of the Queen's University. For a short time he had charge of a dispensary in co. Donegal, but he went to Netley in 1888 and became in the next year a surgeon-captain. He was first stationed at Aldershot but afterwards spent a considerable time in Egypt. He was subsequently sent to India, being stationed at Rawal Pindi, but at the beginning of the present war he went with the 5th Dragoon Guards to South Africa and with them was besieged in Ladysmith, where, as stated above, he died. He received his promotion as major early in 1899. He was a great favourite when a student in Belfast and during his subsequent career in the Royal Army Medical Corps he did excellent work.

Important to Irish Dispensary Medical Officers.

At the Listowel Quarter Sessions, before Judge Shaw, a test case of considerable importance to dispensary medical officers, involving the question as to whether medical officers are bound to attend on red ticket "casuals" coming into their districts, was heard. Dr. J. T. Dillon, medical officer of the Listowel Dispensary District, sued Mr. Richard Walsh, for the recovery of a professional fee of £1 1s for attendance at the request of the defendant on a man named John Reane, who was not a resident of his district. It appeared in evidence that Reane, who was a resident of the Durbert dispensary district, was beaten when returning from Listowel and came back to report the matter to the Listowel police. The constabulary had a fund at their disposal out of which they had frequently paid the plaintiff a fee for medical attendance on "casuals," but in this case, instead of drawing on the fund, the police went to the relieving officer, who issued a red ticket which led to the present action. Counsel for the plaintiff held that the relieving officer had no power to issue a red ticket to require the medical officer to attend a person not resident in his district. The solicitor for the defendant said that he could not resist the decree in this case, but he wished to call attention to the practice that had been carried on, so that in future relieving officers instead of issuing a ticket for relief under such circumstances should say to the police, "I know nothing about this man and you will have to get him relief out of your own fund." His Honour gave a decree with costs, including counsel's fee.

Rainfall in March at Belfast.

1·20 inches of rain fell on 13 days of March, while in the same month of last year there were only ten wet days, but with a total rainfall of 1·53 inches. Up to March last the rainfall has been almost three inches less than in the corresponding period of last year.

Memorial to Professor J. E. Hodges, M.D., F.R.C.P.I.

A number of the colleagues and friends of the late Professor Hodges met in the council room of Queen's College on March 23rd, when it was decided to perpetuate his memory by placing his portrait in the examination hall of Queen's College. Professor John Purser and Dr. Joseph Nelson were appointed secretaries and subscriptions are not to exceed one guinea.

Pharmacy Prosecutions.

At the Kinlochs (co. Tyrone) Quarter Sessions, held on March 23rd, the Belfast inspector of the Pharmaceutical Society of Ireland charged two individuals (women and employe) with keeping open shop for selling poisons to

wit, strychnine—while they were not persons properly qualified to do so according to law. The bench fined each of the parties £5, one-third to go to the complainant and two-thirds to the society. It is probable from what was stated that owing to the fact that both parties had been punished for the same offence some part of the fine will be returned.

April 9th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Cystine in Water-supplies.

AT the meeting of the Academy of Sciences held on March 19th M. Armand Gautier presented a memoir by M. Causse of Lyons pointing out the significance of the occurrence of cystine in drinking-water as an indication of the presence of germs of typhoid fever, and describing a method of determining its presence by a reagent which produces with it an orange-yellow colour proportionate in its intensity to the amount of cystine contained in the water. By means of this reaction M. Causse has succeeded in estimating cystine quantitatively and in following out the varying proportions in which it exists in water. All the samples of water collected in houses where undoubted cases of typhoid fever had occurred, at La Guillotière, at Les Brotteaux, or in the central parts of Lyons, acquired an orange tint throughout the whole mass of liquid. The depth of colour, which was in a direct ratio to the proportion of cystine, seemed also to have a relation to the severity of the disease. The colouration of the water from the well of a house in the Avenue des Ponts, where three fatal cases of typhoid fever had occurred, was the deepest which M. Causse had obtained; the proportion of cystine was the highest which he had met with, the average being three centigrammes per litre during the warm weather. The proportion of cystine varied very distinctly with the season of the year. Frequently repeated experiments showed that the intensity of the colouration, and therefore the amount of cystine contained in the contaminated water, was greatest in September and October; from October onwards it diminished gradually, falling to the lowest point in February and March; it then increased, returning to its maximum at the end of the hot weather. The same remarks were applicable to the water of the Rhone as distributed by the water company. Compared with the wells at La Guillotière and Les Brotteaux, the amount of cystine in the water of the Rhone was estimated at about one-tenth part, but when the river overflowed its banks the proportion of cystine increased and in time of flood it became equal to, or sometimes even greater than, that contained in the worst well at La Guillotière; these fluctuations correspond with the fluctuations exhibited by typhoid fever, as is shown by statistics. Cystine in water was not only variable in amount, but it might almost completely disappear from certain waters, leaving only ammonia, sulphuretted hydrogen, and organic compounds to show that it had been there.

Paris Association of Female Students.

The number of female students, Frenchwomen and foreigners, in the Paris Faculties, including the Faculties of Science and Medicine, has increased so much during the last five years that some young Frenchwomen, Russians, and Roumanians have proposed to form themselves into the nucleus of a female association analogous to the General Association of the male students. The object of this new association will be to make the female students better acquainted with one another, to give assistance to those who are in need of it, and to provide something of the nature of a family circle, especially for those who having come from far and not possessing the means of frequently returning home lead a solitary existence in Paris during the long weeks of the vacations when study is necessarily interrupted. Only one of the female students of medicine in Paris is English.

Faulty Prescriptions.

Two cases which have just come before the courts, both in the same week, prove once more the danger of indistinctly written prescriptions and raise the often-debated question as to the apportionment of the responsibility between the medical man whose handwriting was bad and the druggist who has dispensed a prescription which was obviously incorrect. One of these cases was decided in Paris. The circumstances were that a draught contained an excessive dose of atropine and nearly caused the death of the patient. The druggist's assistant (*élève pharmacien*) was fined 50 francs (£2). The medical man not supposing that the serious effects were due to the draught was imprudent enough to taste it and almost lost his eyesight. For the injury thus sustained he brought an action against the druggist for 5000 francs (£200) damages but was awarded only 500 francs (£20). The Tribunal of the Seine held that the medical man was in fault—first, in having tasted the draught after having been made aware of its effect on his patient; and, secondly, for having written his prescription indistinctly and with a pencil. The other case was worse, for the patient died immediately after taking medicine which was intended to be purgative, but which in reality consisted of 20 grammes (three-quarters of an ounce) of tincture of nux vomica dispensed in conformity with a prescription written by a medical man. The authorities prosecuted both the medical man and the druggist and also the druggist's assistant by whom the medicine was dispensed. Judgment was given against all three. The medical man was fined 500 francs (£20) and ordered to pay 7500 francs (£300) damages; the druggist was fined 400 francs (£16) and ordered to pay 6000 francs (£240) damages; and the druggist's assistant was ordered to pay 100 francs (£4).

Inspection of Schools.

The Minister of Public Instruction has just appointed a commission for the consideration of questions of health and sanitation in schools (*lycees*). This commission will advise on all matters relating to the care of the pupils, especially in boarding-schools, as well as to the sanitary condition of the school premises. The commission will inspect the *lycées* of the Department of the Seine at least once a year, and will hold special inspections whenever circumstances require them. The members of the commission may also be sent to inspect other schools. After each inspection, at which the medical attendant of the school has to be present, the Commissioners will submit their observations to the Minister in a written report and will specify the improvements which they consider necessary.

April 9th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Foreign Medical Men in Italy.

DR. SANTINI, the author of the famous Bill by which foreign medical men not possessing an Italian qualification will be debarred from practising in Italy, was interviewed recently by a correspondent of the *Berliner Tageblatt*. He said that his Bill would probably become law this summer, so that at the beginning of winter there will be hardly any foreign medical men practising in Italy. The Italian Government hesitated a long time before approving of the Bill, but finally decided to do so because the proposition to allow Italian medical men to settle abroad under the same conditions has been declined by all the governments of Europe, Germany included. According to Dr. Santini it was a question of national honour to maintain that Italian medical men were not inferior to those of other countries. Foreign medical men would not be excluded from the soil of Italy; they were only invited to pass the same examinations as the native practitioners. The system was the same as that adopted by England. Dr. Santini then remarked that some foreign consultants in Italy had not become qualified even in their own country. He alluded to a well-known foreigner who had no degree at all and was nevertheless consulted by the wealthiest part of the foreign colony in Rome. His income was estimated at 150,000 francs (£6000). It was an objectionable circumstance that the practice of these foreigners could be transferred to successors for a money payment. Foreign visitors to Italy need have no fear that they would be deprived of adequate medical advice, for nearly all the younger Italian medical men knew the English and German languages perfectly. Dr. Santini then declared his intention of applying similar conditions to foreign dentists and druggists. His opinion, although of great interest from a psychological standpoint, will scarcely persuade anybody of the necessity for his Bill. The German press, both medical and non-medical, have

are scarcely inferior in number to the English and American. There are German medical men in nearly every one of the larger towns, from Venice and Milan in the north to Palermo in Sicily, and in the health resorts of the Riviera there is almost a superabundance of them. San Remo, for instance, has not less than nine medical consultants of German nationality, not to speak of those who come from other countries where German is spoken, such as Austria and Switzerland, and in Rome their number is still greater. It is therefore very desirable that favourable consideration should be shown to a number of professional brethren, some of them in the fulness of years, and naturally unwilling to present themselves before an examining commission which would certainly do everything to prevent them from passing.

The War in South Africa.

The German medical attachés, Dr. Schmidt and Dr. Krummacher, who were mentioned in my last letter as having returned home from the war in South Africa, have been speaking at a meeting of the Vaterlandischer Frauen-Verein (the ladies' branch of the Red Cross Society). I was present at the meeting, which was attended by a great number of members and medical men, especially army medical officers. Princess Hohenlohe, daughter of the Chancellor, was in the chair. Both gentlemen spoke in very eulogistic terms of the British officers and soldiers generally and of the Royal Army Medical Corps specially. They said that they were treated with great courtesy by the British authorities, civil and military. On their arrival at Cape Town they were received at once by Sir Alfred Milner and had luncheon. They were then sent to the Modder River, where they were attached to an ambulance of Lord Methuen's division. On their arrival at the camp cheers were given for the German Emperor and complete cordiality prevailed between the British and the German officers during their stay with the British forces. Dr. Schmidt was astonished to see the soldiers going into action in high spirits and in as good humour as [illegible] to a wedding. At the battle of [illegible] he was a spectator, the soldiers att[illegible] the greatest heroism. The members of the Royal Army Medical Corps exposed themselves to the shower of shell, so that several were wounded or killed. Dr. Schmidt saw about 250 wounded soldiers and helped the British surgeons in their work. He was much surprised to find that the British wounded could endure intense pain without complaining. Their self-control was really wonderful. After the unfortunate issue of the battle there was some depression, but no trace of the demoralisation which some continental newspapers had reported. There was no animosity against Lord Methuen who when he rode through the camp was greeted with the same enthusiasm as before. Dr [illegible] impressive spectacle of the burial [illegible] commander of the Highland Bri[illegible] by Lord Methuen on this occasi[illegible] other attaché, described the details of the British medical service, the field hospitals, and the great military hospitals at Wynberg, near Cape Town. The system of organisation very much resembled that of Germany. The mark "made in Germany" was often to be seen on the surgical dressings and, as the British officers jocularly observed, even the Boer shells were "made in Germany." Dr. Krummacher then drew attention to the army nurses, an institution unknown in Germany where an organised corps of nurses [illegible] at, the nurses being supp[illegible] communities and by th[illegible] attachés had finished th[illegible] engagements at the base they desired to return again to the seat of war, but Lord Roberts and Lord Kitchener having meanwhile taken the command they were not allowed to do so and therefore returned home.

April 4th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Bubonic Plague.

The bubonic plague still continues in Sydney and is causing the health authorities much anxiety. The [illegible] discovered proved to be [illegible] and recovered, but the [illegible] tient released from quarantine than another case was reported. This patient has since died. The real nature of the case was beyond dispute, most careful investigations by the expert bacteriologists of the Board of Health having proved that it was unquestionably one of true bubonic plague. The victim was a sailmaker living near the wharves and the infection is attributed to rats. Three cases have since developed in persons having business relation in Sussex-street, where the first case occurred. One of the patients, an employé of a steamship company, has died. All the people, to the number of 48, residing in the premises occupied by the infected persons have been placed in quarantine, and the houses have been isolated and disinfected. The authorities have issued circulars to householders with regard to the prevention of the plague, especially advising the extermination of rats and personal and household cleanliness. The other Australian colonies are subjecting all passengers from Sydney to rigid medical examination and are inaugurating a crusade against rats, and attempts are made to prevent rats escaping to land from vessels arriving from Sydney. The Board of Health in Melbourne is prepared to inoculate persons who desire it with Haffkine's prophylactic serum of which a full supply has been obtained. In Sydney the Government bacteriologist, Dr. F. Tidswell, applied for permission from the Government to import the bacilli of bubonic plague, cholera, and glanders and to propagate them and manufacture prophylactic serums, and after some consideration the application was granted. The supposed plague patient quarantined at Adelaide is now officially reported to have been suffering from typhoid fever with enlarged glands. It will be remembered that the profession in Adelaide from the first doubted the diagnosis of plague and that the local branch of the British Medical Association asked for an independent inquiry.

Adelaide Hospital.

The long-standing feud between the Government and the medical professional over the Adelaide Hospital seems likely to be settled at last. Negotiations have been in progress for some time past between a sub-committee of the Board of Management of the hospital and a sub committee of the council of the Adelaide University with the object of arriving at some settlement of the dispute. As a result of conferences it was decided to recommend to the board and council respectively the adoption of the following resolution:—

> On the nomination of the University the following officers be [illegible] on the staff of the Adelaide Hospital. Two physicians, two surgeons, one gynæcologist, one ophthalmic [illegible], two assistant physicians, two [illegible] other officers [illegible] applicant [illegible] staff, present or future, at the [illegible] of teaching, and his name shall [illegible]

The recommendation has now been adopted by both the University council and the hospital board, and the way is now open for the re-admission to the staff of the profession, the resumption of clinical teaching, and the restoration of Adelaide Medical School to its former position.

Prince Alfred Hospital, Sydney.

The annual report of the Prince Alfred Hospital, Sydney, read at the seventeenth annual meeting of the governors and subscribers, showed that despite all the efforts of the directors to reduce expenditure, the deficit had increased during 1899 by £1149, and now stood at £2192. The income for the year was £15,703, of which the Government contributed £9539. The number of patients under treatment during the year was 6517. Of these 1654 were cured, 743 were relieved, 361 were unrelieved, 3190 died, and 219 remained in the hospital on Dec. 31st last. The number of beds in the hospital was 253, the average number resident daily was 221; the mean residence of patients in days was 25, the average rate of mortality per cent. (deducting the 90 deaths which occurred in patients within 24 hours of admission) was 8.29; the rate of mortality per cent. over total cases under treatment was 3.05, the number of attendances on out-patients and casualty departments was 42,727; [illegible] the number of [illegible] dental patients in the [illegible] was [illegible] the number of typhoid fever cases [illegible] was 153, as against 159 during the previous year. The [illegible] was 3.97 per cent. A [illegible] of the operations [illegible] of the operations performed was 1[illegible] per cent. [illegible] number of [illegible] was 1034, or 13.3 per cent. of the number of [illegible]

The work of the operative department had during the year been greatly facilitated by the opening of a new operating theatre, in order to secure which, without immediate construction of new premises, the clinical lecture theatre had been sacrificed. The provision of an alternative operating-room could, in the directors' opinion, be no longer delayed, and they were reluctantly obliged to take the only means at their disposal for the provision of the needed accommodation by transforming the lecture theatre into a second operating theatre.

Obituary.

SIR ANDREW DOUGLAS MACLAGAN, M.D., LL.D. EDIN., LL.D. GLASG., F.R.C.P., F.R.C.S., F.R.S. EDIN.,

EMERITUS PROFESSOR OF JURISPRUDENCE AND PUBLIC HEALTH IN THE UNIVERSITY OF EDINBURGH.

BY the death of Sir Andrew Douglas Maclagan, which occurred at his residence in Heriot-row, Edinburgh, on Thursday, April 5th, the medical profession of the United Kingdom has lost one of its best known and most distinguished representatives.

Andrew Douglas Maclagan was born in Ayr in April, 1812, and had therefore reached the ripe age of 88 years at the time of his death. He was born of medical stock. His father, Dr. David Maclagan, surgeon-in-ordinary to the Queen in Scotland and Physician to the Forces, who served with distinction in the Peninsular War, was President both of the Royal College of Physicians of Edinburgh and of the Royal College of Surgeons of Edinburgh, and it is a singular thing that the father's extraordinary distinction of having filled the double presidency has only once been repeated, and then it was repeated by the son whose death has just occurred. Douglas Maclagan was the eldest of seven sons, one of the younger ones being the present Archbishop of York, and adds one more to the long list of distinguished men who have been educated at the Edinburgh High School and the Edinburgh University. When 19 years of age he obtained his diploma as a Licentiate of the Royal College of Surgeons of Edinburgh and shortly afterwards graduated in Medicine at the University. He then followed a practice adopted by many young men at that day who were determined to use their opportunities for the best, and made a tour of certain continental medical schools. 60 or 70 years ago there was not the same interchange of scientific knowledge and thought that now prevails under the influences of ready and cheap methods of travelling and a voluminous medical press, and a continental tour was the object of the hopes of those fortunate students whose careers gave sufficient promise of excellence to obtain for them the necessary funds from their parents or guardians. Young Maclagan was ambitious and had shown that he was bound to make his mark. He pursued his studies in Berlin, London, and Paris for several years, and upon his return to Edinburgh was elected assistant surgeon to the Royal Infirmary. Making, however, a particular study of therapeutics with a strong bias in favour of analytical chemistry and toxicology, he became a few years later—i.e., in 1845—lecturer on materia medica in the Edinburgh Extra-Academical School. Here his lectures attracted much attention by their lucidity, for he knew how to be exhaustive without being wearisome and how to impart information in a form in which it could be readily assimilated and easily recalled. In 1857 a *causa celebre*, which is still remembered on account of its many sensational features, was tried in Glasgow, and Douglas Maclagan was retained for the defendant, Madeleine Smith, who was being tried for her life on a charge of poisoning her paramour. A verdict of "non-proven" resulted and Maclagan's method of giving his evidence marked him as an original observer, for he boldly traversed the opinion of Sir Robert Christison, the greatest living authority on poisons at the time, with regard to the consequences of using weak solutions of arsenic as a face-wash. Sir Robert Christison, who was then Professor of Materia Medica in the University, became Maclagan's great friend, constantly called him in to give assistance in forensic matters, and when, in 1862, the University chair of Medical Jurisprudence and Public Health became vacant through the death of Professor Traill used, and used successfully, his great influence to secure the appointment of Maclagan. During Maclagan's long tenure of the chair of Medical Jurisprudence he was the adviser of the Crown in many cases of the highest importance and as a witness his evidence was always marked by its extreme clearness and fairness. One of the most terrible cases in which he was concerned—the Prichard case—occurred shortly after he was elected to the chair of Jurisprudence. In this atrocious case a medical man murdered his wife and mother-in-law with different solutions of antimony and aconite, and Maclagan's report upon the organs of the deceased was of the first assistance in putting the rope round a cruel murderer's neck. From this time forward he was considered a leading British authority in toxicology, and every case in Scotland which required for its elucidation the employment of high chemical attainments combined with experience and great common sense was sure to be placed in his hands. Although he became as a consequence more widely known as a chemist than as a sanitarian, Maclagan carried out the duties implied by his professorship of Public Health every whit as conscientiously. He was an excellent teacher of his subject and a progressive authority, and on resigning the active duties of his chair in 1896 he received the special thanks of the University for the great stimulus which he had given to the teaching of hygiene in the University. His lectures on this subject were full and lucid, and some 16 years ago he opened a hygienic laboratory, now under the care of Dr. Hunter Stewart, which gave to the Edinburgh student those practical facilities for learning the technique of public health work which are now essential to the education of all aspiring to hold public appointments. We have said enough to show that during Sir Douglas Maclagan's long tenure of the chair of Medical Jurisprudence and Public Health in Edinburgh University, which extended over 34 years, he fulfilled the double duties of his office in an admirable manner.

His position in the two great medical corporations of his city was no less honourable. As has been pointed out he shared with his father, and with him alone, the distinction of being elected to the Presidency of both the Royal College of Physicians of Edinburgh and the Royal College of Surgeons of Edinburgh. He was President of the Royal College of Physicians in 1864, and 20 years later, in 1884, of the Royal College of Surgeons. He also served a term as President of the Royal Society of Edinburgh, to which body he was elected when quite a young man. He received the honour of Knighthood for his public services in 1886. But Sir Douglas Maclagan was not only a highly honoured physician and surgeon and a great medical jurist: he was a fine writer and a good musician, a poet, and a sportsman, so that it can readily be understood that a man with such wide interests, showing himself so excellent in such varied walks of life, should have a large number of friends and admirers. And this was the case. In all his public capacities he was highly appreciated and in private life his qualities and attainments won him a lasting place in the regard of all sorts and conditions of personal friends. His verses, which were first published half a century ago, under the title, "Nugæ Canoræ Medicæ," were for the most part playful dissertations in verse upon medical themes, but often he displayed imagination of a high order as well as an accurate ear for phrasing. Among the poems is the "Alma Mater" which, in Sir Herbert Oakeley's setting, is known to all Edinburgh students, and the "Battle o' Glen Tilt," which was inspired by the attempt of the Duke of Argyll to deprive the public of a right of way along a beautiful Perthshire glen. He was a sound classic. His knowledge of music was turned to account as President of the Musical Society of the University. He was one of the earliest to join the Volunteer movement and was a Surgeon-General of the Queen's Bodyguard for Scotland. He was, in short, a brilliant, many-sided man, whose death leaves a gap that cannot be filled.

He was buried on Monday, April 9th, at the Dean Cemetery, Edinburgh, among the pall-bearers being his son, Dr. R. C. Maclagan, and his brother the Archbishop of York.

ST. GEORGE MIVART, PH.D., F.R.S., F.L.S., F.Z.S., M.D. LOUVAIN (HONORIS CAUSÂ).

AS we briefly announced last week, St. George Mivart, the well-known zoologist, died at his London residence somewhat suddenly on April 1st. He was born 72 years ago and

was educated at Harrow and King's College, London. It had been intended that he should go to Oxford, but having become a Roman Catholic while still a lad he was sent to complete his education at St. Mary's College, Oscott. In 1851 he was called to the Bar at Lincoln's Inn, but he never practised, and ten years later, having taken up scientific study as his life-work, he was appointed lecturer on Comparative Anatomy at St. Mary's Hospital. In 1867, in recognition of his excellent work in structural anatomy, he was elected a Fellow of the Royal Society, and from this time forward he continued to add to exact scientific knowledge by careful observations.

In such obituary notices as we happen to have seen of St. George Mivart most stress has been laid upon those of his works which appeal to the reading public generally. It is natural that this should be so. But the true reputation of the deceased anatomist and philosopher really rests upon a long series of careful anatomical researches into the structure of vertebrated animals. In the long run it will be found that actual contributions to exact knowledge are the most lasting claims to remembrance and that theoretical suggestions—leaving popularisations of science, of course, entirely out of consideration as merely of passing interest—are sometimes apt to blur a reputation. It may be that Mivart will be, at least for a time, chiefly remembered as an opponent of the hypothesis of natural selection and as an exponent of other philosophical views; but this reputation will be by no means so enduring as that which can be justly based upon his detailed memoirs on the structure of men and apes and of many other groups of mammals, birds, reptiles, and amphibians. It is to us a matter of regret that so few men of science are adequately appreciated by the writers into whose hands the duty of reminding the public of their principal works falls. An article upon a burning popular question or a lecture given to a large audience upon some important occasion is apt to produce an impression upon the unscientific mind far beyond the intrinsic value of the occasion, and the biographer falls under such influences. The "Lay Sermons" of the late Professor Huxley, for example, created a reputation for their author which it will take time to efface and to replace by that due to his solid contributions to zoological fact. So far as the greatness of men of science is concerned it cannot be too clearly stated that their position ought to rest upon their contributions to their subject and not upon their casual utterances upon disputed topics of temporary interest. In saying this it is unnecessary to observe that absolutely no criticism is intended upon the late St. George Mivart's writings upon theological questions, upon his numerous articles in magazines, or upon his admirable public lectures. All that is intended is to convey our regret that the solid work of Mivart's lifetime has been somewhat belittled by the great importance that has been attached to his controversial attitude with regard to other matters. For Mivart, the popular controversialist, was above all things the exceedingly accurate observer when dealing with his own subject. He was deeply impressed with the necessity for omitting no detail, and the careful study of such papers as those upon the skeleton of the struthious birds and the pelican family, published in the Transactions of the Zoological Society of London, show admirably the surprising amount of new facts available for comparative purposes that he was able to extract from types which, it might have been thought, were so well known as to be scientifically exhausted. Minute differences and minute resemblances were clearer to his extremely accurate observing powers than to many anatomists of distinction. Very little in the way of recording new fact is left to succeeding naturalists in the animals with which he dealt. He did not begin his work of this kind until the "sixties." At that comparatively late period a vast amount of facts had been recorded and he had before him such skilled and enormously industrious investigators as Cuvier, Meckel, Müller, Owen and many others. The anatomist of 30 and more years ago had a huge and unexplored territory before him if he turned to the invertebrates, but those whose studies led them to prefer the vertebrates had to add to the volumes of fact accumulated by the illustrious observers just mentioned as well as a crowd of less-known persons. This must be borne in mind in reflecting that at the beginning of the century Cuvier was able to say that he made a discovery before breakfast every day. St. George Mivart could not say this as he wrote comparatively few memoirs, something like 50 in all. It is, however, a harder thing to add to what is known about familiar animals than to explore for the first time an entirely new creature. And this is precisely what Mivart did and did frequently. He added to our knowledge of the apes, particularly of the anthropoids; of the insectivora in a lengthy series of elaborate memoirs; of all the groups of carnivorous animals; of many rodents such as the Canadian urson, the agouti, and others; and of the lemurs and some other mammals. In birds we have to thank him for much work upon the skeleton of the ostrich tribe, which has already been referred to, as well as of the pelicans and cormorants, and finally numerous types of the lower vertebrates were subjected to careful analysis by him. In the medical profession the value of his admirable work was always fully recognised and our readers will join with us in regretting that death has put a term to his labours.

JOSEPH EDWARD KENNY, L.R.C.P., L.R.C.S. EDIN., L.A.H. DUB.

MR. JOSEPH E. KENNY, who added to the labours of his calling the duties of a public man in Ireland, died in Dublin on April 9th. Born in 1815, he received his medical education in Dublin and in Edinburgh. Some two years after qualifying, and while he was medical officer at the North Dublin Fever Hospital, he distinguished himself by taking an energetic part in the endeavour to stamp out a small-pox epidemic which was then raging in the city. He became prominently connected with the Irish Nationalist party and at different times he held the office of treasurer to the Land League, the National League, and the Tenants' Defence Association, as well as to the Mansion House Evicted Tenants' Committee. In 1881 he was arrested as a "suspect" and was in consequence dismissed from his post as medical officer of the North Dublin Union. Subsequently, however, he was reinstated and at the general election of 1885 he was returned as a Member of Parliament for South Cork, which constituency he continued to represent for seven years. He was one of Mr. Parnell's most intimate friends, and when the split in the Irish party came he remained his follower. In 1892 he successfully contested the seat for College Green, Dublin, but retired from Parliament in 1896.

Mr. Kenny was a Fellow of the Royal Academy of Medicine in Ireland, and among the appointments which he held were those of Examiner in Medical Jurisprudence to the Apothecaries' Hall of Ireland, consulting physician to Maynooth College, visiting physician and medical officer of health to No. 2 North City Dispensary, visiting medical officer to North Dublin Union Hospital, and physician to the North Dublin Union Small-pox Hospital. He was also coroner for the city of Dublin. Although so much occupied as a politician he took the greatest interest in works of charity and benevolence in the city, and discharged his duties as coroner with great ability and success, winning the regard of all members of the medical profession. He had been for a long time in a delicate state of health; his death, however, was quite unexpected, and occurred after a brief illness of a septicæmic nature following upon the extraction of some teeth.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At the primary examination held in April the following candidates passed in the subjects indicated,—

PART I.

[illegible]

PART II.

[illegible]

Phelps, Cambridge and St. Thomas's Hospital; C. H. Pring, Bristol and Westminster Hospital; and W. P. Taylor, Sheffield and Bristol.

Physiology.—C. E. Adams and W. H. Bush, Guy's Hospital; P. S. Cooke, Charing Cross Hospital; C. M. L. Cowper, Guy's Hospital; L. Denny, Royal Free Hospital; A. W. Ellis, Edinburgh; H. R. Greller, Guy's Hospital; H. Jacques, London Hospital; S. A. Mahmood, University College Hospital; H. P. Margetts, St. Bartholomew's Hospital; S. Newmark, Edinburgh; H. A. Parker, St. Thomas's Hospital; A. R. Phelps, Cambridge and St. Thomas's Hospital; and C. H. Pring, Bristol and Westminster Hospital.

UNIVERSITY OF ABERDEEN.—At the graduation on April 4th the following degrees and diploma were conferred:—

Degree of Doctor of Medicine (M.D.).—Frank Beaton, M.B., Hirst, Morpeth; Hugh Gordon Cowie, M.A., M.B., Turriff; *Arthur Burness Dalgetty, M.B., Madabpore, Adampur, S. Sylhet, India; George Brebner Scott, M.B., London, and David Simpson, M.A., M.B., Major I.M.S., Coimbatore, Madras Presidency, India.

* These considered worthy of "Commendation."

Degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) (New Ordinances).—With First-class Honours †Henry Fraser, Aberdeen. *With Second-class Honours.* †Henry Peterkin, M.A., Aberdeen; Herbert Bell Tawse, Aberdeen; and Arthur Westerman, Aberdeen. William John Ironside Bruce, Dingwall; William James Cale, M.A., Aberdeen; Robert Carnegie, Peterhead; John Catto, Fintray, Aberdeenshire, Arthur Robertson Davidson, Kirkhill, Ellon, Aberdeenshire; Hugh Allan Davidson, Dunnydeer, Insch, Aberdeenshire; John Watt Duncan, M.A., Aberdeen; Sylvester Davidson Fairweather, M.A., Mintlaw, Aberdeenshire; George Greig Farquhar, Aberdeen; John Forbes, Mains of Fyvie, Fyvie, Aberdeenshire; John McCalman Fraser, M.A., Aberdeen; Kenneth Fraser, Inverness, William Nusum Houghton, London; Wilfrid Ernest [illegible] Macdonald, Aberdeen; John [illegible] near Aberdeen; Ernest Hunt N[illegible] Douglas Pringle, Alexandria, Ey[illegible] March, Monifieth, Forfarshire; James Andrew Simpson, Alford, Aberdeenshire; Harold Traill Shae, Kirkwall, Orkney; †Robert Alex. Slessor, M.A., Aberdeen; Charles Lawson Smith, Aberdeen; Harry Emslie Smith, Summerhill, Stonehaven, Aberdeen; Arthur Leslie Sutherland, M.A., Aberdeen; James Taylor, M.A., Toux, Mintlaw, Aberdeen; and James Miller Swanson Wood, Torry, Aberdeen.

† Passed Final Examination "with distinction."

Degrees of Bachelor of Medicine (M.B.) and Master in Surgery (C.M.) (Old Ordinances).—Joseph Hadfield, Hadfield, near Manchester; Francis Walker Moir, Cults, near Aberdeen; Douglas Whimster Kellier Moody, Montrose, William Mitchell Smith, Strichen, Aberdeenshire, and William Peters Young, Aberdeen.

Diploma in Public Health.—James McRae Cowie, M.B., Turriff; †James Dawson, M.A., M.B., Rathen; Alfred James Hynd, M.B., Aberdeen; James Alex. Stephen, M.A., M.B., Elgin; and Alexander Urquhart, M.A., M.B., Old Meldrum.

† "With credit."

THE WOOD GREEN AND DISTRICT MEDICAL SOCIETY.—At a special general meeting of this society held on April 4th the following resolutions were unanimously adopted:—

1. That the Wood Green and District Medical Society, having carefully considered the present and proposed new rules of the National Deposit Friendly Society, Limited, consider that, to make that society one which it can recommend to the profession it shall alter its rules as regards medical pay as follows. (*a*) That each "intermediate visit in dangerous cases" shall be paid for at 2*s.* 6*d.* per visit. (*b*) That the removal of cancerous or other tumours of magnitude be paid for at the rate of £5 instead of £3. (*c*) That there shall be a minimum fee for attendance in midwifery cases as follows—(1) for patients drawing up to 3*s.* per day sick pay, ordinary labour £1 1*s.*; instrumental labour or cases of version, £1 11*s.* 6*d.*, major operations excepted (where anæsthetic is used 10*s.* 6*d.* extra on above fees); (2) for patients drawing from 3*s.* to 5*s.* per day, 10*s.* 6*d.* extra shall be charged on above fees; (3) for patients drawing over 5*s.* per day, £1 1*s.* extra on above fees. Also that such fees shall be paid by the society direct to the medical attendant and deducted from patients' "sick pay" or "deposit" if sick pay be insufficient. (*d*) That the fee to be paid by all candidates for admission shall be at least 2*s.* 6*d.* for their medical examination for entry.

2. That there is no reason why "medical officers" should be appointed for districts, inasmuch as all registered medical practitioners are eligible to attend members and sign all certificates and that by appointing a particular medical man as "medical officer" he is given an unfair preference over other practitioners as evidenced by the proposed new rules, iv., sec. 6, xvi., sec. 14.

3. That the certificate of health of candidates for admission shall be sent direct to the District Secretary and not returned to the candidate.

4. That the patient may obtain the advice of a consulting surgeon upon the same terms as proposed in new rule (xvi., sec. 14, sub-sec. 5) re "consulting physician."

5. That no member be eligible for medical pay at above rates (rule xvi., sec. 14, sub-sec. 1, 2, 3, 4, 5) whose average income exceeds £5 per week.

6. That copies of the above resolutions be sent to the medical press, the Medical Society, and the East Suburban Medical Protection and Medical Benefit Society, Limited.

CENTENARIANS.—Mrs. Wells of Kingsmead-terrace, Bath, who has just died, had only a few weeks ago celebrated her one hundred and third birthday. She was born in 1797 at East Knoyle, Wiltshire. Bath still possesses a centenarian in Mrs. Priest, who was 103 years of age last August.

MEDICO-PSYCHOLOGICAL ASSOCIATION.—A meeting of the Northern and Midland Division will be held at the County Asylum, Whittingham, near Preston, Lancashire, on April 18th. Tickets should be taken for Grimsargh station, from which a private train runs right into the asylum grounds. Mr. F. Perceval will provide lunch at 1 P.M., after which members will be shown round the asylum by the medical staff. The business meeting will be held at 4 P.M. Mr. G. W. Mould (Cheadle) will open a discussion on the new Lunacy Bill. Papers will also be read by Mr. Francis O. Simpson of Rainhill Asylum and by Miss Catherine M. Blackwood, L.R.C.P. Edin., of Wadsley Asylum. Members will dine at the Park Hotel, Preston, at 7 20 P.M.

EAST LONDON NURSING SOCIETY.—The annual meeting of the friends and supporters of this society will be held at the Mansion House on Tuesday, April 24th, at 3 P.M., when it is expected that the Lord Mayor will preside. The society, the object of which is to provide nurses for the sick poor in their own homes in the East-end of London, has nursed during the year 5306 cases, each necessitating repeated assiduous visits. Among the 5306 cases nearly 900 were those of men who have thus been helped to regain strength and with it the power of maintaining themselves and their families. The income from annual subscriptions has increased, but there has been a considerable falling off in donations. But for an unexpected gift there would have been a deficit on the year's working.

BRIGHTON, HOVE, AND DISTRICT BRANCH OF THE NATIONAL SOCIETY FOR THE PREVENTION OF CRUELTY TO CHILDREN.—The financial statement of this branch for the past year shows receipts amounting to £325 10*s.* 11*d.* (including subscriptions, donations, Children's League of Pity, &c., £322 4*s.* 11*d.*) and expenditure, £202 12*s.* 4*d.* £122 18*s.* 7*d.* have been remitted to the parent society, as against £231 in the previous year. During the past 12 months more work has been done by the society in Brighton and Hove than ever before and it is satisfactory to know that 700 children have been made happier during the year through the exertions of the local branch of the society. Out of 300 cases affecting 700 children there have been only 12 prosecutions. In all other cases warnings and supervision have brought about the desired results.

BRISTOL EYE HOSPITAL.—The eighty-ninth annual meeting of the governors of this institution was held on March 28th, under the presidency of Mr. Richardson Cross. The medical report stated that 364 in-patients and 4975 out-patients had been treated during the year. The financial statement showed that the ordinary income amounted to £1022 and there was now an adverse balance of £499. The committee reported that a new storey was being added which would provide better sleeping accommodation for nurses and servants, some small wards for patients, and a good operating theatre. A new wing was also being built which would contain a sitting-room for nurses and a new operating theatre for out-patient cases. The approximate cost of the alterations will be about £6000, towards which £2500 have been received from private collections, and the committee appeal to the public for further subscriptions.

PREVENTION OF TUBERCULOSIS.—The annual meeting of members of the Devon and Cornwall branch of the Association for the Prevention of Tuberculosis will be held at the Guildhall, Plymouth, on April 19th. The Earl of Mount-Edgcumbe is announced to preside. The report of the executive committee will be presented and a motion in favour of the provision of a sanatorium for the treatment of pulmonary tuberculosis amongst the poorer classes will be discussed. A deputation of the Executive Committee have waited upon the Sanitary Committee of the Plymouth Town Council and urged the adoption of a scheme for the voluntary notification of "consumption." The scheme met with the full approval of the Health Committee and the medical officer of health, and was recommended for adoption to the town council.

PRESENTATION TO A NURSING SISTER BY MEDICAL MEN.—A testimonial, engrossed and illuminated on parchment, has been made to Miss May Anderson, the sister-in-charge of nursing at the Government Hospital in Fiji, by the medical officers of that colony. Miss Anderson, who began her training at the same hospital in 1894, has risen through successive steps of promotion to be practically the matron of the institution, though the position is not so

styled, and after a trying season of heat and rain and a number of anxious cases from the naval squadron at Samoa to nurse through [illegible] was granted vacation leave to [illegible] health. The opportunity was [illegible] to express their appreciation of Miss Anderson's high qualities as a nurse and fellow-official, and the parchment was accompanied by the gift of a free passage to Australia and back by mail steamer, together with a purse of sovereigns.

MEDICAL MAGISTRATES.—At the Somerset Quarter Session on April 4th Mr. J. G. Douglas Kerr, M.B., C.M. Glasg., took the oath of office and qualified as a county justice.—The [illegible] the name of Mr. S. Stretton of [illegible] as a Justice of the Peace for the county of Worcester.

VACCINATION LAW.—At Liskeard County Sessions held recently two parents were summoned for neglecting to have their children vaccinated. The solicitor who appeared for the prosecution stated that the children were born in 1893 and 1896 respectively. Mr. H. S. Schultess Young, who appeared for the defence, took the technical objection that the summons was issued under the wrong section, since Section 2 of the Vaccination Act of 1871 stated that complaint could be laid at any time within 12 months of the matter of complaint having arisen and not subsequently. In these cases the causes of complaints arose when the children were three or six months old, and therefore the summonses were several years out of date. The bench of magistrates upheld Mr. Young's objection and dismissed both cases.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Midwives Bill.

At the sitting of the House of Commons on Friday, April 6th, a state of things arose not unlike that which led to the unexpected second reading of the Midwives Bill, which almost resulted in a further advance of the measure. When the House met at 3 o'clock in the afternoon it was confronted with a heavy programme of Government business, comprising the motion for the Easter adjournment and seven Government orders. This programme, to the surprise of all concerned, was got through by 11 o'clock—that is to say, one hour before the conclusion of the time set aside by the rules of the House for the discussion of contested business. Next on the notice paper stood four Bills promoted by private Members—the first a small Bill amending the Scottish Local Government Act of 1894, the second the Midwives Bill as amended by the Standing Committee on Law, the third the Bill for raising the flash point of petroleum oil, and the last a measure dealing with liquor licences in Ireland. Alert to the opportunity promised them, the promoters of the Midwives Bill—Mr. Heywood Johnstone, Mr. Schwann, and others—were in their places, prepared apparently to go on with their Bill if it were reached. Sir Walter Foster, Mr. Lloyd George, and Mr. T. P. O'Connor were also present. In due course the first Bill was discussed. Its chief promoter moved the second reading and the Lord Advocate intimated opposition on behalf of the Government. Then a curious thing happened—curious to those unfamiliar with Parliamentary methods. In the space of a few minutes a comparatively well filled House became an empty one, an honourable member called the attention of the Speaker to the fact that less than 40 members were present, and Mr. Speaker after the usual interval counted the attendance and finding it less than a quorum declared that "this House stands adjourned." In Parliamentary phrase the House had been counted out.

Medical Officers of Health and Sanitary Inspectors.

Dr. Farquharson has given notice that he will introduce into the House of Commons a "Bill to amend the Law relating to medical officers of health, inspectors of nuisances, and sanitary inspectors, and to provide for superannuation allowances to such officers and inspectors, and for contribution towards such allowances by such officers and inspectors, and make other relative provisions."

HOUSE OF COMMONS.

THURSDAY, APRIL 5TH.

Poisonous Oils.

Mr. LEMMER asked the President of the Board of Agriculture whether his attention had been recently presented to flashing preparations to cross or resulting in burning disasters, and whether, seeing that two departmental committees were investigating this question, he would take any steps to prevent any further proceedings pending the decision of those committees. Mr. WALTER LONG replied: I have seen the reports of the cases to which Mr. Lemmer refers, but I have no power to interfere with the authority of the discretion of the local authorities by which proceedings under the Sale of Food and Drugs Acts are initiated. I do not doubt, however, that these authorities will bear in mind the fact to which the hon. member calls attention, viz., that a departmental committee is now making a full inquiry into the subject of the use of preservatives in food. The matter is not one which falls within the purview of Lord Wenlock's Committee on Milk Standards to which I understand the hon. member also refers.

Medical Examination of Army Officers.

[illegible] ate for Vice [illegible] home and [illegible] cited to say [illegible] and whether their power of horsemanship and general activity were specially reported on by the officer who recommended them for the command of brigades.—Mr. WYNDHAM replied: All colonels are examined [illegible] the officer who on it recommends.

The Education Department and Vaccination.

Mr. ARTHUR O'CONNOR asked the Vice-President of the Committee of Council on Education if he would explain on what grounds the [illegible] in choosing teachers it requires them to be taken who are protected against smallpox in the interest of the children in the schools.—Mr. ARTHUR O'CONNOR. Am I to understand that the objection to the particular man will be withdrawn?—Sir JOHN GORST: It is already withdrawn.

[illegible] by medical officers in respect of the certification of lunatics, as well as by certain metropolitan licensed houses; and whether he had made any inquiries regarding these allegations, and whether, in case of his being satisfied that they were true, he intended taking any steps to prevent a repetition of such practices.—Mr. CHANCE replied: The facts are as stated in the question. I have communicated with the Lunacy Commissioners on the subject, and I understand they have cautioned the proprietors of metropolitan licensed houses that wherever the practice of giving relieving officers great sums of the kind referred to has obtained it must be at once discontinued, and that [illegible] their [illegible] will be [illegible] views to the Wills case [illegible] was licensed by [illegible] [illegible] I have directed that [illegible] the Local Government [illegible] as possible, and on receipt of his report I shall have to decide what further steps, if any, it will be necessary for me to take in the matter.—Sir MANCHERJEE BHOWNAGGREE: In view of the facts now disclosed, will the Home Secretary insert adequate provisions in the Lunacy Bill so as effectually to check this practice of paying commissions?—Mr. CHAPLIN: I will consult the Home Secretary on the matter.

The Conclusions on Sewage Disposal.

Mr. J. W. WILCOX asked the President of the Local Government Board whether, having regard to the difficult position of many local authorities who were being pressed to erect or reconstruct sewage works, he could take steps to hasten the report of the Royal Commission on Sewage Disposal or give the House any idea of the probable date of the said report.—Mr. L. W. HARCOURT, who replied for Mr. CHAPLIN, said: The question submitted to the Commission has been detailed and prolonged scientific research, and I cannot say when the report is likely to be made. With a view to hastening their conclusions they have recently obtained the sanction of the Treasury to an increase of their scientific staff, and they are anxious to report at the earliest possible date.

Railway Protection of Miners Bill.

This Bill, which is mainly designed to get rid of the practice of the [illegible] between masters when engaged in conciliating and [illegible] Lords, was read a second time.

MONDAY, APRIL 9TH.

Pensioners in the Postal Service.

Sir WALTER FOSTER asked the Secretary to the Treasury, [illegible] whether any attempt had been made to carry into effect the recommendation of the Royal Commission [illegible] pensioners in the postal service; whether he could state the reason of the delay; and whether he would direct that the report should be laid before Parliament.—Mr. ARTHUR BALFOUR, on behalf of Mr. HICKS-BEACH, replied: The Treasury authorities have been [illegible] the recommendations of the Royal Commission [illegible] Civil Service and Postal Service [illegible] the report in order to consider the question [illegible] and [illegible] the Treasury [illegible] the Postmaster-General [illegible] the Treasury [illegible] and [illegible]

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

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BEARSON, G. T., M.D. Edin., C.M., L.R.C.S., has been appointed Visiting Surgeon, Western Infirmary, Glasgow.

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BISDEE, A. J., M.R.C.S., has been re-appointed District Medical Officer of the Ware Union.

BLAMEY, J., M.R.C.S., has been re-appointed Medical Officer for the Penrhyn Sanitary District.

BOWLES, BEATRICE, M.B., C.M. Lond., has been appointed Assistant Medical Officer for the Workhouse, Parish of St. Matthew, Bethnal Green, London.

BROWN, W., M.D., C.M. Glasg., has been appointed District Medical Officer by the Bristol Board of Guardians.

BUCHANAN, G., M.D. St. And., L.R.C.S. Edin., F.F.P.S. Glasg., has been appointed Honorary Consulting Surgeon, Western Infirmary, Glasgow.

CHICKEN, R. C., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed a Medical Referee under the Workmen's Compensation Act, 1897, and to act for the Worksop and Mansfield Districts of the County-court Circuit No. 18.

COCKCROFT, H. M., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Masham Sanitary District, Leyburn Union, vice R. E. T. Ewart, resigned.

COOK, H., M.B., C.M. Aberd., has been appointed District Medical Officer by the Bristol Board of Guardians.

ESSOR, HENRY COLLEN, M.R.C.S., L.S.A. Lond., has been re-appointed Ophthalmic Surgeon to the Ely Schools by the Cardiff Board of Guardians.

FALCONER, H. B., L.S.A. Lond., has been appointed District Medical Officer by the Bristol Board of Guardians.

FLOOD, P., L.R.C.P. & S. Irel., has been appointed District Medical Officer by the Bristol Board of Guardians.

FLOWER, FREDERICK I., M.R.C.S., L.S.A. Lond., has been re-appointed Medical Officer of Health for Warminster.

FORREST, J. S., L.R.C.P. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Sanitary District of Warkworth, Alnwick Union, vice W. Smyth, resigned.

FOSTER, M. B., L.R.C.P. Lond., M.R.C.S., D.P.H., has been appointed Medical Officer for the First Sanitary District, Ware Union, vice H. F. Elland, resigned.

GANT, W. O., L.R.C.P. & S. Edin., has been appointed District Medical Officer by the Bristol Board of Guardians.

GRANT, J. W., M.B., C.M. Edin., has been appointed Medical Officer for the Woburn Sanitary District, Woburn Union.

HAWKINS, W. R. T., M.R.C.S., L.R.C.P. Edin., has been appointed District Medical Officer by the Bristol Board of Guardians.

HAY, GEORGE G., M.B., Ch.B. Edin., has been appointed House Surgeon and Dispenser to the Northern Infirmary, Inverness.

HINDE, P. R. B., M.D. Edin., M.R.C.S., has been re-appointed District Medical Officer of the Ware Union.

JONES, J., L.R.C.P. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Dolgelly Sanitary District of the Dolgelly Union, vice R. Jones, deceased.

MAURIN, J. M., M.B., B.C. Cantab., D.P.H., has been appointed Medical Officer for the Rural Sanitary District by the Stroud Rural District Council, vice T. Partridge, resigned.

MASON, G. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Sixth Sanitary District, Lutterworth Union, vice R. N. Barron, resigned.

MCKENZIE, W., M.A., M.B., C.M. Aberd., has been appointed District Medical Officer by the Bristol Board of Guardians.

MOORE, B., Late Assistant Professor of Physiology, University College, London, has been appointed Lecturer on Physiology at the Charing Cross Hospital Medical School, London.

MORGAN, A. T., M.D. Brux., L.S.A. Lond., has been appointed District Medical Officer by the Bristol Board of Guardians.

MUIR, J. C., M.B., B.C. Camb., L.R.C.P. Lond., M.R.C.S., has been appointed Senior Assistant Medical Officer for the Crumpsall Workhouse, Township of Manchester, vice H. J. Crossley, resigned.

PARK, G. S., L.R.C.P. & S. Edin., has been appointed District Medical Officer by the Bristol Board of Guardians.

PATTON, J., M.B., C.M. Edin., has been appointed Medical Officer for the Stamford Bridge Sanitary District of the Pocklington Union, vice P. Wright, resigned.

SE[illegible], A., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Frome Sanitary District of the Frome Union, vice F. E. Pearse, deceased.

SU[illegible], E. J., L.R.C.P. & S. Edin., has been appointed District Medical Officer by the Bristol Board of Guardians.

[illegible], A. T., M.B., B.Ch. Vict., has been appointed Second Resident Assistant Medical Officer for the Crumpsall Workhouse, Township of Manchester, vice J. C. Muir.

[illegible], F. J., M.D. Oxon., F.R.C.S. Eng., has been appointed Physician to the National Orthopædic Hospital, Great Portland-street, London.

[illegible], J., [illegible], M.R.C.S., L.S.A., has been appointed District Medical Officer by the Bristol Board of Guardians.

[illegible], M.B., C.M. Edin., has been appointed District Medical Officer by the Bristol Board of Guardians.

[illegible], L.R.C.P. Lond., has been appointed Medical Officer by the Bristol Board of Guardians.

[illegible], Parish of [illegible], London.

WILLIAMS, PENROSE LANYON WATKIN, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Cannington District by the Bridgwater Board of Guardians, vice J. L. Ker Pringle, resigned.

WOOD, M. A., F.R.C.S. Eng., L.R.C.P. Lond., has been re-appointed Medical Officer by the Ledbury Urban District Council.

YOUNG, J., M.D., C.M. Glasg., has been appointed District Medical Officer by the Bristol Board of Guardians.

YOUNG, MEREDITH, M.D., M.S., D.P.H., has been appointed Medical Officer of Health for the County Borough of Stockport, vice Charles Porter.

Vacancies.

For further [illegible] vacancy reference should be [illegible] (see Index).

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL, Woodchurch-road, Birkenhead.—House Surgeon. Salary £75, with board, residence, and laundry. Apply to the Hon Secretary, 20, Chapel street, Liverpool.

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL, Birmingham.—House Surgeon, tenable to Oct. 31st next. Salary at the rate of £60 per annum, with board, lodging, and washing.

BOLTON INFIRMARY AND DISPENSARY.—Junior House Surgeon for months. Salary £60 per annum, with apartments, board, and attendance.

CARDIFF INFIRMARY.—Assistant House Physician for six months. Salary at the rate of £50 per annum, with board, washing, and apartments.

CITY DISPENSARY, 29 and 30, College-street, Dowgate-hill, London.—Visiting Medical Officer. Honorarium 50 guineas a year.

CITY OF LIVERPOOL INFECTIOUS DISEASES HOSPITALS.—Assistant Resident Medical Officer to the above hospitals, unmarried. Salary £60 per annum (subject to a contribution of £3 per cent. per annum to the Corporation Superannuation Fund), together with board, washing, and lodging at the hospital. Applications to the Town Clerk, Town Clerk's Office, Liverpool.

CORPORATION OF MANCHESTER.—Junior Assistant to the Medical Officer of Health. Salary £200 per annum. Applications to the Town Clerk, Public Health Office, Town-hall, Manchester.

COUNTY ASYLUM, Shrewsbury.—Junior Assistant Medical Officer. Salary to commence at £130 per annum, rising £10 a year to £150, with board, lodging, and washing. No liquors provided.

COUNTY BOROUGH OF WEST HAM LUNATIC ASYLUM.—Superintendent. Asylum now in course of erection at Chadwell Heath, Essex. Salary £600 per annum, with unfurnished house, light, washing, and garden produce. Apply to the Town Clerk, Town-hall, West Ham, E.

CUMBERLAND AND WESTMORLAND ASYLUM, Garlands, Carlisle.—Junior Assistant Medical Officer, unmarried. Salary £100 a year, with board and residence.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY, Dumfries.—House Surgeon. Salary £50 per annum, with board and washing. Also Assistant House Surgeon. Board and washing provided.

GENERAL INFIRMARY at Leeds.—Resident Medical Officer. Salary £100 per annum, with board, residence, and washing.

GREAT YARMOUTH HOSPITAL.—House Surgeon. Salary £60 per annum, with board, lodging, and washing.

HALIFAX UNION WORKHOUSE, ST. LUKE'S HOSPITAL.—Assistant Medical Officer for this hospital and workhouse, unmarried. Salary £160 per annum, mid-day meal provided, subject to superannuation deduction. Apply to the Clerk to the Guardians, Union Office, Halifax.

HOSPITAL AND DISPENSARY, NEWARK-UPON-TRENT.—House Surgeon, unmarried. Salary £60 per annum, with board and lodging in the Hospital.

HOSPITAL FOR WOMEN AND CHILDREN at Leeds.—Non-resident House Surgeon for six months. Salary at the rate of £125 per annum.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House Surgeon, unmarried. Salary £140, increasing annually by £10 to £170, with rooms in the Infirmary and attendance. Option of board at £40 per annum.

KING'S COLLEGE, London.—Obstetric Registrar and Tutor at King's College Hospital. Also Professorship of Materia Medica and Pharmacology.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary £85 per annum.

LEICESTER INFIRMARY.—Assistant House Surgeon for 12 months. Salary £60 per annum, with board, apartments, and washing.

LINCOLN UNION.—Medical Officer for the Workhouse at Lincoln. Salary £70 per annum, with certain perquisites. Applications to the Clerk, Lincoln.

LONDON THROAT HOSPITAL, 204, Great Portland-street.—Surgeon and Assistant Surgeon.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road.—Junior Resident Medical Officer for six months. Salary at the rate of £40 per annum, with board, attendance, and washing.

MONPETH DISPENSARY.—House Surgeon, unmarried. Salary £105 per annum, with furnished rooms, coals, gas, and attendance.

NORTHAMPTON GENERAL INFIRMARY.—Assistant to the House Surgeon for six months. Board, lodging, and washing provided, and an honorarium of £25 given for that term.

NORTH RIDING COUNTY ASYLUM, Clifton, York.—Senior Assistant Medical Officer, unmarried. Salary £150, rising to £200, with board, apartments, washing, and attendance.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London.—House Surgeon for six months. Salary at the rate of 50 guineas a year, with board and residence.

PARISH COUNCIL OF UIG, Island of Lewis.—Medical Officer and Public Vaccinator. Salary £200, exclusive of certain fees. Applications to the Chairman of the Parish Council.

PARISH OF BIRMINGHAM WORKHOUSE INFIRMARY.—Assistant Resident Medical Officer at the Workhouse Infirmary, for one year only. Salary £160 per annum, with furnished apartments, rations (no alcoholic liquors), coal, gas, laundry, and attendance. Apply to the Clerk to the Guardians, Parish Offices, Edmund-street.

PARISH OF LIVERPOOL.—Assista[illegible] house, Brownlow Hill, unmarried. [illegible]uation deductions, £80 per annum, [illegible] of £20 being allowed for examin[illegible] relief. Apply to the Vestry Clerk, Parish Offices, Brownlow Hill, Liverpool.

PAR[illegible]

Office, 213, Kingsland-road, N.E.

PRESTON ROYAL INFIRMARY.—Assistant House Surgeon. Salary £60 per annum, with board, lodging, and washing, &c.

QUEEN'S HOSPITAL, Birmingham.—Assistant Ophthalmic Surgeon. Honorarium £50 per annum.

ROYAL HALIFAX INFIRMARY.—Third House Surgeon, unmarried. Salary £50 per annum, with residence, board, and washing.

ROYAL HOSPITAL FOR CHILDREN AND WOMEN, Waterloo-bridge-road, London.—Two Assistant Physicians.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City road, London.—House Physician for six months. Salary at the rate of £40 per annum, with furnished apartments, board, and washing.

ROYAL LONDON OPHTHALMIC HOSPITAL (MOORFIELDS EYE HOSPITAL), City-road, E.C.—Three Assistant Surgeons.

SALOP INFIRMARY, Shrewsbury.—Assistant House Surgeon for six months. Salary at the rate of £40 per annum, with board and washing.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior House Surgeon for twelve months. Salary £30, with residence, board, and washing.

STAMFORD HILL AND STOKE NEWINGTON DISPENSARY, Stoke Newington.—Assistant Resident Medical Officer. Salary £100 per annum, with board and residence.

STOCKPORT INFIRMARY.—Assistant House and Visiting Surgeon. Salary £70 per annum, with board, washing, and residence.

SUNDERLAND INFIRMARY.—House Surgeon. Salary £80, rising £10 annually to £100, with board and residence.

TAUNTON AND SOMERSET HOSPITAL, Taunton.—Assistant House Surgeon for six months. Salary at the rate of £30 per annum, with board, lodging, and laundry.

Devon.—House Surgeon. Salary £50 [illegible]siging, and washing £6 per annum

THE [illegible]

York, and at New Southgate in the County of Middlesex.

[illegible]ONK DEPARTMENT gives notice [illegible] Referee under the Workmen's [illegible] Division, including Taunton, [illegible]gton, and Williton Districts of [illegible]

UNIVERSITY COLLEGE, London.—Professorship of Medical Jurisprudence. Also Surgical Registrar. Also Resident Medical Officer.

WESTON SUPER-MARE HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and residence in the hospital.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Physician for two years. Salary £100 a year, with board, lodging, and washing.

WREXHAM INFIRMARY.—House Surgeon. Salary £20 and washing.

Births, Marriages, and Deaths.

BIRTHS

BOWER.—On March 31st, the wife of Harry B. Bower, M.B. Edin., of Viewfield, Stretton, near Warrington, of a daughter.

HOW.—On April 4th, at Parkhurst, Claygate, the wife of Arthur B. How, M.R.C.S., of a son.

MASON.—On April 4th, at 45, George-street, Portman-square, the wife of G. A. Mason, M.A., M.B., B.C. Cantab., of a daughter.

DEATHS.

[illegible] Cora, R. Serf

[illegible] Thomas S. H.

MACLAGAN.—On April 4th, at Heriot-row, Edinburgh, Andrew Douglas Maclagan, M.D., LL.D., Knight Bachelor, recently Professor of Medical Jurisprudence and Public Health in the University of Edinburgh.

[illegible]—On April 4th, at the Naval Hospital, Chatham, Surgeon Arthur William Norris, Royal Navy, eldest son of Colonel Norris, aged 21 years.

OLDHAM.—On April 8th, at Harcourt, Thornton-road, Streatham-hill, S.W., the residence of his mother, after a long illness, George St. John Oldham, L.R.C.S., L.R.C.P., late of Chatham, eldest son of the late George St. John Oldham, M.D., of Castlebar, Co. Mayo, Dublin.

N.B.—A fee of 5s. is charged for the insertion of Notices under Births, Marriages, [illegible]

Notes, Short Comments, and Answers to Correspondents.

THE DOCTOR'S DREAM

THE following are the verses which we recently quoted from. They appeared in *Punch* many years ago, but we are unable to tell our correspondents—several of whom have asked us—the name of their author.—

I.

I am sitting alone by the surgery fire, with my pipe alight now the day is done,
The village is quiet, the wife's asleep, the child is hushed, and the clock strikes One!
And I think to myself as I read the news, and bless my life for the peace upstairs,
That the burden's sore for the best of men, but few can dream what the Doctor bears;
For here I sit at the close of day, while others have counted their profit and gain,
And I've tried as much as a man can do, in my humble manner to soften pain:
I've warned them all, in a learned way, of careful diet, and talked of "tone,"
And when I have preached of regular meals I've scarcely had time to swallow my own.
I was waked last night in my first long sleep, when I crawled to bed from my rounds dead beat—
"Ah! the Doctor's called," and they turned and snored as my trap went rattling down the street.

II

I sowed my oats, pretty wild they were, in the regular manner when life was free,
For a Medical Student isn't a saint any more than your orthodox Pharisee,
I suppose I did what others have done since the whirligig round of folly began,
And the ignorant pleasures I loved as a boy I have pretty well cursed since I came to be man
But still I recall through the mist of years, and through the portals of memory steals,
The kindly voice of a dear old man who talked to me lads of the man who heals,
Of the splendid mission in life for those who study the science that comes from God,
Who buckle the armour of Nature on, who bare their breasts as I who kiss the rod.
So the boy disappeared in the faith of the man, and the oats were sown; but I never forgot
There were few better things in the world to do than to lose all self in the Doctor's lot.

III

So I left the life that had seemed so dear to earn a crust that felt so cheap,
And I bought a share of a practice here, to win my way—and to lose my sleep,
To be day and night at the beck and call of men who sail and of women who lie,
To know how often the recall's late, and see with scorn the dear ones die,
To be laughed to scorn as a man who fails when Nature pays her terrible debt,
To give a mother her frail boy's smile and leave the eyes of the husband wet,
To face and brave the gossip and spite that travels about through a country town,
To be thrown in the way of hysterical girls and have all the feminine scandals down,
To study at night in the papers here of new diseases and [illegible]
To work like a slave for a weary year and then be [illegible] which I feel my [illegible]

IV

Upon my [illegible] were not too [illegible] who cannot afford to pay,
[illegible] thing I [illegible] till it [illegible]
I've earned the gratitude of the poor, [illegible] the arms of the gentry [illegible]
[illegible]
To do [illegible] of work [illegible]
But I go [illegible] away to the [illegible]
[illegible]

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BOWLES, BEATRICE, M.B., C.M. Lond., has been appointed Assistant Medical Officer for the Workhouse, Parish of St. Matthew, Bethnal Green, London.

BROWN, W., M.D., C.M. Glasg., has been appointed District Medical Officer by the Bristol Board of Guardians.

BUCHANAN, G., M.D. St. And., L.R.C.S. Edin., F.F.P.S. Glasg., has been appointed Honorary Consulting Surgeon, Western Infirmary, Glasgow.

CHICKEN, R. C., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed a Medical Referee under the Workmen's Compensation Act, 1897, and to act for the Worksop and Mansfield Districts of the County-court Circuit No. 18.

COCKCROFT, H. M., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Masham Sanitary District, Leyburn Union, vice R. E. T. Ewart, resigned.

COOK, H., M.B., C.M. Aberd., has been appointed District Medical Officer by the Bristol Board of Guardians.

ENSOR, HENRY COLLEN, M.R.C.S., L.S.A. Lond., has been re-appointed Ophthalmic Surgeon to the Ely Schools by the Cardiff Board of Guardians.

FALCONER, H. B., L.S.A. Lond., has been appointed District Medical Officer by the Bristol Board of Guardians.

FLOOD, P., L.R.C.P. & [illegible] ted District Medical Officer by the Bristol [illegible]

FLOWER, FREDERICK I., [illegible] has been re-appointed Medical Officer of He[illegible]

FORREST, J. S., L.R.C.[illegible] has been appointed Medical Officer for [illegible] Warkworth, Alnwick Union, vice W. Smyth, resigned.

FOSTER, M. B., L.R.C.P. Lond., M.R.C.S., D.P.H., has been appointed Medical Officer for the First Sanitary District, Ware Union, vice H. F. Elland, resigned.

GENT, W. C., L.R.C.P. & S. Edin., has been appointed District Medical Officer by the Bristol Board of Guardians.

GRANT, J. W., M.B., C.M. Edin., has been appointed Medical Officer for the Woburn Sanitary District, Woburn Union.

HAWKINS, W. R. T., M.R.C.S., L.R.C.P. Edin., has been appointed District Medical Officer by the Bristol Board of Guardians.

HAY, GEORGE G., M.B., Ch.B. Edin., has been appointed House Surgeon and Dispenser to the Northern Infirmary, Inverness.

HINDL, F. R. B., M.D. Edin., M.R.C.S., has been re-appointed District Medical Officer of the Ware Union.

JONES, J., L.R.C.P. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Dolgelly Sanitary District of the Dolgelly Union, vice R. Jones, deceased.

MARTIN, J. M., M.B., B.C. Cantab., D.P.H., has been appointed Medical Officer for the Rural Sanitary District by the Stroud Rural District Council, vice T. Partridge, resigned.

MASON, G. B., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Sixth Sanitary District, Lutterworth Union, vice R. N. Barron, resigned.

MCKENZIE, W., M.A., M.B., C.M. Aberd., has been appointed District Medical Officer by the Bristol Board of Guardians.

MOORE, B., late Assistant Professor of Physiology, University College, London, has been appointed Lecturer on Physiology at the Charing cross Hospital Medical School, London.

MORGAN, A. T., M.D. Brux., L.S.A. Lond., has been appointed District Medical Officer by the Bristol Board of Guardians.

MUIR, J. C., M.B., B.C. Camb., L.R.C.P. Lond., M.R.C.S., has been appointed Senior Assistant Medical Officer for the Crumpsall Workhouse, Township of Manchester, vice H. J. Crossley, resigned.

PAGE, G. S., L.R.C.P. & S. Edin., has been appointed District Medical Officer by the Bristol Board of Guardians.

PATTON, J., M.B., C.M. Edin., has been appointed Medical Officer for the Stamford Bridge Sanitary District of the Pocklington Union, vice F. Wright, resigned.

SADDON, A., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Frome Sanitary District of the Frome Union, vice F. E. Pearse, deceased.

SHEPHARD, F. J., L.R.C.P. & S. Edin., has been appointed District Medical Officer by the Bristol Board of Guardians.

SIMSON, A. T., M.B., B.Ch. Vict., has been appointed Second Resident Assistant Medical Officer for the Crumpsall Workhouse, Township of Manchester, vice J. C. Muir.

SMITH, F. J., M.D. Oxon., F.R.C.S. Eng., has been appointed Physician to the National Orthopædic Hospital, Great Portland-street, London.

STATTE, J. DIBLEE, M.R.C.S., L.S.A., has been appointed District Medical Officer by the Bristol Board of Guardians.

WA[illegible] H., M.D., C.M. Edin., has been appointed District Medical Officer by the Bristol Board of Guardians.

WH[illegible] J., L.R.C.P. Lond., has been appointed Medical Officer for the Second District, Parish of St. Pancras, London.

WILLIAMS, PENROSE LANYON WATKIN, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Cannington District by the Bridgwater Board of Guardians, vice J. L. Ker Pringle, resigned.

WOOD, M. A., F.R.C.S. Eng., L.R.C.P. Lond., has been re-appointed Medical Officer by the Ledbury Urban District Council.

YOUNG, J., M.D., C.M. Glasg., has been appointed District Medical Officer by the Bristol Board of Guardians.

YOUNG, MEREDITH, M.D., M.S., D.P.H., has been appointed Medical Officer of Health for the County Borough of Stockport, vice Charles Porter.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL, Woodchurch-road, Birkenhead.—House Surgeon. Salary £75, with board, residence, and laundry. Apply to the Hon Secretary, 20, Chapel-street, Liverpool.

BIRMINGHAM AND MIDLAND EA[illegible] rmingham.—House Surgeon, tenable to [illegible] e rate of £60 per annum, with board, lo[illegible]

BOLTON INFIRMARY AND DISPENSARY.—Junior House Surgeon for months. Salary £80 per annum, with apartments, board, and attendance.

CARDIFF INFIRMARY.—Assistant House Physician for six months. Salary at the rate of £50 per annum, with board, washing, and apartments.

CITY DISPENSARY, 29 and 30, College-street, Dowgate-hill, London.—Visiting Medical Officer. Honorarium 50 guineas a year.

CITY OF LIVERPOOL INFECTIOUS DISEASES HOSPITALS.—Assistant Resident Medical Officer to the above hospitals, unmarried. Salary £80 per annum (subject to a contribution of £3 per cent. per annum to the Corporation Superannuation Fund), together with board, washing, and lodging at the hospital. Applications to the Town Clerk, Town Clerk's Office, Liverpool.

CORPORATION OF MANCHESTER.—Junior Assistant to the Medical Officer of Health. Salary £200 per annum. Applications to the Town Clerk, Public Health Office, Town-hall, Manchester.

COUNTY ASYLUM, Shrewsbury.—Junior Assistant Medical Officer. Salary to commence at £130 per annum, rising £10 a year to £150, with board, lodging, and washing. No liquors provided.

COUNTY BOROUGH OF WEST HAM LUNATIC ASYLUM.—Superintendent. Asylum now in course of erection at Chadwell Heath, Essex. Salary £600 per annum, with unfurnished house, light, washing, and garden produce. Apply to the Town Clerk, Town-hall, West Ham, E.

CUMBERLAND AND WESTMORLAND ASYLUM, Garlands, Carlisle.—Junior Assistant Medical Officer, unmarried. Salary £100 a year, with board and residence.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY, Dumfries.—House Surgeon. Salary £50 per annum, with board and washing. Also Assistant House Surgeon. Board and washing provided.

GENERAL INFIRMARY at Leeds.—Resident Medical Officer. Salary £100 per annum, with board, residence, and washing.

GREAT YARMOUTH HOSPITAL.—House Surgeon. Salary £90 per annum, with board, lodging, and washing.

HALIFAX UNION WORKHOUSE, ST. LUKE'S HOSPITAL.—Assistant Medical Officer for this hospital and workhouse, unmarried. Salary £160 per annum, mid-day meal provided, subject to superannuation deduction. Apply to the Clerk to the Guardians, Union Office, Halifax.

HOSPITAL AND DISPENSARY, NEWARK-UPON-TRENT.—House Surgeon, unmarried. Salary £80 per annum, with board and lodging in the Hospital.

HOSPITAL FOR WOMEN AND CHILDREN at Leeds.—Non-resident House Surgeon for six months. Salary at the rate of £125 per annum.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House Surgeon, unmarried. Salary £140, increasing annually by £10 to £170, with rooms in the Infirmary and attendance. Option of board at £40 per annum.

KING'S COLLEGE, London.—Obstetric Registrar and Tutor at King's College Hospital. Also Professorship of Materia Medica and Pharmacology.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary £85 per annum.

LEICESTER INFIRMARY.—Assistant House Surgeon for 12 months. Salary £80 per annum, with board, apartments, and washing.

LINCOLN UNION.—Medical Officer for the Workhouse at Lincoln. Salary £70 per annum, with certain perquisites. Applications to the Clerk, Lincoln.

LONDON THROAT HOSPITAL, 204, Great Portland-street.—Surgeon and Assistant Surgeon.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road.—Junior Resident Medical Officer for six months. Salary at the rate of £40 per annum, with board, attendance, and washing.

MORPETH DISPENSARY.—House Surgeon, unmarried. Salary £105 per annum, with furnished rooms, coals, gas, and attendance.

NORTHAMPTON GENERAL INFIRMARY.—Assistant to the House Surgeon for six months. Board, lodging, and washing provided, and an honorarium of £25 given for that term.

NORTH RIDING COUNTY ASYLUM, Clifton, York.—Senior Assistant Medical Officer, unmarried. Salary £150, rising to £200, with board, apartments, washing, and attendance.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London.—House Surgeon for six months. Salary at the rate of 50 guineas a year, with board and residence.

PARISH COUNCIL OF UIG, Island of Lewis.—Medical Officer and Public Vaccinator. Salary £200, exclusive of certain fees. Applications to the Chairman of the Parish Council.

PARISH OF BIRMINGHAM WORKHOUSE INFIRMARY.—Assistant Resident Medical Officer at the Workhouse Infirmary, for one year only. Salary £100 per annum, with furnished apartments, rations (no alcoholic liquors), coal, gas, laundry, and attendance. Apply to the Clerk to the Guardians, Parish Offices, Edmund-street.

PARISH OF LIVERPOOL.—Assistant Medical Officer for the Workhouse, Brownlow Hill, unmarried. Salary (subject to superannuation deduction), £80 per annum, with rations, an additional sum of £20 being allowed for examining applicants for out-door relief. Apply to the Vestry Clerk, Parish Offices, Brownlow Hill, Liverpool.

PAR[illegible]

PRESTON ROYAL INFIRMARY.—Assistant House Surgeon. Salary £60 per annum, with board, lodging, and washing, &c.

QUEEN'S HOSPITAL, Birmingham.—Assistant Ophthalmic Surgeon. Honorarium £50 per annum.

ROYAL HALIFAX INFIRMARY.—Third House Surgeon, unmarried. Salary £50 per annum, with residence, board, and washing.

ROYAL HOSPITAL FOR CHILDREN AND WOMEN, Waterloo-bridge-road, London.—Two Assistant Physicians.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City road, London.—House Physician for six months. Salary at the rate of £40 per annum, with furnished apartments, board, and washing.

ROYAL LONDON OPHTHALMIC HOSPITAL (MOORFIELDS EYE HOSPITAL), City road, E.C.—Three Assistant Surgeons.

SALOP INFIRMARY, Shrewsbury.—Assistant House Surgeon for six months. Salary at the rate of £40 per annum, with board and washing.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior House Surgeon for twelve months. Salary £80, with residence, board, and washing.

STAMFORD HILL AND STOKE NEWINGTON DISPENSARY, Stoke Newington.—Assistant Resident Medical Officer. Salary £100 per annum, with board and residence.

STOCKPORT INFIRMARY.—Assistant House and Visiting Surgeon. Salary £70 per annum, with board, washing, and residence.

SUNDERLAND INFIRMARY.—House Surgeon. Salary £60, rising £10 annually to £100, with board and residence.

TAUNTON AND SOMERSET HOSPITAL, Taunton.—Assistant House Surgeon for six months. Salary at the rate of £30 per annum, with board, lodging, and laundry.

TEIGNMOUTH HOSPITAL, South Devon.—House Surgeon. Salary £50 per annum, with board, lodging, and washing. £6 per annum allowed in lieu of stimulants.

THE [illegible] vacancies as [illegible] in the [illegible] Renfrew, [illegible] County of York, and at New Southgate in the County of Middlesex.

[illegible] DEPARTMENT gives notice [illegible] Referee under the Workmen's [illegible] Division, including Taunton, [illegible] ington, and Williton Districts of [illegible]

UNIVERSITY COLLEGE, London.—Professorship of Medical Jurisprudence. Also Surgical Registrar. Also Resident Medical Officer.

WESTON SUPER-MARE HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and residence in the hospital.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Physician for two years. Salary £100 a year, with board, lodging, and washing.

WREXHAM INFIRMARY.—House Surgeon. Salary £60 and washing.

Births, Marriages, and Deaths.

BIRTHS

[illegible] ry R. Boyce, M.B. Edin., of [illegible] of a daughter.

[illegible] ygate, the wife of Arthur D. [illegible]

[illegible] ed, Portman-square, the wife of G. A. Mason, M.A., M.D., B.C. Cantab., of a daughter.

DEATHS.

BOYLE-TRAVERS.—On April 6th, at Farsil, Ballylin, co. Cork, Robert Boyle-Travers, F.R.C.S., aged 77 years.

JACKMAN.—On April 4th, Arthur Crocome, third son of Thomas S. H. Jackman, M.R.C.P., of 11, Stoke Newington-road, N.

MACLAGAN.—On April 4th, at Heriot-row, Edinburgh, Andrew Douglas Maclagan, M.D., LL.D., knight Bachelor, recently Professor of Medical Jurisprudence and Public Health in the University of Edinburgh.

[illegible] Chatham, Surgeon [illegible] and Colonial Nurses, [illegible] Stoke, Stockbridge, [illegible] to children, [illegible] Hospital, [illegible] of the late George St. John Orbliani, M.D., of Castleton, co. Roscommon.

N.B.—A fee of 5s. is charged for the insertion of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE DOCTOR'S DREAM.

THE following are the verses which we recently quoted from. They appeared in *Punch* many years ago, but we are unable to tell our correspondents—several of whom have asked us—the name of their author.—

I.

I am sitting alone by the surgery fire, with my pipe alight now the day is done;
The village is quiet, the wife's asleep, the child is hushed, and the clock strikes One!
And I think to myself as I read the news, and lists my life for the peace upstairs,
That the burden's sore for the best of men, but few can dream what the Doctor bears;
For here I sit at the close of day, while others have counted their profit and gain,
And I've tried as much as a man can do, in my humble manner to soften pain:
I've warned them all, in a learned way, of careful diet, and talked of "tone,"
And when I have preached of regular meals I've scarcely had time to swallow my own.
I was waked last night in my first long sleep, when I crawled to bed from my rounds dead beat—
"Ah! the Doctor's called," and they turned and snored as my trap went rattling down the street.

II.

I sowed my oats, pretty wild they were, in the regular manner when life was free,
For a Medical Student isn't a saint any more than your orthodox Pharisee;
I suppose I did what others have done since the whirligig round of folly began,
And the ignorant pleasures I loved as a boy I have pretty well cursed since I came to be man.
But still I recall through the mist of years, and through the portals of memory steals,
The kindly voice of a dear old man who talked to us lads of the man who heals,
Of the splendid mission in life for those who study the Science that comes from God,
Who buckle the armour of Nature on, who have their treasure in who kiss the rod.
So the boy disappeared in the faith of the man, and the oats were sowed; but I never forgot
There were few better things in the world to do than to lose all self in the Doctor's lot.

III.

So I left the life that had seemed so dear to earn a crust that had so cheap,
And I bought a share of a practice here, to win my way and to lose my sleep;
To be day and night at the beck and call of men who all and of women who lie;
To know how often the rascals live, and how with scores the dear ones die,
To be laughed to scorn as a man who fails when Nature pays her terrible debt,
To give a mother her babe's life back and leave the eyes of the husband wet,
To face and trace the gossip and tale that travels out through a country town,
To be thrown in the way of hysterical girls and have all the foolish scandal down;
To study aright in the papers here and here made an honest [illegible]
To work like a slave for a weary year and then be cut off when I had my bills.

IV.

Upon my account were not too hard if a three [illegible] of [illegible] to-day,
For nothing I've set the world [illegible] till the night turned day.
I've earned the prayers of the poor, thank God, and I've seen the [illegible] of [illegible] good deed;
I've heard a [illegible] and [illegible] [illegible] nights [illegible]
To [illegible] I never have [illegible] [illegible] [illegible]
[illegible] away to [illegible] [illegible] [illegible]

As here I sit and smoke my pipe, when the day is done and the wife's asleep,
And think of that brother-in-arms who's gone, and utter—well, something loud and deep!
And I read the news and I fling it down, and I fancy I hear in the night that cream
Of a woman who's crying for vengeance; Hark! no, the house is still—it's a Doctor's dream.

PARISH NURSING.

To the Editors of THE LANCET.

SIRS,—May I call attention to the system of parochial nursing which appears to me to be developing at the present day? During the 12 years I have acted as a general practitioner in the south-east of London I have necessarily been brought in contact with many of the humble class. A nurse happens to have resided in the district for a greater or less period appointed by a Church association. It apparently happens, however, that her semi-official position inspires the less educated classes with a confidence in the discharge of duties for which she has undergone no training beyond that of a nurse, and in consequence of this she is called into houses to render advice, and this she renders in cases which she regards as simple, treating them on her own responsibility. In consequence of this I wrote to the vicar of the parish, pointing out to him that the General Medical Council had recently issued an edict *prohibiting* what is known as "covering" unqualified practice, and that I declined to coöperate further with any parish nursing on the ground that I might be held responsible, believing, as I do, that this practice is against the spirit of the law. As the association in question is evidently philanthropic I should be pleased to know whether my refusal to be involved could be regarded as harsh treatment towards the poor. I am, Sirs, yours faithfully,

April 7th, 1900. G. P.

MANCHURIAN PARTRIDGES.

To the Editors of THE LANCET.

SIRS,—What may prove to be a useful addition to the dietary of the invalid has recently been made by the importation of Manchurian partridges, and moreover it is one that will be constantly available, the birds being killed when in prime condition and kept frozen. They are a little smaller than the English variety and may be distinguished by this and by the absence of the russet feathers which form such a marked feature on the breast of our male bird. In place of these russet feathers there are a quantity of yellowish-fawn coloured feathers upon the underside of the neck which terminate upon the breast in a black horse-shoe. It appears that these birds, though of the Manchurian variety, are really imported from the neighbourhood of Western Siberia, where they are found in immense numbers upon the mountains. In this cold region they become frozen directly after they are killed. Conveyed in sleighs to Omsk they are sent on by rail to Libau, a port in the Baltic, from which place they are shipped to London. The birds as a whole seem to be in capital condition and are remarkably tender and delicate eating. I do not remember to have seen any definite pronouncement of opinion with regard to the relative nutrient value and digestibility of fresh and frozen meat. Perhaps some of the many readers of THE LANCET can enlighten my ignorance on this point. It is a point nowadays of no little importance, and if the question can be answered in a sense favourable to the claims of frozen flesh these partridges may prove a useful addition to the invalid's dietary, especially as the price at which they are sold—viz., 2s. and 2s. 3d. per brace—will bring them within the reach of persons of comparatively slender means. I am, Sirs, yours faithfully,

April 9th, 1900. PERDIX.

A NEW FORM OF INFECTION.

THE *Phonographic Record* is responsible for the following story which is commended to the consideration of Professor Schenck and his enthusiastic followers:—"A clergyman walking on the outskirts of his parish one day found one of his parishioners whitewashing his cottage. Pleased at this novel manifestation of the virtue that is next to godliness he complimented the man on his desire for neatness. With a mysterious air the worker descended from the ladder and approaching the fence said, 'That's not exactly the reason why I'm a doin' of this ere job, your worship. The last two couples as lived here had twins, so I sez to my missus, "I'll take and whitewash the place so's there mayn't be no infe[illegible]." You see, sir, as how we've got ten of 'em already.'"

you lay
inde[illegible]

atmosphere became so oppressive that "Fanny," who slept at the foot of Vincenzo's bed, got up and, suspecting that all was not right, tried to rouse her master; but in vain. His sleep, like that of his wife and their four children, had become stertorous and comatose. "Fanny" thereupon gave vent to piteous cries which brought in the waiter from the adjoining room. The instant he opened the door she darted out, and while he was doing his best for the semi-asphyxiated family she made for the house of one Marquet 30 yards off, with the inmate of which she was a special favourite. Her cries drew the man to the window and these she followed up with gestures so significant that he soon convinced himself that something was wrong. Continuing her eloquent "grimaces" (or "smorfie," as the Italian reporter phrases it) "Fanny" got him to accompany her to the restaurant, where he lost no time in reinforcing the waiter's "first aid" with professional assistance. Not without difficulty the family were rescued from a fate unintelligently invited by a man and most intelligently—nay, philanthropically—averted by a monkey!

CONGENITAL ABSENCE OF THE EARS.

To the Editors of THE LANCET.

SIRS,—During my residence at Mandvi, while I was going to the seashore a few days back I was shown a Mahomedan boy, about six years old, with congenital absence of ears, playing with other boys and enjoying the play as freely as his companions did. He looked quite healthy and intelligent and all other parts of the body were *normally developed*. He had no difficulty in hearing from a distance from which others could hear us speaking. When questioned he answered promptly with distinct articulation of voice. On examining him I saw no trace of external auricle or of external auditory meatus except a small, thin vertical fold of skin (one inch in length) just in front of the mastoid process, [illegible] le (its helix?). On the rest of the temp[illegible] seemed of the same colour and thickness [illegible] the skull. On pressing against the temporal bone in front of the mastoid process on both sides I could feel a slight depression, but it did not feel so deep as to suggest the patency of the external auditory canal and meatus behind the skin covering the bone. No other abnormality was found either in the mouth or in the adjacent parts. I wonder how the power of hearing was preserved notwithstanding the entire absence of the external auditory openings.—I am, Sirs, yours faithfully,

KESHAVLAL J. DHOLAKIA.

Mandvi, Kutch, Western India, March 14th, 1900.

"THE ROYAL NAVY MEDICAL DEPARTMENT."

To the Editors of THE LANCET.

SIRS,—Sir Dyce Duckworth, in his attempt in THE LANCET of March 31st, p. 882, to defend the Admiralty in making a distinction in their lists of medical officers holding certain diplomas makes matters worse. He contends that since 1892 the examination for the M.B. of certain universities is "sufficient." What about the M.B. degree previously to 1892? My argument is that the examinations of the Conjoint Examining Boards of England, Ireland and Scotland are more practical and searching than the majority of the universities. To prove my assertion I refer your readers to the minutes of the General Medical Council for the past year, the "entries," "passes," and "rejections" can be there compared. The General Medical Council have done their utmost to quash the Preliminary Examination of the College of Preceptors by casting aspersions on the examinations, whereas it is a well-known fact that the candidates who fail at these examinations have no difficulty in finding "an open door" at certain universities and "getting through" an examination entitling them to become registered medical students. If the universities want to swagger about their degrees the standard of the Arts course must be raised; as it now stands it is a farce. The General Medical Council compel the College of Preceptors and others to adopt a certain course—that is, to pass all the subjects of the examination. This is not so in the universities; the registration of medical students in some of the universities is done without even the production of any Arts certificate at all. As long as the Arts and Medical courses in universities are allowed to run concurrently the university medical graduate has nothing to boast of.

I am, Sirs, yours faithfully,

April 7th, 1900. JUSTICE.

N. P. Z.—Our correspondent does not mention the strength of the solution of eucaine β which he employed. A 2 per cent. solution is the most convenient for ophthalmological work, two drops being dropped every three minutes until 10 drops have been used. This will give efficient local anæsthesia. One great excellence in this drug is to be found in the fact that it is not destroyed by boiling, and so [illegible] are readily sterilised.

[illegible]—We cannot express any opinion in the matter. The law is clear for private arrangement between employer and employed, and we know that many employed hold a different view to our correspondent.

The poem entitled "The Autocratic Doctor," quoted [illegible] of April 7th (p. 1042), was extracted from the [illegible] the *Practitioner*, and not from the source which was [illegible] mentioned in our issue of the above date.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 11th, 1900.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp in shade.	Min Temp	Wet Bulb	Dry Bulb.	Remarks at 8.30 A.M.
April 6	29·54	N.E.	0·05	62	49	43	44	47	Cloudy
" 6	29·69	N.W.	0·09	90	65	37	40	42	Fine
" 7	29·09	S.E.	0·05	74	51	41	43	45	Overcast
" 8	29·85	N.E.	...	63	49	39	42	45	Cloudy
" 9	29·73	S.E.	...	82	56	39	41	43	Hazy
" 10	29·75	N.W.	0·02	98	53	42	44	46	Fine
" 11	29·63	S.W.	0·09	101	60	46	51	53	Overcast

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

[illegible] St. Bartholomew's (1.30 P.M.), St. [illegible]ge's (2 P.M.), St. Mary's (3.30 P.M.), [illegible]nster (2 P.M.), Chelsea (2 P.M.), [illegible] Physicians, 2 P.M.), Soho-square [illegible] P.M.), City Orthopædic (4 P.M.), [illegible] .M.), London [illegible] P.M.), Guy's [illegible] P.M.), Westminster College [illegible] St. Mark's [illegible]don Throat [illegible]

WEDNESDAY (18th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.)

THURSDAY (19th).—St. Bartholomew's (1.30 P.M.), St. Thomas's [illegible] 3 P.M.), St. [illegible] Middlesex North-West [illegible] (Gynæco- [illegible] (2 P.M.), [illegible] P.M.), St. Charing- [illegible] t. Mary's [illegible] P.M.), Gt. [illegible] London [illegible] .30 P.M.), [illegible] .15 A.M.), [illegible] 10 P.M.), [illegible]

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

WEDNESDAY (18th).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.)—8 P.M. Mr. W. Carruthers (President): Demonstration on the structure of some Palæozoic Plants (with sections of the plants thrown on the screen).

NORTHERN AND MIDLAND DIVISION OF THE MEDICO-PSYCHOLOGICAL [illegible] Lunacy [illegible] 8 P.M. [illegible] oms, [illegible]

THURSDAY (19th).—EPIDEMIOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—7.45 P.M. Council Meeting. 8.30 P.M. Ordinary Meeting.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

TUESDAY (17th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. W. Hewitt: Consultation. (Medical.)

WEDNESDAY (18th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Smith: Consultation. (Surgical.)

THURSDAY (19th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Hutchinson: Consultation. (Surgical.)

FRIDAY (20th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. St. Clair Thomson: Consultation. (Nose and Throat.)

During the week marked copies of the following newspapers have been received: *Scotsman, Irish Times, Morning Herald, Standard, Daily Telegraph, Scotsman, Liverpool Daily Post, Morning Leader, Dundee Advertiser, Irish Daily Chronicle, Sporting Life, Manchester Courier, Manchester Guardian, Yorkshire Post, Western Morning News, Leicester Daily Post, East Daily Press (Norwich), Lancaster Guardian, Leeds Mercury, Huddersfield Examiner, News of the West (London), Times of India, Pioneer Mail, Weekly Dispatch, Bristol Mercury, Builder, Citizen, Architect, Yorkshire Post, Yarmouth Independent, Sandbridge Herald, Brighton Gazette, Sanitary Record, Local Government Chronicle, Reading Mercury, Crewe Chronicle, The Musician, Hertfordshire Mercury, City Press, Mining Journal, Civil Service Gazette, Bradford Observer, Birmingham Daily Post, Literary Digest, Loughborough Examiner, Manchester Courier, Llanelli Advertiser, Local Government Journal, Surrey Advertiser, Surrey Times, Ulster Times, Aldershot News, Lincoln Chronicle, Rushden Echo, Herts Advertiser, Lincoln Mercury, Isle of Wight County Press, &c., &c.*

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It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE, OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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We cannot prescribe or recommend practitioners.

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A Clinical Lecture

THE MODERN TREATMENT OF UTERINE FIBROIDS, WITH TABLE OF 68 CONSECUTIVE CASES OF HYSTERECTOMY.

Delivered at the Middlesex Hospital on March 13th, 1900.

By WILLIAM DUNCAN, M.D. Brux., F.R.C.S. Eng., M.R.C.P. Lond.,

OBSTETRIC PHYSICIAN TO THE MIDDLESEX HOSPITAL; SENIOR PHYSICIAN TO THE CHELSEA HOSPITAL FOR WOMEN.

GENTLEMEN,—We have in the Prudhoe Ward at the present time two cases of uterine fibroids. One patient is convalescing after the operation of abdominal hysterectomy in which I removed this tumour (Fig. 1); the other patient is in such an unhealthy cachectic condition that we are endeavouring to improve her general health before subjecting her to operation. I propose to-day to discuss the proper treatment of uterine fibroids and also to make some remarks generally on these tumours.

THE FREQUENCY AND DANGERS OF UTERINE FIBROIDS.

Everyone is agreed as to uterine fibroids being often met with; indeed, it has been calculated that from 20 per cent. to 40 per cent. of women over 35 years of age are the possessors of uterine fibroids. They are rare before the age of 30 years, or, at all events, they do not often give rise to symptoms calling for treatment—in two cases only of my 68 were the patients under 30 years of age. But whilst there is unanimity of opinion as to their frequency it is far otherwise as regards the risks to life. On the one hand, Dr. F. H. Champneys,[1] basing his statistics on the post-mortem notes of St. Bartholomew's Hospital, says that the mortality apart from operation is three in 2,160,112 (or 0 000138 per cent.), and he adds: "It seems undeniable that deaths from fibroids apart from operation are excessively rare." On the other hand, Mr. Stanmore Bishop,[2] in an article on the Risks of Unoperated Uterine Fibro-myomata, quotes 18 cases reported by various medical men in which death was directly due to the condition. It must always be remembered that the presence of uterine fibroids has often a very deleterious effect on the general health, and this, too, when the tumour has not caused hæmorrhage. The patient in Prudhoe Ward is an example of this. She is pale and cachectic-looking; her tissues are fatty and I have grave fears that her heart is fatty also. This fatty condition of the heart is one of the great dangers after hysterectomy. I shall lay stress upon this later. At the Berlin Congress of Gynæcologists in 1899 Gottschalk insisted on the degeneration of the myocardium frequently associated with fibro-myomata and Freund said that diseases of the heart and blood-vessels are very commonly associated with them and that they are on that account far less innocent than is generally supposed. Kelly says that "hyaline degeneration of the heart muscle and arterial sclerosis are sometimes seen in old cases." Hoffmeier speaks of the frequency of heart disease in cases of fibro-myomata; he collected 18 cases in which sudden death occurred from heart failure—three of fatty disease and 15 of brown atrophy. You must ever bear in mind, gentlemen, the grave risks which a woman who has uterine fibroids runs in the event of her becoming pregnant. Abortion is liable to occur and the prognosis is grave. Lefour collected 50 cases of abortion with 14 deaths—a mortality of 35 per cent. Parturition in cases of fibroid tumour is usually a matter of difficulty, often of grave danger. Of 147 cases collected by Sassardit[3] the forceps were required in 69, with a loss of eight mothers and 10 children. In 21 cases the placenta required manual removal and of these 13 women died. Collectively the maternal mortality was 5·1 per cent. and the infantile mortality was 66 per cent. Tarnier out of six cases delivered by forceps lost four mothers and four children, and five women with fibroids died before delivery. Some cases are not capable of delivery by the natural route. Sänger collected 43 cases where Cæsarean section became necessary, and in these the maternal mortality was 33·7 per cent., and Pozzi collected 28 cases with a maternal mortality of 60 per cent. Johnston estimates that during pregnancy or labour one-third of the mothers and more than half of the children die, and he recommends celibacy where the tumour cannot be removed. Taking all these facts into consideration and forming an unbiased opinion I ask, Is anyone justified in saying that "deaths from fibroids apart from operation are excessively rare"?

THE SYMPTOMS OF UTERINE FIBROIDS.

Hæmorrhage.—The most frequent symptom is hæmorrhage. This is especially severe in the submucous fibroids and at first, at all events, it takes the form of menorrhagia, while later there may be excessive loss between the periods (metrorrhagia). The endometrium in cases of fibroids usually becomes greatly hypertrophied and vascular and not infrequently polypoid in character; this latter condition accounts for the irregular losses of blood. The amount of the loss bears no relation to the size of the tumour; for instance, the patient from whom this uterus was removed (Fig. 2) was excessively blanched from hæmorrhage.

Pressure symptoms.—These are especially noticeable when the tumour (or part of it) occupies the pouch of Douglas; there is either pain and difficulty in micturition or complete retention. Again, obstinate constipation with hæmorrhoids, or even total obstruction of the bowels calling for immediate operation, may be noticed. Various nerve pains due to pressure are complained of, and if the tumour be very large it causes dyspeptic symptoms and also palpitation of the heart and faintness.

Besides the pains due to pressure the tumour itself is often painful, and especially is this the case during the periods. It is due to spasmodic contraction of the uterus and is sometimes so severe that the patient cannot bear the uterus to be palpated. In some cases, however, when the pain is very severe, it is probably due to localized peritonitis, as all who are in the habit of operating on uterine fibroids know how frequently adhesions of the omentum and intestines to the tumour are met with and how seriously they complicate the operation. It is probable that in at least 50 per cent. of the cases of fibroids there is disease of the ovaries and tubes, on one or both sides, met with. The tubes may contain pus and the ovaries be the subjects of ovaritis, thus, besides giving rise to severe abdominal pains, seriously or even fatally affecting the result of an operation.

INDICATIONS FOR OPERATION.

It must always be remembered that all uterine fibroids

To tell a patient she should

Because she possesses a fibroid

she was possibly unaware and

which is causing no symptoms) is, in my opinion, absolutely unjustifiable. We cannot argue the case in the same way as if it were an ovarian tumour, as this latter tumour usually destroys life in a few years if

fibroids never destroy life and

menopause sets in. Nor do I think

removal of a fibroid without symptoms in order to prevent the occurrence later of increased growth with symptoms and internal complications (such as adhesions) which would necessarily considerably increase the risk of operation. This I assert notwithstanding that I feel confident that the danger to life from an uncomplicated abdominal hysterectomy is not more than 2 per cent. On the other hand, it would, in my opinion, be equally wrong to argue that because in only a small proportion of cases of uterine fibroids not operated upon death is directly due to the tumour most cases of fibroid should be left alone. Diseases of the uterus and its appendages should be treated at all precisely the same light as diseases of any other organ of the body, whether male or female. Personally, I never perform hysterectomy unless there is a well marked indication for the operation, and when my conscience tells me that my treatment would be the same if the patient were my sister and dearest relative. I suppose most medical men have patients with fibroids who are going on tolerably well if left alone, and who are in no immediate danger from interference. I myself have at least seven such women I see occasionally to see whether there is any change or not. It is necessary in determining the question of operation or no operation to

[1] p. 147.
[2] June, 1900.
[3] August, 1898.

take into consideration the social position of the patient. For instance, a woman whose status is such that she can keep in the recumbent position whilst hæmorrhage is going on may possibly, with the help of drugs, avoid the necessity of operation, whereas a poor woman who has to attend to her household duties or is the bread-winner of the family cannot possibly lie up several days each month, and precisely the same holds good with regard to weight and pressure symptoms. The following conditions, then, call for interference: 1. Menorrhagia or metrorrhagia. 2. Marked pressure symptoms. 3. Increasing size of the tumour. This is especially called for if the increase starts near or after the menopause, as then the tumour is taking on a cystic condition and requires removal without delay. Having determined in any given case that treatment is necessary let us now consider the different methods that may be adopted.

ADMINISTRATION OF DRUGS.

If a woman consults you for moderate menorrhagia due to fibroids you may try the effect of a mixture containing half a drachm of liquid extract of ergot and half a drachm of fluid extract of hydrastis three times a day. The patient should maintain the recumbent position during the periods and you might inject three grains of ergotin into the glutæus muscle once or twice daily whilst the loss continues. A point to remember is that probably the patient will say that the loss is worse in bed (possibly due to the warmth), so I always advise the use of a couch during the daytime.

ELECTRICITY.

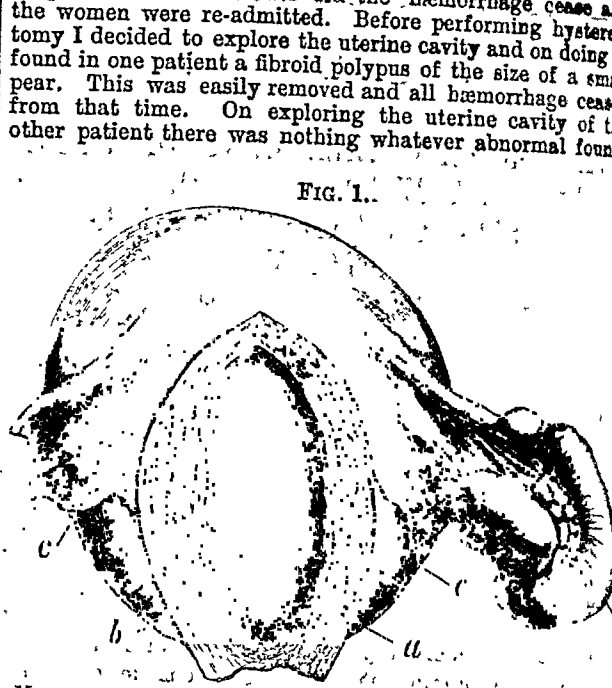
The intra-uterine application of a continuous current varying from 15 to 250 milliampères was some years back ushered in with a flourish of trumpets as a remedy which would do away with the necessity for operations on fibroids; but, alas, it has not stood the test of experience, and almost all observers who have tried it, whilst admitting that by its cauterising action on the endometrium it may give temporary relief, agree that it very rarely cures nor does it cause the fibroid to dwindle away. According to Vineburg, who collected cases from Keith, Engelmann, Gautier, and others particularly skilled in the treatment, out of 372 cases treated nine were cured and five died. The treatment of fibroids by galvano-puncture is unsurgical and dangerous and should never be attempted.

SURGICAL MEASURES.

Supposing, however, that a few months' trial of ergot and rest has not the desired effect on the hæmorrhage. The next treatment is

Curettage of the endometrium.—The cervical canal must be thoroughly dilated with the strictest aseptic precautions until it will admit the finger. The uterine cavity is then explored for polypi or small submucous myomata, and if neither be found the whole endometrium is thoroughly scraped away, whilst at the same time the uterine cavity is washed out with a 1 in 2000 hot solution of perchloride of mercury by means of a sharp flushing curette and afterwards the vagina is plugged with iodoform gauze. This curettage not infrequently gives great, if only temporary, relief. At the present moment I have under my care a patient who consulted me for an almost continuous loss of blood, which had been going on for nearly 18 months, during which time the only treatment adopted was drugs and rest. I found a fibroid uterus reaching half-way up to the umbilicus and on dilating the cervix and passing my forefinger in it met a precisely similar condition to that shown in Fig. 1. Having scraped away an exceedingly hypertrophied and vascular endometrium the result has been that all hæmorrhage ceased forthwith and the patient, to her intense delight, has had two perfectly normal periods. It remains to be seen how long before it will be necessary to adopt further measures. It is a wise procedure always to explore the uterine cavity before recommending hysterectomy or other severe operations for uterine hæmorrhage, as sometimes polypi or small submucous myomata may be found and readily removed with complete relief, even though a large tumour still remains in the uterine wall. About 16 years ago I had two cases in my ward at the same time which taught me a lesson. Both patients were suffering from excessive menorrhagia and each had a fibroid uterus reaching half-way up to the umbilicus. I removed the ovaries and tubes in each case with a view of bringing on an artificial menopause and the patients left the hospital. In neither case did the hæmorrhage cease a the women were re-admitted. Before performing hystere tomy I decided to explore the uterine cavity and on doing found in one patient a fibroid polypus of the size of a sm pear. This was easily removed and all hæmorrhage cea from that time. On exploring the uterine cavity of t other patient there was nothing whatever abnormal foun

FIG. 1.



Myomatous uterus laid open from behind. *a*, Cut surface of the posterior wall. *b*, Myoma occupying the whole of the anterior wall and pushing inwards into the uterine cavity. *c*, Cut peritoneal edges from which flaps were reflected down. *d*, Pyosalpinx of the left Fallopian tube. One-third natural size.

so this was an example of failure of removal of the appendages to stop hæmorrhage; and hysterectomy had to be performed.

We must now proceed to consider the graver surgical procedures that may be adopted in cases of uterine fibroids where the simple measures already mentioned are either inapplicable (as, for instance, when the tumours are causing pressure symptoms) or ineffectual.

Removal of the ovaries and tubes.—This operation, which was frequently practised some years back, has now rightly fallen into desuetude, because not only was it found sometimes impossible to remove the appendages owing to their being firmly adherent to the uterus, but the mortality was not insignificant and (most important of all) the operation sometimes failed either to stop the growth of the tumour or to check the hæmorrhage, as in the case which I have just mentioned to you.

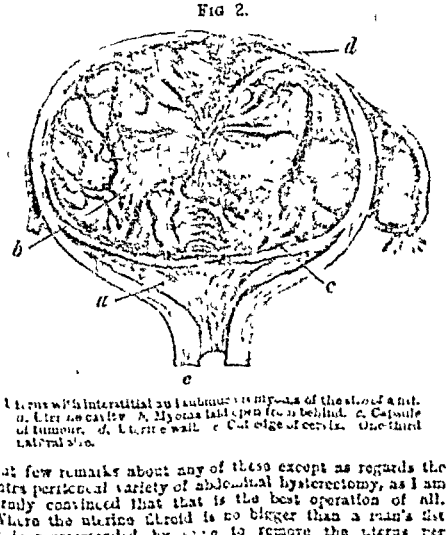
Vaginal enucleation or morcellement.—Here the os uteri is well dilated so as to admit two fingers and then by means of forceps and scissors even large submucous myomata have been cut away piecemeal and the uterine cavity stuffed with iodoform gauze to prevent hæmorrhage. Now, although this operation has some advocates at the present day it is to my mind a most unsurgical and dangerous method of treating submucous fibroids, unless these be quite small, and in process of becoming polypoid. Just imagine, for instance, attempting to enucleate the tumours in these cases (Fig. 1 and Fig. 2). It might have been possible to remove the growth in Fig. 2, but notice how thin the uterine wall is over part of the mass and how very likely the operator would be t penetrate the peritoneal cavity. Quite recently I was con sulted by a patient for severe losses of blood at irregula times. On examination a fibroid of the size of a large orang was detected in the posterior uterine wall, and on dilatin the cervical canal I found a submucous myoma of the size o an unshelled walnut projecting into the uterine cavity (bu not polypoid); after breaking down the capsule with m finger-nail I was able to twist out the fibroid by means of a volsellum forceps and with complete relief to the patient's symptoms. At the present moment I have a very interesting case under my care. A woman, aged 42 years, was admitted for repeated and excessive losses of blood. She is very emaciated and quite blanched from hæmorrhage. On examination the uterus felt enlarged to the size of a small cocoa-nut; the os uteri was dilated sufficiently to admit the finger-tip and a red mass could be seen and felt at the os and apparently involving the anterior lip of the cervix. Examination with the finger caused free bleeding, so that the growth was feared to be malignant. Under anæsthesia,

however, and after dividing the cervix I found a submucous fibroid of the size of a large orange embedded in the posterior uterine wall but the greater portion of it projecting into the uterine cavity, to the walls of which it was universally adherent. After breaking down the adhesions I cut the mass away piecemeal, then twisted the part in the uterine wall out of its bed, leaving a cavity of the size of a Tangerine orange. The uterine cavity was stuffed with iodoform gauze and the patient is doing well. These two cases illustrate not only the kind of case in which vaginal enucleation is preferable to hysterectomy, but also the value of exploring the uterine cavity. Enucleation, I feel confident, has in the vast majority of cases a far higher mortality than hysterectomy and no compensating advantages. It may be said that it saves the uterus, but surely this is a disadvantage and source of possible future danger, for not only is the uterine wall unduly thin after enucleation but it must be remembered that in cases of uterine fibroids the uterine muscle itself is in a state of degeneration. There is small-celled infiltration in and around both the muscular fibres and the vessels, so that one could not but contemplate with dread the possibility of a woman becoming pregnant who had had a myoma enucleated from her uterus. Apart from the inherent difficulties of enucleation death may take place from sepsis, peritonitis, or hæmorrhage. Cases have occurred where it has been necessary to perform hysterectomy a few hours after enucleation in order to stop hæmorrhage.

Myomectomy is indicated where the tumour is sub-peritoneal and attached to the uterus by a pedicle. The pedicle is transfixed and tied with stout silk and then a wedge-shaped piece is cut out of the raw surface of the stump and the flaps are brought accurately together by a continuous fine silk suture. Martin of Berlin opens the abdomen and then makes an incision over the fibroid and shells it out and carefully sutures the wall together so as to prevent bleeding. This, however, is an operation, in my opinion, not so safe as hysterectomy and my remarks just made as to leaving a damaged uterus after enucleation equally apply here.

Hysterectomy.—Lastly we come to the consideration of the different operations by which the whole or greater part of the uterus is removed. These operations may be classified as follows: (A) Vaginal hysterectomy; and (B) abdominal hysterectomy, (1) total (pan hysterectomy), and (2) partial (*a*) extra-peritoneal, and (*b*) intra-peritoneal. I shall make

FIG 2.



Uterus with interstitial submucous myoma of the size of a fist. *a*, Uterine cavity. *b*, Myoma laid open from behind. *c*, Capsule of tumour. *d*, Uterine wall. *e*, Cut edge of cervix. One third natural size.

but few remarks about any of these except as regards the intra peritoneal variety of abdominal hysterectomy, as I am firmly convinced that that is the best operation of all. Where the uterine fibroid is no bigger than a man's fist it is recommended by some to remove the uterus per vaginam just the same as for cancer of that organ, but as the mortality from uncomplicated intra peritoneal hysterectomy is not, in my opinion, more than 1 per cent. or 2 per cent., this operation is preferable in all cases to vaginal hysterectomy, not only because the risk is less but also because the operator can better deal with any co existing disease of the ovaries or tubes. Some operators advise removing the whole uterus through the abdomen (pan-hysterectomy) in preference to leaving a small stump consisting o[illegible] ee any advantage (rather [illegible] canal which one cannot [illegible] Of course, where the fibroid involves the cervix and dips into the vagina (as in a case reported by me in THE LANCET[4]) nothing but total abdominal hysterectomy is possible.

With regard to extra peritoneal hysterectomy in which the stump of the uterus is clamped by a serre nœud brought outside the abdomen and fixed at the lower extremity of the external incision it is only necessary to say that this method is—or ought to be—now a relic of barbarism, just as much as the extra-peritoneal treatment of the pedicle of an ovarian tumour, and any surgeon who practises it falls in his duty to his patients by not keeping abreast of the advance of surgical science.

Lastly, there is intra-peritoneal hysterectomy and I will briefly give you the details of this. The abdomen is opened by an incision extending from the pubes to the umbilicus (or further, if necessary), a large flat sponge is passed in to protect the intestines from injury and to absorb any blood, the uterus is drawn outside the abdominal cavity, and part of the sponge is pressed well down into the pelvis. As it is important to leave the ovary and tube on one side at least, the appendages are examined and if either side appears unhealthy that is removed. The broad ligament is transfixed by a pedicle needle armed with a double silk ligature and the ligament is tied in two places and divided between, leaving the ovary attached to the outer side of the broad ligament, if healthy (or to the uterus if the reverse). Next, by separating with the finger the two layers of cut peritoneum at the side of the uterus one can usually get right down to the uterine vessels lying in loose cellular tissue by the side of the cervix. By means of a small semicircular sharp needle the vessels are surrounded with silk, and when this is tied the ovarian and uterine vessels will have been secured on one side. By a similar procedure on the opposite side all the circulation is arrested in the tumour and the next step can be taken without any loss of blood to the patient—and this is very important, owing to her usually exsanguined condition. By running a scalpel across the uterus, back and front, on a level with the cut stumps of the broad ligaments, anterior and posterior peritoneal flaps are mapped out and these are dissected down to a level with the ligatures round the uterine vessels. Care must be taken not to buttonhole the posterior flap, which strips down with some difficulty. The cervix uteri is now cut across just above the ligatures on the uterine vessels and the tumour is removed. If the vessels have been properly secured the stump will be bloodless, but if there be oozing it may be necessary to re-tie them on one or both sides. The next step is an important one, as it consists in completely shutting off the cut stump from the peritoneal cavity by bringing the two flaps of peritoneum together by a continuous Lembert suture commencing at the ligatured broad ligament on one side and ending at the opposite side. The flat sponge is now removed from the abdominal cavity and the abdominal wound is sewn up in three layers: (1) continuous fine silk for the peritoneum; (2) rather thicker continuous silk for the cut edges of the rectal sheaths; and (3) ditto for the skin. The entire operation is often performed without the loss of an ounce of blood.

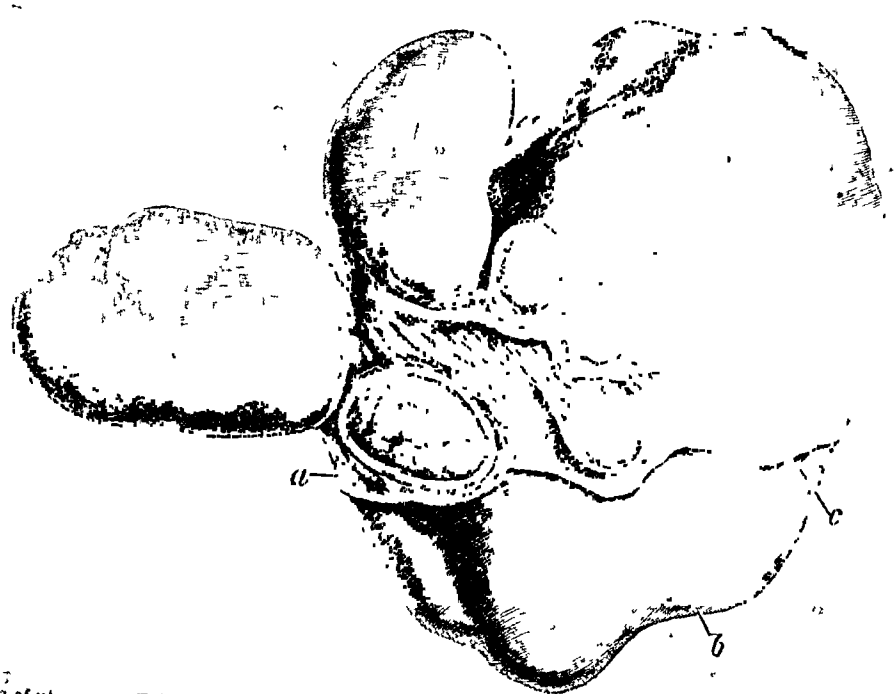
Since my early cases of this operation there are a few improvements which I have adopted. The first is to leave the ovary and tube on one side if possible. By doing so the patient's convalescence is much easier; she is spared all those disagreeable symptoms attaching to the onset of the menopause, besides which her sexual feelings are the same as before the operation. Of course in some instances both ovaries and tubes are diseased and then there is no alternative but to remove them. The next improvement is, whenever possible, to tie the uterine vessels as well as the ovarian before cutting the peritoneal flaps, as it saves the patient the loss of some blood. When, however, the uterus is very much expanded at its lower end by the growth (and especially when this extends into one or both broad ligaments), it will not be possible to get at the uterine arteries until the flaps are reflected down. Formerly I used to cut out a wedge-shaped piece of the stump and sew the flaps together by a

[4] THE LANCET, [illegible]

continuous silk suture, but now I omit this as it is unnecessary to close the upper end of the cervical canal; indeed, there is a possible advantage in leaving it open, as if there were any oozing from the stump the blood might escape through the cervical canal into the vagina. Up to the present date I have performed intra-peritoneal hysterectomy 68 times with four deaths (see Table), but one of these occurred when the patient was convalescent and about to leave the hospital, so that my mortality is 4½ per cent., and this percentage seems to me a fair one for cases of this operation, but, as I have already stated, where the operation is an uncomplicated one, the mortality should not be more than 1 per cent. or 2 per cent.

This operation of intra-peritoneal hysterectomy is, in uncomplicated cases and when the tumour (or tumours) does not involve the cervix, a by no means difficult one, but when the growth fills the pelvic cavity and also burrows between the layers of the broad ligament and when there are adhesions between it and the intestines, &c., I imagine that there is no operation that taxes the skill and resources of a surgeon more. In the cases in which the tumour grows between the layers of the broad ligament (as in Fig. 3) after it has been shelled out a raw cavity is left. This cavity is best treated by whipping the walls securely together from below upwards (after hæmorrhage has been stopped) by means of a continuous silk suture, and thus the necessity for drainage either by a tube or by iodoform gauze is obviated.

FIG. 3.



Multiple myomata of uterus. *a*, Bristle passed through cut cervical canal. *b*, Portion of large tumour which grew between the layers of the left broad ligament. *c*, Cut edge of peritoneum. One-third natural size.

I will bring this lecture to a close by a few hints on the treatment of the patient both before and after operation. If a woman be very weak and pale from loss of blood she should be put on a generous diet and given an iron mixture for a few weeks prior to operation. There are two chief causes of death after hysterectomy—viz., heart failure and intestinal paralysis. The best way to prevent the first is to let the patient have a hypodermic injection of three minims of solution of strychnia three times a day for a week before the operation and three or four days after it. A beef-tea enema, with half an ounce of brandy if necessary, should be given a few hours after the operation and repeated every six hours until the patient is taking plenty of nourishment by the mouth. Always be on your guard lest intestinal paralysis with dangerous tympanites should set in. Hysterectomy appears to cause much shock to the sympathetic system and if you allow marked tympanites to occur your patient will probably succumb to it no matter what you do. Prevention is far better than cure and my plan is as follows: a rectal tube is passed well up the bowel every four hours after the operation, and if flatus is not passing after 24 hours have elapsed I order an ounce of turpentine in a pint of hot water to be thrown high up the bowel. As a rule one injection is sufficient, but if not it is repeated three or four times a day. To these injections of turpentine and to the hypodermic injections of strychnine I pin my faith. I do not believe in saline aperients by the mouth; indeed, unless flatus be freely passed per anum, the less put into the stomach the better. After operation my patients have nothing to drink for the first 24 hours, except a teaspoonful of hot water every hour if they suffer much from thirst. If there be much retching or sickness a feeder of hot water in which 20 grains of bicarbonate of soda have been dissolved will often give great relief. As to food, it is a good plan to begin on the next day with three ounces of tea and milk (they usually beg for a cup of tea), then one ounce of milk with half an ounce of hot water every hour afterwards (unless sickness should set in, when everything by mouth must be stopped and the strength be maintained by nutrient enemata). After a day or two the quantity of nourishment can be increased and it need not be given as frequently as every hour. Beef-tea or chicken-broth may alternate with the milk. Everything taken by mouth should be hot, as cold things—such as ice, soda-water, &c.—are liable to cause flatulent distension. Morphia (or opium in any form) should never be administered unless the patient be in great pain (which she seldom is) or is very restless. The bowels are moved by a soap-and-water enema on the sixth or seventh day, after which the superficial suture in the abdominal wall is removed and the patient is given solid food.

Remember, gentlemen, that at the present day peritonitis ought never to be met with after abdominal section, unless, of course, some condition existing at the time of operation, such as the rupture of an ovary or a Fallopian tube containing pus, gives rise to it. Apart from such unavoidable complication if peritonitis sets in you may be sure that there is something faulty in the details of the operation. The hands and arms of the operator, of his assistant, or of the nurses may not be aseptic or the instruments or sponges have not been perfectly prepared. It is a sacred duty, then, which devolves on everyone taking any part in an abdominal section to see to it that he or she has left nothing undone that could possibly help to save the patient's life.

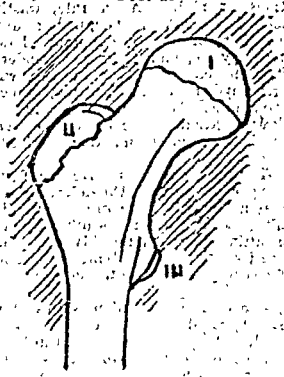
PLYMOUTH BOROUGH ASYLUM.—At the meeting of the Plymouth Borough Council held on April 9th it was decided to enlarge the Plymouth Borough Lunatic Asylum at Blackadown by erecting buildings to accommodate 250 additional patients. The estimated cost, including furnishing, was £32,500.

COXA VARA.[1]

BY C. B. KEETLEY, F.R.C.S. ENG.,
SENIOR SURGEON TO THE WEST LONDON HOSPITAL.

COXA VARA may be defined as a deformity of the upper epiphyseal region of the femur in which the head of the bone sinks to a lower level than normal, in extreme cases almost touching the lesser trochanter. Coxa vara has also been named "curvature of the neck of the femur," but it is not likely that so short and handy a name will be displaced by a phrase including seven words and not less open to criticism.

FIG. 1.



The upper epiphyseal region of the femur. I., II., III., epiphyses. (From a specimen in the Museum of the Royal College of Surgeons of England.)

In coxa vara the upper border of the neck of the femur is longer than normal and the lower border shorter than normal (see Figs. 2 and 3). The upper border may be as much as three times the normal length. A necessary result is that the neck is more horizontal than normal or it may descend instead of ascending in the usual way. The articular surface of the head may thus come to look downwards. There is another remarkable and practically important change. The neck is bent in a horizontal as well as in a perpendicular plane, with the convexity forwards (Figs. 4 and 5).

Coxa vara does not consist of a mere diminution of the angle formed by the long axis of the neck with the long axis of the shaft of the femur. Indeed, the changes are not confined to the neck. They always involve the head and sometimes extend some distance down the shaft, just as in genu valgum the deforming influence often affects and curves the lower third or half of the shaft. The horizontal change is perhaps not constant. It manifests itself clinically by producing eversion and diminished range of inversion of the limb. Hofmeister arranged a collection of 53 cases of coxa vara into three groups: (1) with no outward rotation; (2) with outward rotation; and (3) with inward rotation (rare, only three cases). No one but Hofmeister himself had me [illegible] his cases one [illegible] 3. When a [illegible] most compact part of the bone is seen to be not the lowest part of the neck but the upper part, near the epiphyseal cartilage, on both the distal and proximal side of that cartilage.

The articular cartilage is sometimes thinned towards the centre of the head. Usually there are no osteophytic growths and, with the exception of my own first case, no recent signs of rickets have been seen on microscopic examination, perhaps because the rachitic process was over, though leaving the deformity behind. A microscopic examination of the wedge of bone removed from my case was made by Dr. W. S. Colman, then house physician at

[1] A paper read before the Medical Society of London on March 15th, 1900.

FIG. 2.

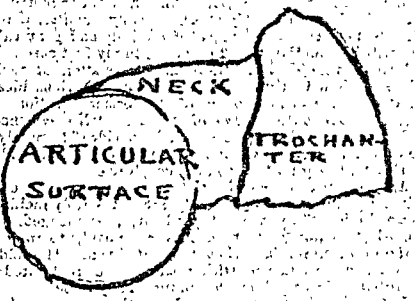


FIG. 3.

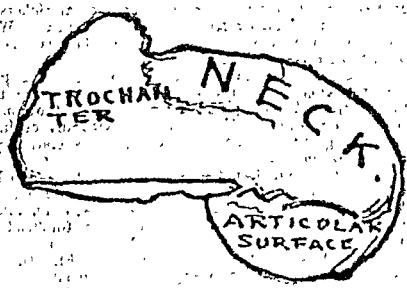


Fig. 2 and Fig. 3 respectively. Posterior and anterior diagrammatic views of the neck, &c., of a femur affected with coxa vara. (After Kocher, *Deutsche Zeitschrift für Chirurgie*, 1894, Band xxxviii., p. 536.) Note the articular surface looking backwards and downwards instead of inwards and upwards.

FIG. 4.

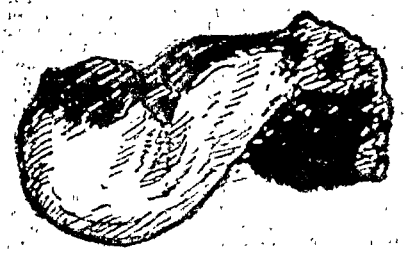
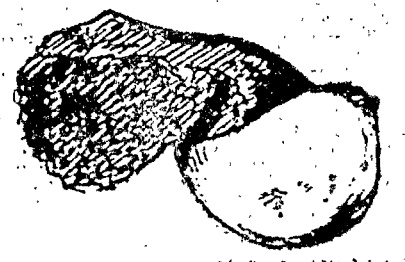


FIG. 5.



Similar specimen to that sketched in Fig. 2 and Fig. 3, but viewed respectively from above and from below. [illegible] ink sketch after Kocher [illegible] curvature of the femoral [illegible] inversion.)

the West London Hospital. It showed "exactly such changes as are seen in bones known to be affected with rickets." Very frequently other, probably rachitic, deformities co-exist. The co-existence of scoliosis and genu valgum suggested to me the correct diagnosis in my first case.

Writers who do not believe in the relation of rachitis adolescentium to coxa vara seem to have curious ideas of what are the usual symptoms of the former affection. For instance, one author says of a case: "No evidence of rickets; genu valgum present on both sides"! Surely the conjunction of coxa vara and genu valgum is itself evidence of rickets, though, of course, not conclusive.

Adolescents attacked with rickets do not present the same clinical picture as infants. They are not visibly rachitic in every limb. They are not pot-bellied, bow-legged, bead-ribbed, &c., any more than they are unable to walk and collapse in the spine when they sit down. The older a person is when attacked with rickets the more limited and localised are his resultant deformities likely to be.

Deformity of the upper end of the femur, including increased angularity of the neck, has been recognised for many years as a common symptom of general rickets in young children. Jenner referred to it in his lectures. What has attracted so much attention in the last 11 years is the deformity when observed in adolescents.

I believe that in many, if not in most, cases of genu valgum the knee deformity is a compensatory curve to a certain degree of coxa vara. It would take too long a digression to give reasons, but I would invite anyone interested in the question to examine the rachitic skeletons preserved in our museums.

Another thing which I have twice distinctly noticed in cases of my own, and which I believe I can trace in the portrait given by Kocher of one of his cases, is an alteration in shape of the bones of the face and forehead. I do not like to call it a deformity. It is not necessarily unpleasing. It is most marked in one case (Fig. 8). The facial bones seem thin and expanded, especially in the orbital and nasal regions. I do not say that they *are* thin, only their appearance of expansion suggests it. The orbits are shallow and the eyeballs are inclined to be prominent. The ridge of the nose does not rise sharply. In fact, there is a lowness of relief about some of the features but something essentially different from the ordinary "flat face."

Symptoms.—Pain in the hip, brought on or increased by walking, is almost always the first symptom noticed. This pain may extend down to the knee, which is perhaps one reason why these cases have been so often confounded with hip disease. Soon afterwards the patient begins to limp and soon tires on walking. In bilateral cases the second hip is generally attacked soon after the first—e.g., at an interval of three or four months. The usual age at commencement is from 12 to 18 years, especially about 15 years of age. Eventually the objective signs appear. The trochanter rises above its proper level, usually with shortening of the limb as a result. Abduction becomes limited or abolished at the hip, flexion also, as well as internal rotation. The foot is generally more or less everted. Genu valgum appears. It is probably a compensatory curvature. Flat-foot and lateral curvature of the spine are occasionally seen. In severe cases the movements of the hip become extremely limited, so that it may easily be supposed by mistake to be the seat of fibrous ankylosis. In a small proportion of cases external rather than internal rotation is reported to have been limited. Sometimes flexion is comparatively free. The range of flexion can sometimes be increased by everting the limb. Passive mobility generally seems to be greater than active mobility. As is apt to be the case with ordinary flat-foot the venous circulation is often not good and the extremities tend to be rather cold and blue when allowed to hang down. When the thigh is much adducted the knees are thereby brought one in front of the other. It is then especially that genu valgum is likely to co-exist. A single hip case limps, but when both hips are affected the sufferer waddles, shuffling one knee round the other as he walks. When the hips and knees are flexed in such a case the thighs cross.

Diagnosis.—My first case, the subject of which had visited various surgeons and hospitals, had been diagnosed as respectively periostitis of the femur (the trochanter was broader as well as higher than normal), sarcoma of the femur, and dislocation of the femur on the dorsum ilii. Other cases have been diagnosed as "arthritis adhesiva." I am afraid I do not know the meaning of this term, unless it means ankylosis secondary to inflammation of the joint. According to Frazer, it was the diagnosis made by Kocher of his first case [illegible] seen the natu[illegible] have seen a ca[illegible] of epiphysis, [illegible] tinguished it [illegible] pointed out to me were exactly those of coxa vara. This case, or rather the [illegible] of it, was published as a case of separation of epiphysis. I have tried, but unsuccessfully, to [illegible] gait of congenital dislocation [illegible] of the joint in most [illegible] dislocation contrasts with the stiffness of coxa vara. Coxa vara contrasts with hip disease in the following points. Gentle passive movements and pressing the head into the acetabulum are not painful. There are no startings at night. As a rule, wasting of the thigh is much less marked, though not absent. The head can be felt in the acetabulum, however high the trochanter may be, and it is not tender to direct pressure. Pain is easily relieved by rest without fixation. Roentgen rays are of the greatest value in finally settling the diagnosis. The skiagram should be studied in connexion with the general clinical picture presented by the case. Nothing is more misleading than a skiagram studied by itself.

Prognosis.—The disease is progressive at first, but it tends ultimately to come to a stop. The deformity remains. In the worst cases not only is there great shortening but the joint is so stiff that the patient has difficulty in lacing his boots and in sitting down comfortably, especially on a low chair, and is easily fatigued by walking. The general health does not suffer, except indirectly through pain and want of exercise.

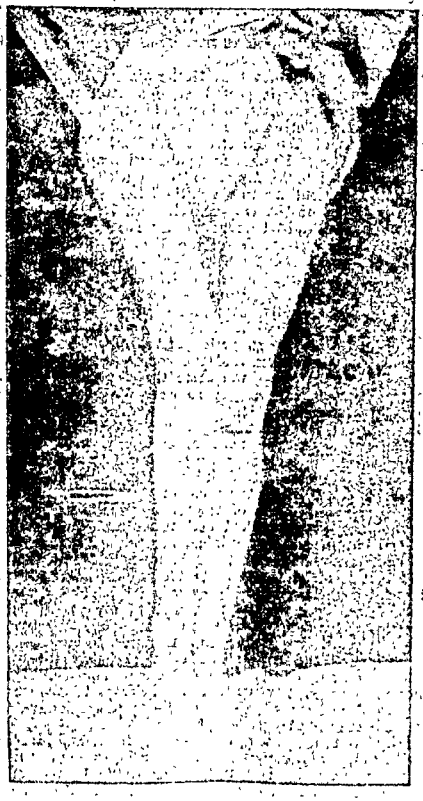
Treatment.—An obvious indication is to restore as far as possible the natural shape of the bone by osteotomy. Another is to relieve the pain by rest. A third is to increase the range of movements by passive exercises and even by forcible movements under anæsthesia. One of my patients said that he was thus benefited by a bone-setter, who, I need not add, was quite mistaken as to the nature of the case he had to deal with. Palliative measures are rest in bed, with or without extension. Two or three weeks generally suffice to remove the pain and some of the stiffness. In old-standing cases iodide of potassium and salicylate of soda, as well as the systematic use of purgatives and massage, might be also tried. I am referring to middle-aged patients or at least to cases of, say, ten years' standing in which there is sometimes a suspicion of complication by gout or rheumatism. Bicycling was of great benefit to one of these cases (a unilateral coxa vara of 25 years' duration). In the early years of the case sea-air, Parrish's food, and other anti-rachitic remedies should be tried. It is impossible to say when such treatment ceases to be useful. Although I think that the influence of weight pressure is a factor that has been greatly exaggerated in explaining this deformity, carrying weights to the extent of causing fatigue should be avoided, and if the patient's occupation necessitates this he had better change it. None of my own patients followed occupations requiring them to carry weights. The relief of pain and stiffness by rest is apt to prove of only temporary value. Both are liable to recur after exposure to fatigue or on the occurrence of damp weather. Massage is frequently recommended. It can at best only relieve aching and lessen stiffness. It cannot affect the deformity.

Operative treatment.—In some of the earlier cases a mistaken diagnosis led to the excision of the head and neck of the femur and part of the trochanters. As the joint is practically healthy excision is now pretty generally condemned. The original excisions served a useful purpose, however, because they furnished the specimens from which first Müller and afterwards Kocher gave accurate accounts of the anatomy of the disease. What is to be thought of reports like the following (a reference to one of Schneider's cases)? "Patient limps, but has no pain. Treatment: resection of the hip-joint. The patient was discharged cured." *Cured!* What of? Not of the limp, we may be sure; not of the adduction either, unless bony ankylosis ensued, nor of the shortening. Increased mobility may have been obtained, but at the expense of increased weakness and diminished length.

The practical question at present is how and where to perform osteotomy. "Kocher, Hofmeister, and others have

performed for coxa vara some years before by myself. It has recently been done and strongly recommended by Watson Cheyne. I removed a wedge. The patient herself was much pleased with the result, mainly because it greatly diminished the shortening. Watson Cheyne directed his attention

Fig. 6.



From the case described by me in the *Illustrated Medical News* for September, 1898. Note the adduction at the left hip, the genu valgum, the eversion and the shortening. The prominence at the hip is not the great trochanter, but is due to a curve in the shaft below. The great trochanter could be felt much higher and considerably above the level of the head of the femur, which could be felt in the normal situation. I performed a sub-trochanteric wedge-osteotomy on this case in 1893. A diagram of this case demonstrates in the hip the characteristic changes of coxa vara.

chiefly to remedying the eversion and effected great improvement. He used a silver plate and steel pins to fix the fragments in the corrected position. The seat of the deformity being mainly above the trochanter the obvious indication would be for supra-trochanteric osteotomy but for the comparative depth and difficulty of controlling the upper fragment, consisting only of the head and part of the neck, after that operation. It has been recommended by Krauke, whose operation consists of the removal of a wedge from the neck, with the base upwards, through an anterior longitudinal incision. Budinger says that linear supra-trochanteric osteotomy does just as well if the limb be kept well abducted and everted during the after treatment. My experience of osteotomy in general is that if the operator be a practised osteotomist a better result can generally be obtained from a wedge than from a linear

ero; as in Macewen's operation for genu valgum, the bone is comparatively deep and slender and the correction desired very simple. The neck of the femur is deep and slender, but the correction desired is not simple. The abnormally great length of the upper border of the neck of the femur invites strongly to a wedge osteotomy. But it must be remembered that the lower border of the femoral neck is also abnormally short. No operation hitherto

Fig. 7.

From a youth, aged 18 years, the head of whose right femur was about on a level with his great trochanter. The shortening of the limb was almost completely compensated for by increased length of the leg below the knee. There were well-marked symptoms of coxa vara from the age of 14 years.

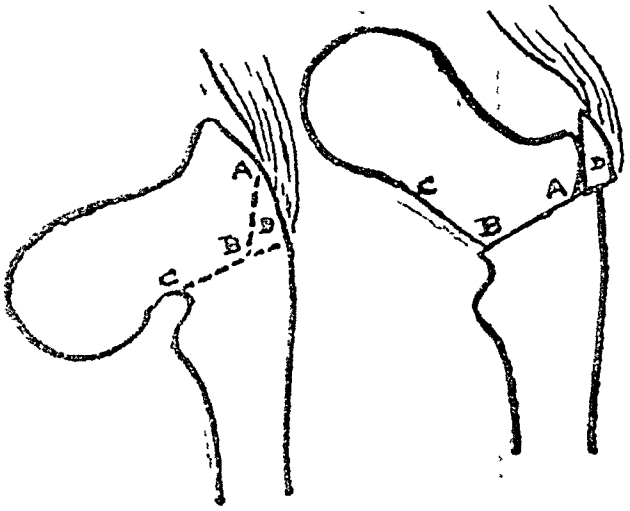
performed would cure the shortness, which constitutes a part of the deformity which is of great practical importance. If the problem were merely one of joinery such a procedure as the following might be

Fig. 8

[illegible] as the face of the patient in one of my cases of coxa vara. The changes are exactly [illegible], but I have seen [illegible] though less marked, [illegible] in another case. They [illegible] only [illegible] when the patient has begun to walk at an earlier age than a [illegible].

adopted. The femur would be divided obliquely, from without inwards and downwards, just above the lesser trochanter. The outer surface of the upper fragment (D, Fig. 9) would be cut off and turned upwards with the muscles, which would be left attached to it. Then the surface A B (Fig. 9) would be brought down into the original position of B C and fixed there with pins. The result as shown in Fig. 10 would be to bring back the articular surface of the

FIG. 9. FIG. 10.



Illustrations of a suggested operation. Vide text.

femoral head almost into its normal position. To make the articular surface look sufficiently forward—i.e., to remove the evil effect of the horizontal curve in the femoral neck—a wedge with the convexity forward would also have to be removed from either the lower fragment at B C (Fig. 9) or the upper at A B (Fig. 9). Otherwise the external rotation of the limb would have to be corrected by a separate simple osteotomy, done after the first osteotomy was recovered from. Mere rotation inwards of the limb would disturb the fit of the fragments if done as a part of the first osteotomy. But surgery is not mere joinery, and such an operation as I have sketched out would never be popular with practical surgeons. If carelessly or awkwardly done there would be risk of imperfect fixation and even of splitting the bone in fixing the pins. Nevertheless, the operation is a practicable one and properly executed would almost certainly give a first-class result, better than any got from simple osteotomy. Bold division of soft parts, especially joint-capsule, would be required. Pins are extremely useful in fixing bony fragments after either fracture or osteotomy, but they should never be trusted to alone. They should be properly supported by splints, bandages, and extension apparatus, and the action of these should be carefully superintended. The pins should be of thickly silver-plated steel. The holes for them should be bored by sufficiently large gimlets or American bits, as the insertion by force of pins into small holes will result in splitting the bone. Of course, when the bone is soft and tough and the pin small in diameter a bradawl suffices for boring.

Historical.—My chief object in adding a few words under this head is to make a small claim for priority. The position as regards this point was clearly and concisely put by Ernst Müller of Stuttgart in the *Centralblatt für Chirurgie* of Sept. 1st, 1894. His first work on the subject appeared in Bruns's "Beitrage zur Klinischen Chirurgie," published in November, 1883. He reported therein two cases in which the head, neck, and part of the trochanteric region of the femur had been excised. He gave a very good description of the clinical histories and of the specimens and expressed the opinion that the affection was of rachitic origin. Afterwards von Lauenstein, Hoffa, Rotter, all in 1890, and later Hofmeister and others, published additional cases and described fresh specimens. Then Kocher in 1894 published a paper—"Ueber Coxa Vara eine Berufskrankheit der Wachstumperiode"—of the highest intrinsic value, but doing scant justice to Müller and others. Müller wrote in the *Centralblatt für Chirurgie* of Sept. 1st, 1894, p. 1013: "Even if Kocher had not read my work in the original the others (viz., the papers of Hoffa, Lauenstein, &c.), which all referred to mine, could not have escaped his observation." And further: "Kocher had therefore no right to assert that he published his cases without knowing anything about my work, since otherwise he lays himself open to the reproach of not inspecting (surgical) literature, which is the first thing which an author should do before he describes a new disease." Kocher defended himself with his usual ability, but not, I think, with complete success. He persuaded himself (I think erroneously) that his cases differed essentially from Müller's and that because they presented at the hip certain analogies with the changes at, and near, the ankle in talipes varus only cases precisely like his ought to be called "coxa vara."

I must now point out that Müller himself could scarcely have exhaustively "inspected surgical literature" before publishing, because what, to him at least, should have been obviously a case of coxa vara was published by me in the first number of the *Illustrated Medical News* (of date Sept. 29th, 1888). Müller's first publication appeared in the following November. My paper was entitled, "A Case of Rachitis Adolescentium, in which the Disease was for Several Years Localised in the Trochanteric and Infra-trochanteric Region of the Right Femur and afterwards attacked the Spine; Wedge Osteotomy for the Femoral Deformity and Plaster-of-Paris Jacket for the Spinal." In the text I wrote of the case that it was "one of *rachitis adolescentium, attacking first the upper epiphyseal region of the femur* (see Fig. 1), and secondly, after some years, the epiphyseal regions of the vertebral bodies." A photograph attached shows very plainly the adduction of the hip, the eversion of the foot, the shortening, and the compensatory knock-knee (Fig. 6). My case was the first, therefore, in which the nature and seat of the disease were diagnosed correctly during life and before operation.

There are several reasons why I have not hitherto received credit for this: 1. The next observations were made in Germany; indeed, for some years the literature of the subject was purely German. 2. I did not make the mistake of diagnosing the affection to be one of the hip-joint and then, by excising the upper end of the femur, put myself in a position to give an anatomical description of the specimen. 3. I omitted to give any clinical account of the objective symptoms and left the photographs to speak for themselves. 4. The art editor of the journal added a misleading diagram "to explain the nature of the *operation*." I pointed out its erroneous nature in the last paragraph of my paper, but in terms rather too mild. Lastly, the journal in question only lived two years; its production was found to be too expensive. It was the largest and most copiously illustrated medical journal of its time. Various continental and American surgeons have written to me asking for the loan of the journal, but the bound volume in my possession was too cumbrous to send abroad.

Previously to the date of my case Dr. Monks had given an excellent clinical description of a case which was most likely one of coxa vara, and he had, moreover, distinctly recognised that the trochanters had risen above their normal level with regard to the heads of the femora. He had, however, believed that the femoral heads were also dislocated and that the cause of the changes was rheumatoid arthritis. Assuming the case to be one of true coxa vara I think Dr. Monks must have been mistaken on these points. Various pathological specimens had also from time to time been preserved or described but had been supposed to be due to rheumatoid or to inflammatory changes or to traumatism.

Lastly, the existence of coxa vara in rachitic children had been long known—indeed, it could be seen in almost every pathological museum of importance. Jenner referred in his lectures to the great frequency with which the upper extremity of the femur is deformed in the rickets of childhood. It was, however, reserved for Ernst Müller to give the first complete description of coxa vara; and Kocher's paper is so valuable from the exactness and fulness of its anatomical descriptions that, with or without priority, it must also remain a classic. The fullest account in the English language is probably Frazer's in the *Annals of Surgery* for June, 1899, and the most elaborate in any language is Hofmeister's (op. cit.). Whitman, Bayer, Kirmisson, and others have made valuable contributions and, as well as Frazer, they give references to the literature of the subject.

Grosvenor street, W.

EPILEPTIC ATTACKS PRECEDED BY SUBJECTIVE AUDITORY AND TASTE SENSATIONS, PROBABLY DUE TO A TUMOUR OF THE LEFT TEMPORO-SPHENOIDAL LOBE.

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THE patient, a woman, aged 40 years, was seen by me first in November, 1898, with Dr. E. H Warner of Bristol, and again in January, 1899. The chief symptoms had then been present for about a twelvemonth, and consisted of headache, giddiness, occasional attacks of sickness, and pains in the eyes, in the above order. She walked with some difficulty and staggered a little on turning. There was well-marked but moderate optic neuritis in the left eye and slight optic neuritis in the right eye. Micturition and defecation were normal. At both of my visits the patient appeared to be in a dull and heavy mental state, and she answered questions slowly. Left hemianæsthesia, not complete, was present in November, affecting the face, the trunk, and the limbs, but this had disappeared in January, at which time there was twitching of the right side of the mouth. There was no evidence of syphilis, but as the headaches showed nocturnal exacerbations she was put on anti-syphilitic treatment and afterwards went away for a change. She improved very much for a time and lost the headaches, but as she relapsed Dr. Warner sent her into the Bristol General Hospital on July 5th, 1899.

The patient stated that her father had been insane, but had recovered, and that her mother had suffered from neuralgia and angina pectoris. She had had two healthy children and had had no miscarriages; with the exception of two attacks of rheumatism she had always been healthy and had never had any blow or fall on the head. She said that the illness began two and a half years ago with pains in the head and in the eyes, which felt as if they were being dragged from the sockets. The headache was very variable, sometimes going away for weeks at a time. At the onset she had diplopia, which lasted for a few weeks and never returned again. In November, 1897, she went to the Bristol Eye Hospital and was given dark glasses; after this she was better and had no headaches for six months, when they returned and became persistent. In October, 1898, she had a sudden attack of excruciating headache followed by vomiting, after which she "became unconscious, remaining so for two days and three nights, only regaining consciousness on the third day." Since then she had had frequent attacks of headache and vomiting and intense pains around the right eye and orbit, with tingling in this region and in the upper lip. Three months before admission she had a fall owing to the right leg giving way without any apparent reason. She had noticed that her memory was failing. On admission she did not mention the peculiar fits, of which an account was obtained a fortnight later. Whilst talking to her then about the fits she mentioned that they were preceded by an unpleasant taste. On further questioning her she said that during her illness she had noticed that she occasionally heard a sound like a band playing at a distance; the tune was always the same and seemed familiar and yet she could never recall it at other times. Directly the sound went away the patient had an unpleasant taste in her mouth, and at the same time she "felt confused" and her own voice and the voices of other persons sounded peculiar and unnatural, although she could understand what was said. She had had these symptoms, always in the above order, at intervals since she first began to be ill, except for six weeks, during which time she was free from them. In appearance the patient was healthy and well nourished. She was slow and deliberate in her movements and intelligent; her memory seemed fairly good though she described it as failing, but her mental condition was rather dull and apathetic. The thoracic and abdominal organs were found to be healthy and the urine was normal In walking there was a slight tendency to drag the right leg The mouth deviated to the right side and there was a slight weakness of the right arm and leg, but all movements could be well performed and there was no ataxy. The dynamometer showed right hand 15 and left hand 17. She was right-handed. There was no muscular wasting. The muscles of the right leg were very slightly rigid, otherwise there was no muscular rigidity. The right knee-jerk was exaggerated and the left was normal. The superficial reflexes were present although the plantar reflexes were difficult to obtain. It was doubtful whether there was not slight loss of sensation over the right cheek, otherwise sensation was everywhere normal to touch, pain, and temperature, and no evidence of special defect in the power of localisation was found. Romberg's symptom was not present. Hearing, taste, and smell were normal to the ordinary tests, but with Galton's whistle the sound was heard with the scale at 5¼ left ear, 8¼ right ear. With the exception of the deviation of the mouth to : . . . . . nerve was detected. . . . . movements of the eyes . . . . . larger than the right and both pupils reacted well to light, accommodation, and pain, and consensually. There was a moderate degree of optic neuritis on the left side and slight filling of the disc on the right. The vision was unimpaired and the visual fields were normal. The chief symptoms on admission were (1) peculiar "attacks," (2) headache, chiefly nocturnal, (3) giddiness, (4) occasional sickness, (5) pains in the eyes, (6) a moderate degree of optic neuritis by far most marked on the left side, (7) a dull mental state, (8) slight weakness of the right leg in walking and in less degree of the right arm, (9) slight deafness to high notes of Galton's whistle in the right ear, and (10) some months previously, slight left hemianæsthesia and tendency to stagger in walking. The patient was given iodide of potassium in gradually increasing doses with solution of perchloride of mercury. She suffered occasionally from intense headache, but on the whole she improved during the first fortnight after admission.

On July 22nd the woman in the next bed, who was fortunately an intelligent and observant person, saw the patient in a fit, of which she gave the following description: "In the afternoon she was just dropping off to sleep when she heard the patient talking and spluttering to herself. Saliva was running from her mouth and she looked strange, as if she had just awakened from sleep. Her teeth were clenched and her eyes were open. She was talking in a laboured way through her closed teeth, her head was hanging down and shaking, but her arms and legs did not move. She said, 'Same kind of tune as I always hear, only it is gone.' The attack lasted for some minutes, during which she repeated this sentence six times and she then gradually came to herself." On the 27th the patient had whilst at lunch a peculiar metallic taste in her mouth, but she heard no sounds and had no subjective smell. She turned pale, but did not lose consciousness and understood what was said to her. During the early part of August she suffered much from headache and occasionally from nausea and during most of the time she was very drowsy and dull mentally. She had two or three attacks, always at meal-times, in which she turned pale, had a rancid and disagreeable taste in the mouth, which she remembered afterwards, and a flow of saliva, and during the attack she muttered some incoherent words. She seemed never now to have the musical sounds of previous attacks, but she complained of a feeling of horror "as if something dreadful was going to happen." There was now slight but distinct deafness in the right ear, otherwise there was no change in the symptoms. On August 17th she had an attack whilst I was talking to her. I asked her an ordinary question, to which she did not reply and looked confused as if she did not understand what I said; then her face turned pale; in a few seconds smacking movements of the lips came on, which were repeated a few times, together with a movement of the tongue as in licking the lips, and then the angle of the mouth was drawn to the right. After a few seconds the face flushed, she gave a short cough like that due to pharyngeal irritation, and there was a copious flow of saliva (about an ounce) from the mouth She sat quite still during the at and the limbs were not moved, nor was there twitching of any muscles in the face or limbs. The pupils dilated slightly. She did not appear to lose consciousness. Immediately after the attack she was clinically unable to speak, and she gave me the impression that she heard what was said to her but did not comprehend the words—that she heard them merely as sounds. She appeared confused after

reaction. On the 24th the patient was still noisy and restless and it was necessary to draw off the urine by a catheter. The blood, tested in a dilution of 1 in 50, gave a good agglutinative reaction with bacillus typhosus. On the 25th the patient was very noisy, screaming from time to time. In spite of enemata the bowels had not acted since admission. On the 26th the general condition of things remained much the same. The urine was passed into the bed and the bowels were still inactive after the administration of castor oil enemata. The patient when awake kept screaming at short intervals. The temperature in the evening rose to 104·6° F., but was then lowered by cold sponging. On the 27th the patient was still very noisy and the bowels acted once after a small dose of calomel. On the 28th the patient was again noisy, but very weak, and the bowels acted three times. The temperature during the day ranged between 99·4° and 103·4°. On the 29th the patient kept lying still, uttering a low moaning cry now and again. She died in the evening, the temperature shortly before death being 103·4°.

The post-mortem examination was made during warm weather 18 hours after death. The principal changes found were extensive ulceration of Peyer's patches in the lowest part of the jejunum and in the ileum, with enlargement of the mesenteric glands; there was no ulceration of the large intestine. There was also found some pneumonic consolidation of the upper lobe of the right lung. To the naked eye the brain and its membranes appeared to be quite normal. Culture tubes were inoculated from the surface of the brain and from the cavity of the lateral ventricles. No growth occurred on any of the culture tubes except a few colonies of a gelatin-liquefying bacillus, the presence of which was evidently accidental.

CASE 2.—Our second case was that of a boy, aged 12 years, who was admitted into the Middlesex Hospital under Dr. W. Cayley. In this case the following history of previous illness was obtained. On Sept. 19th the patient, who had already been suffering from a slight cough for four or five days, complained of headache; on the following day he seemed to be feverish, complained of pain in the lower part of the abdomen, and was rather incoherent in his speech. On the next day he seemed very feverish and incoherence in speech was again noticed; he vomited once. On the 22nd he partly lost consciousness and passed his urine into the bed. On this day and on the previous one some difficulty in swallowing had been apparent. The bowels had up to now acted regularly once on each day of the illness, the stools having been of natural appearance. No skin eruption had been seen. The patient was admitted into the hospital on the 23rd in the following condition. He was almost unconscious and did not appear to take any notice of his surroundings; he once said "No" in reply to an inquiry as to whether he had any pain in his head, but otherwise did not take the slightest notice of any questions. His facial expression was that of frowning; his eyes were kept open and rolled from side to side occasionally, but no oscillatory movements of the globes were noticed. The pupils were of equal size, they were slightly dilated, and they reacted quickly to light. There was neither retraction of the head nor rigidity of the neck. The abdomen was neither unduly retracted nor unduly distended, and no enlargement of the spleen could be felt. The patient seemed to resent any examination and flinched slightly when the abdomen was palpated. There was no cutaneous eruption to be seen, nor was the tache cérébrale obtainable. The plantar and patellar reflexes were in abeyance, the epigastric reflex was feeble, and the cremasteric reflex was obtainable but was sluggish. The temperature was 103° F. The pulse-rate was 140, and it was irregular in force and rhythm; the volume of the pulse was small, and the arterial tension was low. The respiration rate was 32, and the rhythm was rather irregular. The tongue was dry and brownish. The urine was passed into the bed. On the 24th the patient was in much the same condition, lying in a lethargic state and moaning from time to time. Food was taken fairly well, but part of it was allowed to run out of the mouth. In the afternoon convulsive twitchings of the arms occurred, the head was strongly retracted from time to time, and some paralysis of the right side of the face was noted, the mouth being drawn to the left side when the patient uttered any cry. The eyes were kept closed, but when the lids of the right eye were separated there was a long delay before they closed again. There was no evidence of any paralysis of the proper ocular muscles. The urine gave a definite Ehrlich's reaction. On the 25th the mental condition remained very much the same; the patient moaned frequently and kept tossing his arms about. The facial paralysis was well marked, there were slight oscillatory movements of the eyes, and the pupils were moderately dilated and reacted to light. Ophthalmoscopic examination showed a normal fundus. The bowels were opened three times after a small dose of calomel. The blood in a dilution of 1 in 50 gave a good agglutinative reaction with a culture of bacillus typhosus. On the 26th and 27th there was no alteration to be noted. A slight appearance of the tache cérébrale was now obtained. The temperature ranged between 100·8° and 102·4°. No further action of the bowels took place. The patient died rather suddenly on Sept. 28th, the temperature shortly before death being 101·8° F.

The post-mortem examination was made nine hours after death. The principal changes found were extensive ulceration of Peyer's patches and an intense general folliculitis of the mucous membrane of the digestive tract. A few follicles at the cardiac end of the stomach were enlarged, there was universal enlargement of the follicles of the small intestine, and a similar condition of things in the large intestine. There was also a rather remarkable amount of enlargement of the mesenteric glands which studded the mesentery with nodular masses of the size of large marbles. The spleen was enlarged and weighed 13 ounces. There was pneumonia of the upper lobe of the right lung, which was in the stage of red consolidation. On opening the brain no excess of fluid was found in the meningeal cavity, but there were well-marked injection of the pia mater and a considerable excess of a turbid and reddish-brown fluid in the lateral ventricles. Bacteriological examination was made of juice from the mesenteric glands, from the spleen, from the liver, and from the fluid in the lateral ventricles, and cultures were also taken from the surface of the meninges. Cultures of isolated colonies were obtained by making zigzag streaks on gelatin. Bacillus coli communis and bacillus typhosus were obtained from one mesenteric gland and a pure culture of bacillus typhosus from another; a pure culture of bacillus typhosus was also obtained from the spleen. The liver juice proved to be sterile of bacteria. The cultures from the surface of the meninges and from the fluid in the lateral ventricles showed two kinds of colonies, the one rather opaque and the other very thin and translucent. The latter colonies, which proved to be those of bacillus typhosus, were largely in excess of the former, which proved to be those of bacillus coli communis. The proportion in which the colonies of these bacteria were present on different tubes varied between 1 to 10 and 1 to 28. The identity of the cultures of bacillus typhosus was absolutely established by all the usual culture tests. The bacillus gave a good agglutinative reaction with the blood of a rabbit immunised against typhoid infection, a serum dilution of 1 in 1000 being used. The cultures were also tested in the ordinary clinical way against the blood of patients with typhoid fever, the dilution in such cases varying from 1 in 40 to 1 in 100. Sections from the frontal convolutions and motor area of the cerebral cortex from both these cases were examined after staining by Nissl's method; the results of this part of the examination will be given later. We have to thank Dr. Cayley and Dr. Wynter for their kind permission to make use of the clinical notes of these cases.

As to Case 1 there is but little to add in the way of comment. We regard the symptoms of cerebral irritation as having been a result of typhoid toxæmia, for they were evidently independent of any gross anatomical change. In this case, as in the other, constipation of the bowels prevailed throughout the illness. In connexion with the second case several points present themselves for consideration. Clinically a diagnosis of meningitis was readily arrived at, and before Widal's test had been applied the infection was considered to be probably tuberculous. The facial paralysis which subsequently appeared was, as the clinical evidence showed, of central origin. A rather striking feature of the post-mortem examination was the universal and well-developed folliculitis of the intestinal mucous membrane, which, together with the unusually extensive enlargement of the mesenteric glands, presented an appearance rarely seen in the post-mortem room. Taking into consideration the numerical superiority of the specific bacillus in the cerebral lesion, together with the fact that the clinical history indicated a meningitis of some duration, there will probably be little difficulty in regarding the meningitis as primarily due to a pure typhoid

infection. The presence of bacillus coli communis in relatively small numbers probably represented a casual secondary infection which occurred shortly before death.

The total number of cases recorded in which a meningitis has been proved to be due to bacillus typhosus is very small. Professor Hare[2] was able to collect only 16 cases in which satisfactory proof of the nature of the meningeal infection was forthcoming. Since then we have been able to find records of two additional cases. Thus, Hugot[3] has recorded a case of typhoid fever in a child in which the cerebro-spinal fluid was turbid and yielded a purulent sediment on standing; a pure culture of bacillus typhosus was obtained from the fluid. Fisher[4] has also recorded a case of typhoid fever in a man, aged 25 years, who died in the third week of his illness. "Appearances indicative of meningitis were found after death and cultures of bacillus typhosus were obtained from beneath the meninges over the cerebellum. Thus including our own case we are able to refer to only 19 cases of typhoid meningitis in which the specific local infection has been proved by the ordinary bacteriological methods.

III.—THE CONDITION OF THE GANGLION CELLS OF THE CENTRAL NERVOUS SYSTEM IN CASES OF TYPHOID INFECTION IN MAN.

In view of the occurrence of paralyses, which clinically appear to be of central origin, during the later period of the infection and during convalescence after typhoid fever it becomes of importance to ascertain whether the specific toxins exert any action on the ganglion cells of such a nature that the structure of these is in any way altered. The results of examining these cells in cases of typhoid fever have been recorded by Marinesco, Babes, Ewing, Nichols, and J. Turner. In every case the method of examination employed was some modification of that originally proposed by Nissl. Marinesco[5] examined two cases, and found that the changes observed were slight or unimportant. Babes[6] found definite changes, such as chromatolysis, vacuolation, and disappearance of the nuclei and nucleoli in the ganglion cells of the spinal cord. Ewing[7] examined the cells of the central nervous system in two cases. In one case there were found chromatolysis of the ganglion cells of the medulla and cord and uniform diminution in size, and sometimes in number, of the chromatic bodies in Purkinje's cells. The condition of the ganglion c [illegible] mentioned. In the second [illegible] bodies in the cells of the [illegible] the cells of the cerebral cortex showed a partial bleaching with irregular distribution of the chromatic bodies. In both of Ewing's cases delirium and high temperature had been [illegible] e results of his [illegible] in addition to [illegible] bits which will be referred to further on. The first human case was one of rather severe infection of an ordinary character, terminating 11 days after the date of onset. The second case was also one of severe infection, death occurring with perforation of the ileum on the tenth day after admission into the hospital. The third case was of special interest in that it was one of typhoid infection without intestinal lesions. A man, aged 67 years, was admitted into the hospital in a dull, listless condition, which soon passed into one of unconsciousness. The temperature was 104°F., and physical examination revealed signs of pneumonia of the right lowest lobe. The patient died two days after admission, and at the post-mortem examination consolidation of the lowest lobe of the right lung, with gangrene and perforation of the visceral pleura, was found, and there was a recent thrombus in the branch of the pulmonary artery supplying this lobe. The spleen was enlarged and soft. There were no intestinal lesions. A bacteriological examination demonstrated the presence of bacillus typhosus in the consolidated area of the right lung, in the spleen, and in other organs. Nichols [illegible]

[illegible] Lancet, April 13, 1895.
[illegible] Nov. 3, 1894.
[illegible] Nichols [illegible] also refers to a thesis, de [illegible] at Nancy in July, 1897, by C. Vonnel, [illegible] that "the characteristic [illegible] in typhoid fever." In which the auto-intoxication [illegible] the exhaustion of the adrenal cortex in cases of typhoid fever by Nicol's method in five cases [illegible] with results [illegible] as above [illegible] with the results obtained by Nichols.

examined by Nissl's method portions from the cervical, thoracic, and lumbar regions of the spinal cord in each of the three cases, and examined the corresponding dorsal root- [illegible] case it was found that [illegible] an advanced stage of [illegible] d distorted in varying degrees. The central portion of the cell was a mass of ill-defined, extremely pale, flocculent-looking material, studded everywhere with small round refractive bodies, probably representing remains of the normal achromatic network. Scattered along the periphery are a few small and large clumps of pale, washed out-looking granules, undergoing the later stages of degeneration and solution." The nuclei were large and swollen, displaced from their central position, and bulging out from the periphery of the cell. They also showed changes from the normal in their staining properties. The nucleoli were pale and vacuolated, and frequently were seen protruding from the nuclei. Marked changes, but of a less advanced character than those found in this case, characterised the other two. Changes were also found in the cells of the dorsal root ganglia of the first two cases. The changes consisted mainly in a "rarefaction of the chromatic substance and extremely eccentric position and even bulging of the nuclei." J. Turner[8] mentions the case of an imbecile patient who died in an asylum from typhoid fever with high temperature, in whom changes in the nerve cells were found

We have examined portions of the cerebral cortex from the frontal convolutions and from the motor area of both of the cases described in the last section, and also in a third case of a child who died in the third week of the illness from an ordinary severe attack of typhoid fever during which no special symptoms of cerebral irritation had been observed. The method of hardening and staining the tissues employed was that described by us in detail in a former paper,[9] and briefly consisted in hardening the tissues in formalin, cutting with a freezing microtome, and staining with methylene blue. In Case 1 the ganglion cells of the cerebral cortex were of perfectly normal appearance. In Case 2 the outline of many of the cell bodies appeared rather indistinct, and in a few instances the cells were considerably swollen. The Nissl bodies were in the majority of the cells well defined and normal in their distribution; in a few cells they had disappeared in places, leaving small unstained areas. But this last appearance was not at all a marked feature of the sections. There was no dark, patchy staining of the cell bodies, and the nuclei and nucleoli appeared to be absolutely normal in their staining reaction and in their position in the cell. In the third case the child had not presented any special cerebral symptoms during her illness and the cell bodies, nuclei, and nucleoli appeared in every way normal.

The total number of cases recorded which have been examined by the method of Nissl is not yet sufficient to allow the drawing of any absolute conclusions as to the action of typhoid toxin on the nerve cells in human infection. But our own cases would tend to show that in spite of the occurrence of typhoid infection of a severe type, accompanied by high temperature and very marked cerebral disorder, the ganglion cells of the cerebral cortex remain unaltered in structure, or at most—and with meningitis as a complication—may show only slight, ill-defined, and infrequent departure from the normal type of ganglion cells. In Case 2 we think that such changes as were found in the ganglion cells must be looked upon as being probably due to the meningitis present rather than as being an effect of a general toxæmia.

IV.—THE CONDITION OF THE GANGLION CELLS OF THE CENTRAL NERVOUS SYSTEM IN EXPERIMENTAL TYPHOID INFECTION IN LOWER ANIMALS.

The only investigation of the condition of the ganglion cells in experimental typhoid infection of which we can find any record is that carried out by Nichols,[10] who has published his results in the paper from which we have already quoted. Nichols found that the inoculation of rabbits with living cultures of bacillus typhosus was followed by marked changes in the appearance of the ganglion cells of the cord and of the dorsal root ganglia when stained by Nissl's method; and these changes he looks upon as being confirmatory of the results of his examination of the cases

[illegible] Brain, [illegible] Neurology, [illegible]
[10] Transactions of the Pathological and Chemical Society, [illegible]

structures in cases of human infections. It seemed advisable, therefore, for us to investigate the appearances resulting after experimental typhoid infection in lower animals, in the hope of being able thus to settle one way or another the question as to the occurrence of these alleged changes. In the result we have not been able to confirm Nichols's statements as to the changes occurring in experimental infection, for neither after the production of an artificial typhoid toxæmia nor after an actual bacillary infection could we find, either in rabbits or in guinea-pigs, changes of the sort which he describes as occurring in the ganglion cells of the cord in rabbits. Table I. is an exact transcript of the details of the experiments on which Nichols founded his conclusions. The inoculations were made into the ear vein.

TABLE I.—*Showing the History of Inoculated Animals (Nichols).*

Number of animal	Dose.	Remarks.
1.	2 c.c. 80-hour culture.	Very intense reaction; the animal died in two hours.
2.	2 c.c. 70-hour culture.	Ordinary reaction; the animal was killed in seven hours.
3.	2 c.c. 96 hour culture.	Ordinary reaction; the animal was killed in 33 hours.
4	First day, 2 c.c., 2-day culture; third day, 2 c.c., 5-day culture.	Ordinary reaction after the first dose. After the second dose the animal rapidly succumbed in a few hours, i.e., 52 hours after the first inoculation.
5.	First day, 2 c.c., 2-day culture; third day, 2 c.c., 5-day culture.	Ordinary reaction after the first dose. After the second dose the animal was extremely weak, and lost weight for several days. At the end of the first week it seemed very feeble in its hind legs. As symptoms of convalescence began to appear the animal was killed nine days after the first inoculation.
6.	First five days, 1 c.c.; sixth and seventh days, 2 c.c.; eighth day, 10 c.c. into peritoneum.	The animal was very resistant. Blood agglutinated rapidly at the end of the seventh day. On the eighth day 15 cubic centimetres were injected into the peritoneal cavity without effect. On the twenty-third day paralysis of the hind legs was first noted. The animal was killed and a necropsy was made on the twenty-fourth day after the first inoculation.
7.	2 c.c., 72 hour culture.	The animal passed through the first effects and was allowed to live. About the twenty-fourth day paraplegia of the hind legs was first noted and great emaciation of the rump and legs. As symptoms of recovery set in the animal was killed on the twenty-fourth day after the first inoculation.

Whilst this table is copied exactly from Nichols's paper want of space compels us to abstract his description of the changes found in the rabbits which were experimented upon. Thus in No. 1, which died two hours after inoculation, a swelling of the Nissl bodies and a tendency to disintegration and disturbance of their orderly arrangement is described. In No. 2, which was killed seven hours after inoculation, these changes had already become marked, especially in the lumbar region of the cord. In No. 3, which was killed 33 hours after inoculation, the number of normal cells was greatly reduced, and very marked changes corresponding with those found in Nichols's first two human cases were present. In No. 4, which died 52 hours after inoculation, nearly all the cells were affected and practically no normal cells could be found. In No. 5, which was killed nine days after the first inoculation, the ventral horn cells in the lumbar region showed very few cells with changes similar to those already described in the previous animals. Slight changes were, however, found in some of the cells situated just above the level of the entrance of the sciatic nerve. Nichols thinks that the facts in this case strongly suggest the idea that the cells were undergoing a process of restitution after previous change. In No. 6, which was killed after 24 days, the appearance of the cells varied from that of health to that of an extreme degeneration similar to the condition described by Nichols in the human cases. In No. 7, which was killed at the end of 63 days, changes were found which Nichols again considers were in the main indicative of process of restitution in progress in injured cells.

In our own experiments we used both dead broth cultures of bacillus typhosus in order to observe as far as possible the results of a pure [illegible] without bacillary infection and we also [illegible] of the bacillus. In the latter case the cultures were grown in ordinary peptone beef broth and were used after 48 hours' incubation at 37°C. The broth culture, sterilised by heat, which we used in the first series of experiments, was prepared in the following way in order to ensure a satisfactory degree of toxicity. Flasks of peptone beef broth were inoculated with a culture of the bacillus fresh from the spleen of a patient who had died from typhoid fever. The flasks were incubated at 37°C. for four weeks. At the end of that time the purity of the culture was tested. The flask and its contents were then heated in a water bath at 65°C. for four or five hours each day during a fortnight. [illegible] emulsion thus prepared was injected into the peritoneal cavity. In the cases of No. 1 and No. 2 the third inoculation was carried out with an emulsion prepared from the same culture stock in exactly the same way. The essential details of our experiments are given in the following table:—

TABLE II.—*Experiments with Typhoid Toxins and Living Cultures (Foulerton and Thomson).*

Nature of inoculation.	Animal.	Dosage.	Duration of the disease.
Series I. Intra-peritoneal injection of dead broth culture.	Guinea-pig 1, 150 grammes.	6 c.c.	Died 15 hours after the inoculation.
	Guinea-pig 2, 165 grammes.	6 c.c.; 48 hours afterwards an additional dose of 10 c.c.	Died during the night between 50 and 60 hours after the second inoculation.
	Rabbit 1, 1275 grammes.	11 c.c.; 48 hours afterwards an additional dose of 15 c.c., and then a dose of 10 c.c. 39 days after the latter dose.	Killed under chloroform 11 days after the last inoculation.
	Rabbit 2, 1063 grammes.	11 c.c.; 48 hours afterwards an additional dose of 10 c.c., and then a dose of 10 c.c. 39 days after the latter dose.	Died during the night of the tenth day after the last inoculation.
Series II. Intra-peritoneal injection of 48-hours old living broth culture.	Guinea-pig 3, 337 grammes.	1·5 c.c.	Died 20 hours after the inoculation.
	Guinea-pig 4, 280 grammes.	1·5 c.c.	Died five days 18 hours after the inoculation.
	Rabbit 3, 878 grammes.	3 c.c.	Died during the night between six and 18 hours after the inoculation.
	Rabbit 4, 907 grammes.	3 c.c.	Died 20 hours after the inoculation.
Series III. Injection into the subcutaneous tissue of 48-hours old living broth culture.	Rabbit 5, 836 grammes.	1·5 c.c.	Died during the night about three and a half days after the inoculation.
	Rabbit 6, 992 grammes.	1·5 c.c.	Killed under chloroform four days and three hours after the inoculation.
	Rabbit 7, 865 grammes.	1·5 c.c.	Killed under chloroform five days and one hour after the inoculation.
	Rabbit 8, 807 grammes.	1·5 c.c.	Killed under chloroform 144 hours after the inoculation.

CLINICAL HISTORY, &c.

SERIES I.

Guinea-pig 1.—The brain and cord were removed immediately after death. The post-mortem examination showed hæmorrhages into the

weight on the evening before its death was 737 grammes. It died during the night in cold weather (December). The brain and cord were removed early next morning The post-mortem appearances were as in Guinea

Rabbit

on the n

inoculati

y fell to the normal on the animal was 1220 grammes. temperature was normal the third inoculation the again to normal within 48 only 1091 grammes on the n the eleventh day and the

SERIES II.

injection of the peritoneal membrane, with an excess of fluid in the sac.

Rabbit 4.—The temperature at the time of the inoculation was 38·4° C.; 18 hours afterwards it had fallen to 36·7°, and the animal was dying. The post-mortem appearances were as in Rabbit 3. The brain and cord were removed immediately after death.

SERIES III.

With regard to the course of the experiments there is but little to add to what is contained in the table Rabbit 2 succumbed after inoculation with a dose of toxin no larger than either of the two previously given, and thus affords an example of that hyper sensitiveness to the action of a toxin which sometimes follows the administration of immunising doses of the same toxin Rabbit 1 also showed a marked reaction after the third inoculation, and was killed in order that the condition of the ganglion cells in the two animals might be compared The blood of Rabbit 1 was tested for specific agglutinative properties, and using a dilution of 1 in 1000 of the serum a good sedimentation occurred within 15 hours in a broth culture of the bacillus, whilst with a dilution of 1 in 300 immediate agglutination and immobilisation of the bacilli occurred in a hanging drop preparation. In Series II the usual results of the intra peritoneal injection of a culture of average virulence were obtained. The specific infection was proved in each animal by subcultures from various parts after death In Series III the attempt was made to cause a rather less acute infection than had occurred in the animals of Series II. The first rabbit of this series having died on the fourth day the remaining three were killed, one on each of the three succeeding days, in order to observe the progress of any changes which might be occurring in the ganglion cells. Rabbit 7 was already dying when the chloroform was administered, whilst Rabbit 6 and Rabbit 8 had . . . erely from the inoculation and . . . There was no indication . . . alysis in any of our experi- animals. The brain and cord were removed from each animal as soon as possible—in most cases immediately after death—and were at once placed in formalin solution. The method of staining employed was exactly as with the material from our human cases. The examination of portions of the cerebral cortex from the frontal convolutions and from the motor area and of the grey matter of the cord at various levels showed that in all the cases the majority of the ganglion cells of these regions were of perfectly normal appearance. In a few cells here and there some alteration might be seen—either the outline of the cell body appeared swollen, or in others the Nissl bodies seemed rather blurred, or in others, again, the outline of the nucleus was not very definite. But beyond such slight alterations as these nothing abnormal was observed in the sections, and, as already stated, the majority of the cells were quite normal in their appearance.

It will be seen, therefore, that our observations both in human disease and in the experimental infection of animals do not warrant the conclusion that typhoid toxin causes in the ganglion cells of the central nervous system changes of such a nature that constant and definite structural alteration can be demonstrated by Nissl's method of staining. It obviously, however, does not follow from this that certain nervous symptoms are not produced by the pure toxin, for the action of this may be of a bio chemical nature unaccompanied by any definite histological changes, or it may

THE PRODUCTION OF LOCAL ANÆSTHESIA IN THE EAR.

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THE introduction of cocaine as a local anæsthetic had a most important influence upon surgery in general, and upon ophthalmology and laryngology more particularly. It was hoped that the drug might also be valuable in the field of aural surgery, but such hopes were to a large extent doomed to disappointment. The aqueous solution appears to have no anæsthetic influence upon the uninjured tympanic membrane, and in the cases in which the membrane is perforated the effect is only slight, though it is sometimes sufficient to allow of extraction of the ossicles; even under the most favourable conditions, however, the pain of this operation is by no means completely annulled by this means. A rather more satisfactory way of inducing local anæsthesia in cases where there are perforation and suppuration is by the use of cocaine in the pure dry powder. For the extraction of polypi and granulations this method gives a degree of anæsthesia which is sometimes sufficient for the purpose, but obviously it cannot be satisfactorily used in such operations as extraction of the ossicles, and it has of course no influence upon the uninjured membrane.

In acute inflammation of the middle ear no local anæsthetic has as yet been found which is at all satisfactory, and the pain, which is often severe in this affection, has frequently to be relieved by incision either under a general anæsthetic or if without it by subjecting the patient to indescribable agony though it be only of short duration. The use of an aqueous solution of cocaine, as suggested by Horne and Yearsley,* is subject to the same limitations as is the use of similar solutions of cocaine, because there is no doubt that the inefficiency is due to the vehicle used for

* Brit. Med. Jour., Jan. [illegible]

dissolving the drug. The superiority of eucaine lies, not in its greater power of producing anæsthesia, but in the fact that the anæsthesia is of longer duration and toxic effects are not so liable to supervene, as was pointed out by the two writers referred to. The difficulty of bringing about a local anæsthesia in the tympanic membrane and middle ear appears to be due to the fact that the nerve terminations are protected by tissues which are able to resist the penetration of water through their substance. Thus the nerves of the tympanic membrane terminate in the inner layer of the membrane and the drug must be made to penetrate through the epithethlial and dense fibrous layers before it comes into contact with the nerve terminations. If there is already a perforation the difficulty is not so great, but even in these cases there is usually a collection of pus and débris which hinders penetration. Granulations and polypi are too large to allow of penetration by water sufficiently rapid to obtain the effects of the drug satisfactorily.

With a view to finding some vehicle which would dissolve cocaine (or eucaine as suggested by the writers above referred to) and at the same time penetrate the tissues rapidly without destroying them I tried various solvents. The first which suggested itself was alcohol in the form of rectified spirits, but this, I found, was absorbed too rapidly, and, morever, it caused in some cases rather severe burning pain before the cocaine took effect. Various combinations of the volatile oils with rectified spirit were next tried, but as these solutions were only to a slight extent miscible with water they proved unsatisfactory. Finally, I tried a mixture of anilin oil and rectified spirit, and this, I found, met the requirements of the case admirably. It penetrates rapidly, is miscible to a considerable extent with water, and does not destroy the tissues. For experimental purposes I made up the following solution: five parts of cocaine hydrochlorate, 50 parts of dilute alcohol, and 50 parts of anilin oil. This gives a strength of a little less than 5 per cent. of cocaine. I placed a small quantity upon my own tongue, where it caused a sensation of warmth followed by a feeling of numbness and temporary loss of taste in the part with which it came in contact. The same solution was then applied to the normal tympanic membrane. The subject laid one side of his head upon a table and about 10 drops of the preparation were dropped into the meatus of the uppermost ear and allowed to run down on to the tympanic membrane. There was no pain following the instillation of the solution but only a slight sensation of cold in the ear. The head was held in the same position for a period of from three to five minutes and at the end of that time the excess of solution was mopped out on pledgets of cotton-wool wrapped round the end of a probe. On examination with the speculum the membrane appeared to be a little more transparent than before and the normal reflex was dulled. A blood-vessel along the posterior margin of the handle of the hammer appeared to be more distended than before the application of the solution, a condition which would not be expected from the use of cocaine, at least so soon after its contact with the tissues. On passing a fine blunt probe down to the membrane the latter was found to be perfectly anæsthetic in all its parts. The instrument might be drawn across its surface or pushed inwards against it, but the sensations of pain and of touch were quite in abeyance, the subject only being able to hear the rubbing noise of the probe against the membrane. The membrana flaccida, the handle, and the short process of the hammer were also involved in the complete anæsthesia. It is of interest to observe that the individual on whom the observation was made was the subject of a severe reflex aural cough, so that it was often difficult to examine the ear carefully under ordinary circumstances, as the cough began as soon as the speculum entered the meatus. Now, on this occasion there was no cough at all as the result of examination, so that it is clear that the solution must have anæsthetised, at any rate to a certain extent, the skin lining the meatus. Having thus found that the solution produced complete anæsthesia and that its application was not followed by unpleasant after-effects I determined to try its effect upon patients suffering from aural affections which were either painful in themselves or which necessitated some painful procedure.

The first patient on whom the preparation was tried was a girl, aged seven years. She had been brought to the Glasgow Central Dispensary on account of deafness in the right ear. The tympanum was half filled with exudation and as the condition had only improved slowly in spite of treatment I decided to evacuate the fluid cavity by incision of the membrane. A few drops of the 5 per cent. solution were allowed to run down into the meatus and then to remain in contact with the membrane for five minutes. The excess was then mopped out, an incision was made behind and below the handle of the hammer, and the contents were evacuated. There was no pain whatever during the operation nor were there any unpleasant after effects.

The next case was of particular interest. A boy, aged 14 years, came to the dispensary suffering from a suppurating left ear. The meatus was found to be full of granulations. After drying the meatus a few drops of the 5 per cent. solution were instilled as before and the outermost granulation was removed without pain. On the next occasion the same solution was applied, but although the pain in extracting this granulation was slight it was not quite annulled. On the third occasion a 10 per cent. solution was instilled, but with no better result than at the second sitting. This time, however, I observed that after the application of the solution to the granulations there was a thick white deposit over the surface of the granulations and on the floor of the meatus which was certainly not present before the drops were instilled. After some consideration I came to the conclusion that this white deposit was due to the precipitation of the albuminous constituents of the discharge, associated possibly with the precipitation of the anilin oil, owing to an excess of water in the parts with which the solution came in contact. Whether the explanation was right or not I took measures to prevent, as far as possible, the same contingency the next time on the assumption that this deposit prevented the proper penetration of the fluid. On the fourth occasion therefore the ear was syringed out very thoroughly with warm water which did not contain any antiseptic as this might precipitate albumin. The parts were then thoroughly dried, the process being completed through the speculum, so that all traces of the discharge and the water syringed into the ear were removed. A few drops of the 10 per cent. solution were then allowed to run down into the meatus. In five minutes' time the excess of the fluid was mopped out, when it was found that a little of the white deposit had again appeared but was much less in amount than on the preceding occasion. It was mopped out and the granulation was removed with a snare, this time without any pain at all. After the removal the patient felt a little giddy for a few minutes, but this condition rapidly passed away and he returned directly to his work. There was no palpitation or nausea.

Another interesting case was that of an acute middle ear catarrh. The patient was a man in middle life who came suffering from deafness and pain in his right ear, the result, as he thought, and probably correctly, of a severe cold or possibly of a mild attack of influenza. The membrane was red and bulging and the handle of the hammer was hardly distinguishable. The 10 per cent. solution was dropped in in the usual way with the side of the head resting on a table and the affected ear uppermost and he remained in this position for six or seven minutes. At first there was a slight burning sensation, but this passed away as the drug took effect and the membrane was incised without any pain at all. This was, in a sense, a good test case, for although the pain caused by the acute inflammation was not of that extreme description which is often associated with acute middle ear catarrh such as may occur in the course of scarlet fever, yet the drum membrane was acutely inflamed. In spite of this, however, the solution penetrated the membrane and both abolished the pain of the disease and prevented that which occurs when the membrane is incised and which it is to be remembered is little short of agony when the parts are in a state of acute inflammation. Now such a condition of anæsthesia is never obtained by the aqueous solution of cocaine, and the operation, if it is to be painless, must be done under a general anæsthetic. The importance of the matter is manifest when we remember that patients suffering from acute infectious fevers are not in the best condition for general anæsthesia, and it is just in these infectious diseases that painful acute catarrh of the middle ear is so apt to occur.

Another class of cases in which I have found this means of producing anæsthesia useful is that in which there are a number of granulations springing from the mucous lining of the tympanum and having broad pedicles which do not permit of their removal by the snare. In these cases it is of great importance to cleanse and dry the parts very thoroughly before putting in the solution. The drops are

then instilled and allowed to remain for a period of from five to 15 minutes, after which the granulations may be removed painlessly in most cases by scraping with the sharp spoon. If the granulations are tougher than usual there may be a little pain, but it is insignificant and far less than that which occurs after using the aqueous solution of cocaine or even the drug in its pure dry form.

There are, however, certain cases in which it has not been possible to obtain complete anæsthesia by the means above described. I have only had two such cases out of the large number in which the method has been used. In both these cases the tympanic membrane was thickened, white, and dense, the result of sclerotic processes in the middle ear which had been in progress for 15 years in one case and for 11 years in the other. The
in the way described as
cases, but on incising the
severe as it would have be
considerable. Thus it wo
thickened membranes which so often are the result of sclerotic processes in the middle ear offered great resistance to the penetration of fluids even of such a diffusible nature as the solution of anilin oil and rectified spirit. This difficulty has to a certain extent been overcome by using a solvent composed of anilin oil and absolute alcohol, as in the following formula: 10 parts of cocaine, 30 parts of absolute alcohol, and 70 parts of anilin oil (pure). This solution penetrates a dense membrane better than does the one containing rectified spirit, but it is obviously not so suitable for general use on account of the burning pain which it may cause in cases in which there is a perforation of the membrane.

While carrying out this investigation I was struck by the beneficial effect which the solutions seemed to exercise in cases of suppurating catarrh of the middle ear. So much was this the case that I tried
the more obstinate cases with a
parts of rectified spirit and an
The patients were instructed to cleanse and dry the ear thoroughly and then to instil half a drachm of the solution into the affected ear in the usual way without subsequent syringing. This
and I found that
about in several c
in spite of the use
by pure rectified spirit. I do not wish to be understood as advising the employment of this in preference to the older methods of treating suppurating middle ear disease by boric acid powder and rectified spirit. All treatment of these affections is largely tentative, however, and I can strongly advise a trial of the line of treatment just described when the older methods have failed

An interesting effect which the anilin oil produced on the membrane was the peculiar transparency which it gave to the latter. Thus, in a healthy ear the long process of the incus, the head of the stapes, and the round window were very faintly outlined before the solution was instilled. But when the ear was examined after the instillation these parts stood
This effect is best brought
using a large proportion of
of spirit; indeed, the pure
but it requires a long time.
Unfortunately, this clearing effect can only occur in membranes of normal thickness or less, at least within any reasonable time. Membranes which have undergone thickening and condensation cannot be rendered properly transparent. Now it is just in such cases that valuable information might be gained concerning the condition of the tympanic mucous membrane, the fenestra rotunda, and the parts adjacent to the stapes. Investigations are still being carried on in regard to this subject, and I hope to find before long some agent which will fulfil the purpose somewhat better than anilin oil.

In conclusion, it might be well to indicate shortly the theoretical considerations which led to the results described above. This is important because if they are kept in mind the surgeon may be able by various artifices, which a little imagination and a knowledge of elementary physical laws will suggest, to obtain the [illegible] he desires when a blind rule-of-thumb method of procedure has not been able to bring about this result.

To effect penetration through the outer layers of the tympanic membrane fluids of low viscosity are the most suitable. By abstracting the water from the tissues the latter contract and the fluid passes through the interstices produced by this contraction into the deeper layers until it reaches the nerve-terminations in the innermost layer. Both alcohol and anilin oil are agents of this description, and for general purposes a solution composed as follows is best suited for the production of anæsthesia: five or 10 parts of cocaine hydrochlorate, 50 parts of dilute alcohol, and 50 parts of anilin oil. This solution is equally suitable for operations on the tympanic membrane, on granulations, or for the removal of ossicles. In the few cases in which we desire to operate upon a dense thickened membrane the penetrating power of the solvent must be increased. This is best done by using absolute alcohol in place of rectified spirit and increasing the proportion of anilin oil as shown in the formula above.

Further, the laws of osmosis must be kept in mind. Therefore in order to effect penetration a large proportion of the solution should be used. If this be not done osmotic equilibrium is soon established and penetration will cease. In practice I always fill the external meatus with the fluid and I have never seen any serious effects of cocaine poisoning by so doing. The worst that has occurred has been a trifling giddiness that passed off in the course of not more than five minutes. Nausea was noted in one case but it did not occur until more than two hours after the patient had left the dispensary, and as she was subject to such attacks it is very doubtful if the cocaine was to blame. Palpitation has not occurred in any of the cases.

The rendering of the membrane transparent depends, of course, upon the laws governing the refraction and reflection of light. In ordinary circumstances the indices of refraction of the various constituents of the membrane are of very different magnitudes and as these different constituents are in close juxtaposition there is great reflection and dispersion of the light. By infiltrating the tissues with the anilin oil they all come to possess the same index of refraction, or approximately so, and light penetrates the membrane much more easily. To effect this purpose the oil should be mixed with as little alcohol as possible, though of course the process of penetration takes a longer time. Other substances might be tried for this purpose, such as clove oil and glycerine, but I have not carried out investigations in this direction very far and cannot speak with any degree of certainty in the matter.

The beneficial effect which anilin oil seems to exercise upon suppurative affections of the middle ear is probably due to its power of extracting water from the tissues, the same principle in fact, as that to which rectified spirit owes its value. Anilin oil dehydrates more slowly, however, and is also more slowly absorbed; further it is not so volatile and its effect is less violent, but lasts longer. In practice it will be found that the mixture of equal parts of anilin oil and spirit is very suitable. 10 or 15 minims may be dropped into the ear and left there in the usual way once or twice daily. Various antiseptics may be dissolved in the solutions, but they do not seem to do much good and some of the more powerful ones may do harm. Anilin oil seems especially indicated in cases where there are cholesteatomatous masses and much débris. It softens these masses and aids in breaking them down probably by its great power of dissolving fats and oils.

The method of producing local anæsthesia described in this paper is of course applicable to other mucous surfaces. I have used it for throat work, and although there is at first a slight burning sensation the subsequent anæsthesia is more complete than with the aqueous solution. A 5 per cent. solution is quite strong enough for throat work and owing to the large surface for absorption I never use it stronger. Another useful solution in throat work is a 5 per cent. solution in equal parts of glycerine and rectified spirit.

I am indebted to Professor Stockman for some interesting facts concerning the pharmacology of anilin oil. Of these the most important is that the medicinal dose is 7 minims. Care, therefore, should be taken that not more than this amount may be absorbed though in the ear such a contingency is very unlikely

Glasgow.

TIVERTON SEWERAGE SCHEME.—At the meeting of the Tiverton Town Council held on April 9th it was stated that the sanction of the Local Government Board had been obtained to borrow £5500 for sewerage and sewage disposal works.

ON BACKACHE AS A SYMPTOM OF RECTAL DISORDER.[1]

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WHEN my friend Mr. Alfred Kirby honoured me with an invitation to read a paper before your society it occurred to me that it would be more profitable if I were to address you on some topic of general interest rather than on some obscure disease or unique operation, the only possible interest in which would centre in the fact that it was a rarity. This, then, must be my excuse for venturing to introduce to your notice such a common-place ailment as backache with the hope, moreover, that I may be able to show to some of you at any rate an old friend in a new guise, and possibly to excite fresh interest in a symptom, the constant reiteration of which must have become to many of you exceedingly wearisome.

The word "backache," when used in a general sense, would naturally include any and every ache or pain referred to the posterior surface of the trunk. But in medical parlance, I take it, this word has come to be used in a somewhat technical sense and to be restricted to pain occurring at or below the level of the loin. For my present purpose I propose to limit its meaning still further and to define it as any morbid sensation referred to that portion of the back which corresponds to the posterior surface of the sacrum. With this symptom you must all be perfectly familiar. Indeed, so common is it that in all probability hardly anyone here present completes his daily round without having heard it made the cause of complaint by one or other of his patients. And yet I have good reason to believe that the importance of this symptom is frequently underestimated and that its true significance is often overlooked. Were it not for the fact that this symptom gives rise to immeasurable distress its very commonness should render it worthy of our careful consideration and investigation, for it is superfluous on my part to remark that the more common the ailment the greater will be the number of sufferers seeking relief, and that in reality more good is attained by the relief of a score of people suffering from some trivial but troublesome complaint than by the relief of one suffering from some obscure yet serious disease.

In considering the cause of pain referred to any part of the body it is first of all necessary to consider the nerve-supply of the part affected and then to ask oneself the question how a stimulus, directly or indirectly applied to the nerve terminals of the part, can act as a source of irritation and a cause of pain? Now it is quite clear that the stimulus which evokes response in the peripheral nerves of any part may be either central—i.e., having its origin in the brain or spinal cord—or peripheral. In the latter case the stimulus may be direct or indirect—i.e., it may be applied to the terminal fibrils of the nerves implicated or it may be transferred to these through neighbouring nerves by reflex action from a distance. For the present I do not propose to take into consideration either central or direct peripheral causes, but to confine my remarks to reflex causes; and in order the better to appreciate these I would ask you for a moment to allow me to refresh your memory with regard to the nervous anatomy of the parts under consideration.

According to Kocher and other well-known authorities on cutaneous nerve distribution the parts covering the back of the sacrum are supplied with sensibility by the terminal filaments of the posterior primary divisions of the fourth sacral nerves. You will doubtless remember that the anterior primary divisions of these nerves divide into two branches, the larger of which again splits up into branches which course forward through the pelvis towards the base of the bladder, mingling with the branches of the pelvic sympathetic plexus. Some of these pass upwards on the walls of the bladder; others pass in a similar course on the walls of the vagina, a few reaching the uterus; others, again, to which I wish especially to direct your attention, are distributed to the lower part of the rectum. Passing through the space between the two sphincters they break up into filaments, some of which pass downwards to be distributed to the skin of the anus, while others pass upwards to be distributed to the mucous membrane of the anal canal and rectal ampullæ. Theoretically, then, one would expect to find backache frequently associated with derangement of the pelvic organs, and such indeed turns out to be practically the case.

In the minds of most of us there is no doubt a tendency to associate together backache and uterine disorder, and when a woman comes to us complaining of backache we instinctively think of the uterus as the organ most probably at fault. But, although it is true that uterine derangement and backache are frequently associated we should always be on our guard against rashly assuming that their relationship is one of cause and effect. My own experience is that these two conditions are not nearly so frequently interdependent as is usually supposed. Indeed, my conviction on this point is so strong that whenever a case presents itself in which these two conditions co exist I make it a rule, while admitting their possible inter-dependence, to be sceptical about this relationship. The same remarks apply with equal force to backache associated with functional derangement of the bladder. This brings me to the point which I wish especially to emphasise this evening—viz., that backache is frequently due to reflex irritation having its origin in the rectum, and that even when it is associated with symptoms referable to the other pelvic organs, the bladder or the uterus, the rectum will not infrequently be found to be the organ primarily at fault. The following brief *résumé* of an actual case well exemplifies the condition to which I particularly wish to direct your attention.

CASE 1.—A man, aged 39 years, came to me complaining of a dull aching pain at the bottom of the back (over the sacrum) which came on usually after his lunch and persisted for the rest of the day, materially interfering with his capacity for work. He presented features of a type which I shall presently endeavour to describe, and had for the past month been sitting day by day, week in and week out, at his desk, attending to urgent and anxious business. He stated that his bowels were regular, for although of late there had been a tendency to constipation he had managed to keep his bowels acting daily by purgatives. On passing my finger into the rectum I found it empty except for a hard fæcal nodule which was just within reach of the finger tip anteriorly. This and two others, all of which bore evidence of prolonged residence within the bowel, were removed by an enema, and under the influence of a saline purge each morning coupled with two-grain doses of quinine twice daily the pain rapidly vanished.

Cases of this type I could multiply indefinitely; and no doubt many of you will have observed, in common with myself, that backache is not infrequently a cause of complaint among men. In such cases of course the question of the uterus as a causative factor can at once be put out of court. In my experience, as I have just hinted, the man who comes complaining of backache usually conforms to a certain type, which it is important to recognise, for it is often the recognition of this type which is instrumental in directing attention to the true state of affairs. Usually endowed with considerable mental activity and conscientious often to the last degree, his mental capacity far outstrips his physical strength. He is capable, nevertheless, if put to it, of getting through a considerable amount of hard work and of enduring a considerable amount of mental overstrain. He is in a word wiry. But let such a one become overworked and overworried, let him, in other words, draw largely on his reserves of nervous energy, and he soon becomes nervous, irritable, morose, and generally out of sorts. This change in his condition is more noticeable to his friends than to himself. His digestion becomes deranged, but although he is cognisant of the fact he pays little heed thereto, for it is not his great trouble. His bowels, he will tell one, are regular, or, if not, that there is a tendency to constipation which he relieves perfectly by a judicious use of purgatives. If the stools be examined they will be found to contain scybalous masses with an admixture of gelatinous tenacious mucus of which in all probability he has no knowledge. But his chief cause of complaint, the ailment which worries him to the exclusion of all others and on which for the time being his whole mental energy is concentrated is a dull weary aching pain over the sacrum, sometimes continuous, sometimes intermittent, which prevents him concentrating his mind on

[1] Read at a meeting of the Neurological Section of the Medical Society on March 7th, 1900.

his work at a time when it is important that he should give it his best and undivided attention. If the trouble be taken to analyse the group of symptoms which I have just endeavoured to portray it will be found that the only truly objective sign in the whole lot is the passage of scybalous stools and viscid mucus. This sign is the keystone of the whole situation, and to my mind it is of no doubtful significance—its presence points unmistakeably to chronic rectal catarrh. Having arrived so far, it is probably safe to conclude that the dyspeptic symptoms are due to catarrh of the stomach and that there exists, in fact, a chronic catarrhal condition of the whole gastro-intestinal tract. The next question which arises is, How is this catarrh brought [illegible] the following way: [illegible] functional activity [illegible] which the [illegible] system shares, causing a tendency to general venous congestion, and especially in the great venous system connected with the liver—the portal vein and its tributaries. This, in turn, working backwards causes congestion of the whole gastro-intestinal tract, and in process of time a catarrhal condition is set up with a tendency to the secretion of viscid tenacious mucus and the formation of hard scybalous fæces. These masses, passed on from the colon, sometimes get lodged in one of the rectal folds or just within the rectal ampulla and there act as irritants to the nerve terminals which are distributed to the lower end of the rectum. This source of irritation often manifests itself by reflex action in the form of pain or some other morbid sensation referred to the posterior surface of the sacrum. The presence of these scybalous masses can easily be confirmed by anyone who will take the trouble to pass his finger into the rectum.

At one end of the line then there is worry, which may be considered the prime factor, and at the other end worry—on account of the pain—as the ultimate factor in the case. As intervening factors there is the chronic catarrh, which prevents the patient from absorbing and assimilating a sufficient amount of nutriment to recoup his already jaded nervous system, and the formation of scybalous masses which, by the irritation which they cause, tend still further to jade the already wearied nerves. Thus a vicious circle is created which, unless the true condition of affairs is recognised, it is very difficult to break. Once the condition of affairs is diagnosed, however, the indications for treatment are self-evident. These obviously are: (1) to remove the scybala; (2) to secure an efficient and regular action of the bowels; (3) to relieve the catarrh; and (4) to improve the general health.

For the relief of the catarrh I know of no more satisfactory remedy than ichthyol in doses of from five to ten grains or more night and morning. It relieves the congestion, improves the appetite, and stimulates peristalsis. Quinine in two-grain doses will also in some cases be found beneficial. Theoretically, no doubt, bearing in mind the prime cause, a complete cessation from work and a change of scene and air would be in health; but usually the necessity for sticking to business which was the prime factor in the case still exists, and it is very seldom that the patient can be induced to relinquish his calling. Even if he could be persuaded so to do, it is a great question whether the anxiety over business neglected would not be a greater evil than the mental strain caused by a moderate amount of business done. Practically, therefore, I think that it is wise to steer a middle course, advising the patient to curtail his hours of work, to spend as much time as possible in the open air, to indulge in a moderate amount of exercise, to partake of as much good plain food as he can digest, and in short, to adopt regular habits of living generally.

Let it not be thought, however, that I wish to convey the idea that such cases occur exclusively among men; on the contrary, they occur with equal if not greater frequency among women who, allowing for differences in habits, mode of life, and environment, conform mainly to the same type. My only reason for laying special stress on the occurrence of such cases among men has been that I was anxious to eliminate all idea of the uterus as a causative factor. But the aspect of such cases is not always quite so simple, and the pain or discomfort is not always due to what may be termed functional causes, but in many cases may be traced to more or less serious organic lesions—such as piles, ulcer, and cancer—as exemplified by the following cases.

CASE 2.—Some time ago I was consulted by a young married woman who was only twenty. Her complaint was a severe aching pain at the bottom of the back which tormented her continuously. This pain she had borne patiently for many months until about two months previously to my first seeing her so bad had it become that, other remedies having failed, she had submitted to excision of the coccyx but without relief. On digital examination of the rectum a circular ulcer of about the size of a threepenny-piece was felt just within the rectal ampulla posteriorly. To make a long story short, *post passu* with the healing of the ulcer the pain diminished and finally disappeared.

In this case a simple investigation in the first instance would have revealed the true cause, would have saved the patient months of suffering, and would have prevented a needless operation.

CASE 3.—About two years ago I saw a woman, aged 55 years, who had unmistakeable signs of rectal cancer which was inoperable. A colotomy prolonged her life for some 18 months. This patient told me that for some six months before her symptoms definitely directed attention to the bowel her only cause of complaint was a continuous dull wearing pain at the bottom of the back.

This I believe to be quite a common occurrence in the early history of rectal cancer. The only symptom for some time is backache. What the ultimate result of this case would have been had it been diagnosed in its early stages it is, of course, impossible to say, but when we reflect on the brilliantly successful results of prompt surgical treatment in the early stages of rectal cancer and compare them with the hopelessly miserable condition of the patient when the disease has been allowed to drift on into the later and inoperable stages it is reasonable to suppose that things might have been different. The lesson I think we should all learn from such cases is that when a patient comes to us *complaining* of backache we should not treat the symptom in a careless or perfunctory manner, putting it down to weakness, rheumatism, and so forth; that we should not rest content until every possible cause of the pain has been carefully investigated; and that no investigation should be considered complete until the state of the rectum has been ascertained.

So much then for cases of rectal disorder where backache is practically the only symptom and where we have little else to guide us to the true state of affairs. I should like now to refer very briefly to a class of case where backache is associated with other direct symptoms which, unless properly understood, are likely to prove very misleading. It is not uncommon to find patients complaining of backache complicated by bladder disorder, as evidenced by frequency of urination or retention of urine; or by (2) uterine derangement, as evidenced by vaginal discharge. These cases, unless he is warily on his guard, form veritable pitfalls to the practitioner, as the following cases bear witness.

CASE 4.—A man, aged 39 years, who was otherwise in the best of health, came to me complaining of a sense of weakness at the bottom of the back and irritability of the bladder of about three weeks' duration. He assured me that the bowels were acting regularly, yet under the influence of an efficient purge he passed a large watery stool containing several scybalous masses the color and consistence of which betokened prolonged residence within the bowel. The highly satisfactory result of this method of treatment was effectually to relieve his symptoms.

CASE 5.—I was sent for in haste to see a woman, aged 45 years, who was suffering from irritability to pass water and who in consequence was in much distress. She told me that she had suffered more or less from dysuria off and on for about a month and had been treated for this disturbance but without success. She further told me that the symptoms had been accompanied by backache for some time, but from constipation she had not noticed that it only started of been a tendency to diarrhœa. Thinking that the urinary retention might be caused by a retroverted uterus I made a vaginal examination, and to my surprise found that cavity rendered almost impracticable by what turned out to be an accumulation of fæces in the rectum. The removal of this by copious injections of soap and water completely relieved the symptoms.

In either of the above cases it would have been very easy to have misinterpreted the true state of affairs and to have fallen into the trap of treating the bladder or uterus of the patient, thus leaving the main cause of her complaint [illegible] I have [illegible] I [illegible] to be [illegible] to, to

bear in mind the fact that any source of irritation having its origin in the lower end of the rectum is liable to cause functional derangement of the bladder. If this fact be borne in mind the practitioner will seldom go astray.

Before concluding I should like to say a few words on that very common class of case where backache and leucorrhœa are associated together as prominent symptoms, a good example of which is the following.

CASE 6.—A young unmarried woman, aged 28 years, consulted me for backache associated with leucorrhœa of some six months' duration. On making a vaginal examination I noticed two external piles at the margin of the anus, and finding the uterus normal I forthwith directed my attention to the rectum, an examination of which revealed internal as well as external piles. When informed of the true state of affairs the patient vouchsafed the information that she had suffered from constipation and pain on defecation for some time past—a valuable piece of evidence which she evidently intended in the first instance to keep to herself. The upshot of the case was that the piles were removed with a speedy cessation of the symptoms.

In connexion with this case I would like to point out that in any case of leucorrhœa it is always well to bear in mind the fact that reflex irritation having its origin in the rectum may be, and often is, a determining factor and that the source of this irritation will frequently be found to be a crop of piles. I have repeatedly met with such cases and it is abundantly clear that no amount of tonics and astringent injections will cure them so long as the main cause remains untouched.

To sum up, the chief points which I have endeavoured to substantiate this evening are the following: (1) that backache is not only a common but also a very important symptom; (2) that whether it be practically the only symptom present or whether it be associated with other more or less definite symptoms it is well worthy of a careful and searching investigation; and (3) that no investigation should be considered complete until the condition of the rectum has been ascertained.

In conclusion, I have to thank you for your kind attention and to express the hope that I have not wearied you by what of necessity has been a somewhat fragmentary discourse. If so my excuse must be that when one has paid special attention to any particular subject one is apt to think that others also will take an equal interest therein.

Beaumont-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON THE INFLUENCE OF THE TEMPERATURE OF LIQUID AIR ON BACTERIA.[1]

BY ALLAN MACFADYEN, M.D. EDIN.,

AND

S. ROWLAND, M.A.

IN a previous communication to the Royal Society[2] it was shown that no appreciable influence was exerted upon the vital properties of bacteria when exposed for 20 hours to the temperature of liquid air (– 183° C. to – 192° C.). Further experiments have since been made in which the organisms were again exposed to the temperature of liquid air for a much longer period—viz., seven days.

The organisms employed were bacillus typhosus, bacillus coli communis, bacillus diphtheriæ, bacillus proteus vulgaris, bacillus acidi lactici, bacillus anthracis (sporing culture), spirillum cholerae Asiaticæ, staphylococcus pyogenes aureus, bacillus phosphorescens, a sarcina, a saccharomyces, and sterilized milk. Instead of being exposed as formerly on the actual media in which they were growing the organisms were submitted to the cooling process in the form of a broth emulsion in hermetically sealed fine quill tubing. This allows of complete immersion and effects a considerable economy in the amount of liquid air used, besides greatly facilitating manipulation. The liquid air was kindly furnished by Professor Dewar and the experiment was conducted in his laboratory. In the course of the experiment the loss by evaporation of the liquid air was made up by adding fresh portions from time to time. In this way the temperature of about – 190° C. was maintained uninterruptedly through the whole period of the experiment. At the same time considerable care had to be taken in conducting the first cooling in order to avoid fracture of the quill tubes. A preliminary cooling was therefore effected by means of solid CO_2. After the expiration of a week the tubes were removed with cork-tipped forceps and placed in a strong glass vessel till thawing was complete. The tubes were then opened and the contents [illegible] culture media. In each case a direct [illegible] tion was made to detect any possible structural changes.

It is a remarkable fact that, notwithstanding the enormous mechanical strain to which the organisms must have been exposed, a strain far exceeding in amount any capable of being produced hitherto by direct mechanical means, not the slightest structural alteration could be detected. The subcultures made at the conclusion of the experiment grew well and in no instance could any impairment in the vitality of the organisms be detected. In one or two instances only growth was slightly delayed, an effect which might have been due to other causes. The photogenic bacteria grew and emitted light, and the samples of milk became curdled.

The above experiments show that bacteria can be cooled down to – 190° C. for a period of seven days without any appreciable impairment of their vitality. It has not yet been possible to undertake the experiments with liquid hydrogen.

[1] [illegible] the Royal Society on April [illegible], 1900. Communicated by Lord Lister, P.R.S.

[2] The Lancet, March 24th, 1900, p. 849.

A NEW METHOD OF TREATING FEMORAL FRACTURES IN THE INFANT.

BY JOHN D. RICE, M.B., B.CH. R.U.I.

ON August 24th, 1899, I saw a newly-born infant with a fracture in the upper third of the right femur, all the classical symptoms being present. As the mother did not intend to nurse the child—and under the circumstances this would have been well-nigh impossible—I had the child removed to the Eltham Cottage Hospital, where I proceeded to deal with the injury. For several days I persisted with the ordinary methods for placing the fragments at rest, but found none of them gave the desired result. It then occurred to me that if a child could live in utero with its thighs flexed on the abdomen it might equally well do so ex utero; accordingly I flexed the injured limb on the abdomen, turning the foot over the shoulder of the same side (having previously placed boric acid and wool between the opposed surfaces). I then bandaged the limb with a washed flannelette bandage firmly to the abdomen and thorax, extension being kept on the foot. I raised the head of the cot six inches, and carried, as counter-extension, a loop of soft bandage round the ankle and fastened the end to the rail of the cot; a sandbag wrapped in flannel placed on each side of the child prevented lateral motion. The progress of the case was uneventful. The child ceased crying, fed and slept well, and was discharged in three weeks with perfect movement in the limb and no shortening, nor is there any now (April 6th).

In a child a little older it might be advisable to aid the body-weight extension by using a small weight attached to the sides of the buttocks by a large loop of adhesive plaster and a stirrup sufficiently large to avoid being soiled by the evacuations.

New Eltham, S.E.

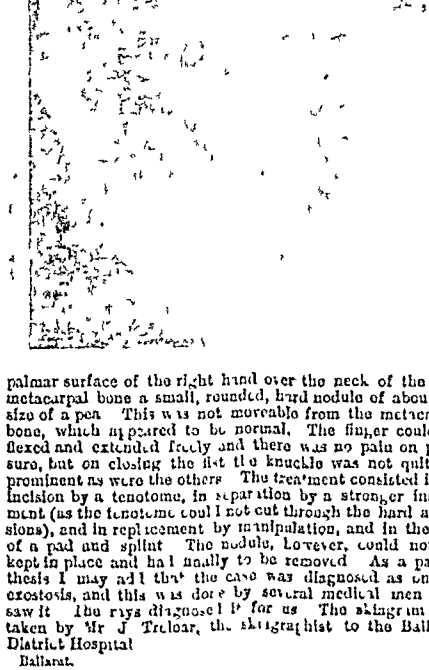
DISLOCATION OF THE EPIPHYSIS OF A METACARPAL BONE.

BY E. KEN HERRING, M.R.C.S. ENG., L.R.C.P. LOND.,
HONORARY SURGEON, MOORGOPUA HOSPITAL, LATE SENIOR RESIDENT SURGEON, BALLARAT DISTRICT HOSPITAL.

THE skiagram which I send with this, showing the extremely rare condition of dislocation of the epiphysis of a

metacarpal bone, will no doubt be of interest to the readers of THE LANCET. The history of the case was as follows.

A boy, aged 10 years, was brought to the Ballarat District Hospital as an out-patient on Jan. 1st, 1897, on account of a lump on his hand. The lad had fallen out of a tree six or seven weeks before and he said that he fell on his outstretched right hand. The next morning he complained of pain in the hand and the mother says that the lump was there at that time. On examination there was found on the



palmar surface of the right hand over the neck of the first metacarpal bone a small, rounded, hard nodule of about the size of a pea. This was not moveable from the metacarpal bone, which appeared to be normal. The finger could be flexed and extended freely and there was no pain on pressure, but on closing the fist the knuckle was not quite so prominent as were the others. The treatment consisted in an incision by a tenotome, in separation by a stronger instrument (as the tenotome could not cut through the hard adhesions), and in replacement by manipulation, and in the use of a pad and splint. The nodule, however, could not be kept in place and had finally to be removed. As a parenthesis I may add that the case was diagnosed as one of exostosis, and this was done by several medical men who saw it. The rays diagnosed it for us. The skiagram was taken by Mr. J. Treloar, the skiagraphist to the Ballarat District Hospital.

Ballarat.

THE AFTER-CARE ASSOCIATION.—The report of the council for the After-care Association for Poor Persons Discharged Recovered from Asylums for the Insane has just been issued and shows that the work of the association has again greatly increased during the past year and in the last five years has nearly doubled. The proportion of cases satisfactorily settled in life has also largely increased and the reports received from the friends of many helped in past years are highly satisfactory. During the past 12 months there were 222 cases before the council, as compared with 185 in the same period for 1898. This is by far the largest number ever brought under the notice of the council in one year. Of these 135 were women and 77 were men. The total subscriptions, donations and contributions for maintenance in 1899 amounted to £[illegible], as compared with £[illegible] in 1898. During the past year Sir Samuel White, Bart., M.D., [illegible] the office of president of the society.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est ad ea pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum propias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ROYAL HOSPITAL FOR CHILDREN AND WOMEN, WATERLOO-ROAD.

A CASE OF PYONEPHROSIS WITH IMPERFORATE RIGHT URETER (CONGENITAL).

(Under the care of Mr. A. MARMADUKE SHIELD.)

THE pathological condition of the right ureter in the following interesting case is certainly suggestive of a congenital origin, but it is a little difficult to explain the presence of pus in the corresponding kidney. A bacteriological examination of the pus might have afforded some clue as to its origin. If the ureter were congenitally impervious the pyogenic organisms must have been brought to the kidney by the blood stream, and cannot have entered by the usual channel through the urethra and bladder. For the notes of the case we are indebted to Dr. I. A. H. Michôd, resident medical officer.

A male infant, aged seven months, was admitted into the Royal Hospital for Children and Women, Waterloo road, under the care of Mr. Shield. The child had been ill for the previous three weeks, the illness having commenced with diarrhœa and vomiting, during the week before admission he had had absolute constipation. The child had been "delicate" all his life but had not been definitely ill until the present illness. The family history was unimportant.

On admission the boy appeared to be fairly well nourished; the complexion was somewhat sallow, there were no teeth, and the tongue was dry but not furred. He did not appear to be in pain. The abdomen was considerably distended; there was no vomiting or collapse. On the right side of the abdomen, extending from the crest of the ilium to the costal margin and extending about one finger's breadth across the middle line, there was a large, hard, irregularly shaped mass, firmly fixed, and apparently solid; the bladder could not be thoroughly made out owing to the abdominal distension. From the left and lower portion of the tumour there were some irregularly shaped masses extending down into the pelvis; the tumour was dull all over on percussion and above; the dulness merged into the liver dulness. There was some changing dulness in the left flank. Per rectum a mass could be felt high up in front diminishing the size of the lumen.

While the child was in the hospital his bowels were freely opened by enemata and laxatives; he took his food well. Suddenly three days after admission, he had a convulsion and died. The urine was acid and contained a trace of albumin.

Necropsy.—On opening the abdomen some ascitic fluid was discharged and the large mass was found to be the right kidney enlarged to the size of a cocoanut. The right ureter ended in a fibrous band, the upper part of the ureter being greatly enlarged (from one and a half inches to two inches in circumference). It was found to coil downwards into the pelvis which it almost completely filled, pressing on the rectum and the left ureter, which, with the left kidney, were also enlarged and hypertrophied. The right kidney and ureter were found to be filled with thick yellow pus, the kidney being absolutely obliterated. The bladder was high up but otherwise normal and no opening for the right ureter could be found. Though the right renal entire was marked by a simple. There were no [illegible] of the [illegible] enlarged glands were found. The other organs were normal and there was no [illegible] of its cause answer.

Remarks by Dr. MICHÔD.—The point of interest in this case is the fact that the kidney and ureter were filled with pus. The [illegible] will be [illegible] [illegible] the [illegible] the [illegible] [illegible]

similar case. Mr. Harry Fenwick[1] reports a case of atresia of the vesical orifice of the left ureter (? congenital), "removed from a body of a man, aged 60 years. Right kidney was enlarged but showed no sign of disease; left was the size of a goose's egg surrounded with fat, and a section was seen to be completely transformed into a stiff, multiloculated sac, containing a white opaque fluid, glistening with cholesterine crystals. Both the walls and the septa were partially calcified and the inner surfaces coated with phosphate of lime. The corresponding ureter was transformed into an impervious fibrous cord, and on examining the bladder the left ureteral orifice was found to be absent."

I am enabled to record the above case by the kind permission of Mr. Sheild.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, PLYMOUTH.

A CASE OF OVARIAN CYST COMMUNICATING WITH THICKENED GALL-BLADDER CONTAINING A SOLITARY CALCULUS.

(Under the care of Mr. R. H. LUCY.)

IN the case recorded below the connexion between the cyst of the ovary and the gall-bladder was in all probability due to a localised peritonitis set up by the gall-stone. These adhesions are rarely met with, especially at the present time, when most ovarian cysts are operated on long before they become so large as to reach the gall-bladder. Further, for the production of a communication between this cyst and the gall-bladder it is necessary that a gall-stone should be present capable of giving rise to an adhesive peritonitis. From a consideration of the unlikelihood of these conditions co-existing the rarity of the following case is very obvious.

A widow, aged 60 years, was seen by Mr. R. H. Lucy with Mr. J. P. Stephens Ward on March 2nd, 1899. The patient was extremely ill, with a temperature of 102° F. She was vomiting bile, the abdomen was distended and tympanitic, and there was a history pointing to inflammatory trouble in the neighbourhood of the gall-bladder suggestive of ulceration of a biliary calculus into the peritoneal cavity or bowel. The stools were examined without finding a calculus nor was there any jaundice. Under belladonna, rest, and dieting the acute symptoms subsided. It was then ascertained that she had felt pain in the hepatic region for six or seven years and that she had had prolapse of the uterus for the previous two years. The present attack began in the middle of February with pain across the bowels, followed by vomiting of dark-green offensive fluid and profuse sweating; the bowels were only relieved by enema after three days' constipation.

The patient was admitted into the South Devon and East Cornwall Hospital under the care of Mr. Lucy on April 12th, 1899, and was found to have a cystic swelling occupying the centre of the abdomen. This evidently had a hepatic as well as a pelvic connexion, though a corona of tympany separated the tumour from the liver edge and the right kidney. Pain was complained of in the region of the pylorus and a hard nodular swelling could be felt there; the uterus was drawn up and the cervix was tilted, pointing to the right side of the pelvis.

On May 4th, 1899, under Tait's mixture, the above signs were confirmed. The abdomen was opened in the mid-line just below the umbilicus and a grey cyst was exposed which on tapping yielded several pints of turbid bile-stained fluid, containing buttery lymph, flakes, and curds. The smooth lining looked like peritoneum, as if the fluid was extra-peritoneal, but it proved to be the anterior wall of a second smaller cyst. The collapsed cysts were peeled off the parietal peritoneum, thus entering the abdominal cavity, and further adhesions to the omentum and descending colon were dealt with until a long thin pedicle, consisting of the Fallopian tube and ovarian ligament, was traced down to the right cornu of a small uterus. After tying off this pedicle the cyst was stripped upwards and found to taper off into a thick grey cord just below the liver edge. On cutting this across a few drops of muco-pus escaped from a channel about one-eighth of an inch in diameter; the proximal part was clamped, and on turning it up was found to be the fundus of the gall-bladder tied down by vascular adhesions both to the under surface of the diaphragm and to the great omentum. It was now decided to divide the operation into two stages. The gall-bladder was therefore freed from omentum and bent upwards in the upper angle of the wound and there "excluded" by uniting the lower portion of the wound by mass sutures of silkworm-gut. The opening into the bladder was ligatured and iodoform gauze ribbon was wound round its base. On examining the cyst it was found to be fusiform and bilocular; the anterior larger portion alone communicated with the gall-bladder, the posterior and smaller cyst containing clear mucoid fluid; both had smooth linings. No trace of an ovary other than these cysts could be found on the right side. The left ovary and tube were shrunken, but were returned into the abdominal cavity. Convalescence was delayed by a troublesome cough and she left the hospital for the Pearn Home on June 22nd (the forty-ninth day). The patient was re-admitted on July 17th for removal of what was thought to be merely a useless mucus-secreting sac, for beyond a trace of bile seen on the dressings subsequently to the first operation only clear mucus exuded, and nothing could be felt by probing.

On July 22nd the second stage of the operation was done; the peritoneal cavity was entered through an elliptical incision surrounding the fistula and the gall-bladder was separated from the under surface of the liver with the intention of excising it. When drawn well up into the wound a hard, rounded body could be felt deep down and on cutting off about an inch of the much-thickened viscus a rounded, dark-brown calculus, an inch in diameter, was squeezed forward and removed, followed by a gush of bile. The lower half of the wound was then closed in two layers, while the cut edges of the gall-bladder were attached by a purse-string suture of fine silk to the transversalis fascia and peritoneum; a stout drain-tube was placed into the gall-bladder and water poured in was found to sink rapidly away. The tube was removed on the seventh day, all the sutures were removed by the fourteenth day, and the patient left the hospital on the sixtieth day after the second operation and has since been in good health.

The calculus had evidently acted as a ball-valve, for the patient gave a definite history of fluctuation in the size of her abdomen previously to the beginning of May, 1899. The ovarian fluid used to drain away *viâ* the gall-bladder, cystic and common ducts, giving rise to what was regarded as "an attack of diarrhœa." Then the abdominal swelling would increase in bulk, from bile flowing into the ovarian cyst, but never at any time (while under observation) was there absence of bile from the stools, nor was there anything more than slight jaundice. On one occasion, when first in hospital, the abdomen was nearly flat, but it rapidly increased in size before the first operation.

Remarks by Mr. LUCY.—The above condition seems to be rare judging from the absence of any record that I can trace. Mr. Cripps, I believe, has seen such a connexion, when the tapping of ovarian cysts was in vogue, and the late Mr. Lawson Tait[1] operated on a supposed parovarian cyst to find it was a hugely distended gall-bladder.

[1] Edinburgh Medical Journal, October, 1889, p. 315.

[1] [illegible] the Pathological Society of London 1855-56, [illegible]

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of the directors of this society was held on April 11th, Dr. Church, the treasurer, being in the chair. Three new members were elected and the deaths of six were reported. Applications for grants were read from 48 widows, eight orphans, and six recipients from the Copeland Fund, and it was resolved to distribute £1173 10*s.* among them at the next court. A first application for a grant was made from a widow and a grant at the rate of £50 per annum was given to her. A special grant of 50 guineas was made to a widow under By-law 70. Grants were made to two orphans of £25 each towards their self-maintenance. The report of 1899 was read. The following gentlemen were nominated for election at the annual general meeting to fill the vacancies among the officers of the society: President, Mr. Christopher Heath; vice-presidents, Mr. W. H. Bennett and Mr. Manley Sims; directors, Mr. Berlase Hicks, Mr. Simmonds, Mr. L. Read, Mr. Willis, Mr. Milburn, Dr. Buzzard, and Dr. Morison. It was decided to hold the annual general meeting on Wednesday, May 30th, at 5 P.M.

Medical Societies.

HUNTERIAN SOCIETY.

Some Points in the Therapeutics of Gout.

A MEETING of this society was held on March 28th, Dr. DUNDAS GRANT, the President, being in the chair.

Dr. DAVID ROSS read a paper on Some Points in the Therapeutics of Gout. He contended that, despite extensive research, the pathology of gout remained enveloped in a
or implied from a mass of con-
Uric acid had been searched for
ight have overlooked other quite
rs. Even the late Sir William Roberts declared that he himself was getting more and more in doubt whether uric acid covered the whole field of gout. From an extensive experience with both media he denied that uric acid and its compounds behaved in exactly the same way with the so called standard solvent as with blood serum, as asserted by Roberts. He was also opposed to the quadriurate theory and believed that the uric acid compound existed as a mixture of biurate and uric acid in loose combinatio
tion of the molecules. He b
induced by abnormal albumir
caused by deranged hepatic
initial difficulty was a digestive o
acid was a normal constituent of the blood, hence they had
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an
[illegible] and theories of Klemperer, Berkart, Schmoll, Kolisch, and others, and concluded that they did not possess such knowledge of the pathology of gout as would be required to formulate a scientific course of treatment. At present they had to treat the man rather than the ailment, and to adapt the diet and general regimen in every individual case. A pill of colchicum and mercury given over night and followed by a saline aperient in the morning not only improved the general condition in goutiness but very often warded off declared gout. Differing from Sir William Roberts and Dr. Luff he considered sodium salts very useful in the gouty state and could not believe that they were capable of inducing paroxysmal gout. Although they could give no adequate scientific explanation of the nature of its action colchicum was the remedy *par excellence* in acute gout. Its action was probably that of a powerful cholagogue and of a cardio-vascular depressant. While the evidence as to the efficacy of sodium salicylate was contradictory he saw no necessity for calling those cases rheumatic in which it had succeeded when colchicum had failed. Dr. Ross then described in detail the result of his experiments with piperidine, piperazine, lysidine, and urotropin as solvents for uratic deposits and concluded that piperidine was found to be the best solvent.

Dr. A. P. LUFF stated that although the composition of sodium quadriurate might be found on analysis to vary in different samples it did not destroy his faith in the existence of that body. It was a very difficult substance to prepare owing to its extreme instability. The presence or absence of pain in different cases of gout depended, he believed, upon the rapidity of deposition. It was the suddenness of the deposition which caused the pain. In his opinion the gout producing or inducing properties of some wines and beers were due to the presence of ethereal salts which in all probability powerfully affected the metabolism of the liver and possibly of other organs. His own experience was that although salicylate of soda was of great use in rheumatic conditions it was not of use in true gouty conditions.

Dr. FONTLEROY FOX said that while the chemistry was still in doubt gout could not accurately be called a disorder of metabolism. It was often hereditary, often brought out by changes and phases in the individual, such as the changes in diet to the stage of middle age, and often also unaccompanied by any manifestations. He believed that alcohol in all forms had to provoke and prepare this diathesis. In some cases a very minute quantity of alcohol aggravated all the symptoms. Exercise was the source of successful treatment and waters and baths were only operative as they effected a gradual restoration of normal elimination. Setting aside the internal use of waters very much could be done by baths alone, as at Aix le Bains, in encouraging elimination by the skin. Such treatment in his experience usually produced a recrudescence of acute symptoms, a more active phase of disorder replacing the chronic phase; but this if not excessive was, he believed, of favourable augury. He anticipated that in time it would be recognised that all cases of gout should be treated by balneological methods.

Dr. GLOVER LYON pointed out the impossibility of framing a chemical method of treatment founded upon the present imperfect knowledge of the chemistry of gout. He thought that too much stress was laid on mere solvents in the removal of urates from the cartilages which, after all, were living tissues and capable of taking an active part in expelling deposits. He advocated mixed and varied diets as being the most easily assimilated.

Dr. HINGSTON FOX said that the cases of gout which came before him were mostly connected with sedentary habits and over eating and drinking. He thought that much of the benefit of spa treatment was due to the insistance on early rising, walking in the fresh air, and regulated diet. Sydenham sent a patient to Inverness ostensibly to consult a medical man who had no existence, and on the patient's return, indignant from the long and tiresome journey, the gout had disappeared.

Dr. A. DAVIES said, as bearing on the importance of exercise quoted by Dr Hingston Fox in his anecdote of Sydenham, it might be worthy of remark that Sir Dyce Duckworth had recently stated at a discussion respecting alcoholic inquiries before the Life Assurance Medical Officers' Association, that he had yet to learn of a Highland gillie suffering from gout.

Dr BUTLER HARRIS drew attention to the mitigating effect of collodion painted on an inflamed gouty joint. The pain was speedily relieved and the inflammation was lessened by such treatment. He had first learned the method from Dr. Vivian Poore. He remarked on the influence of other diseases in producing acute attacks of gout and instanced a case in which after several attacks of influenza the patient invariably was laid up with acute articular gout, each time in a different joint. As regards the etiology of gout he mentioned that clinically the evidence was as obscure as it was experimental. Two cases recently had come under his notice, an attack was evidently brought on by worry in the case of the first patient who was lean and ill nourished; in the case of the second, a plethoric woman, by insufficient exercise during a long and trying winter. Both patients, it was interesting to note, were teetotalers. All one could say clinically was that the attacks were the accumulated effects of insufficient metabolism, effects of widely different origin.

The PRESIDENT was surprised to hear Dr. Luff's depreciation of the value of salicylate of soda; he prescribed it with great frequency in combination with bromide of potassium in cases of gouty cachexia or irregular gout, and found it to be of immense value in such manifestations as were apt to come under his notice. He was often guided in his diagnosis by the existence of nervous irritability, increased pulse tension, and the history of typical gouty attacks in the patient or his predecessors, especially when arthritic disturbances were excited by dietetic rather than meteorological conditions. His friend Dr. Ogier Ward had related to him a very striking instance of freedom from gout following the habitual use of cider instead of malt liquors. He thought that the vegetable acids might be more used, both dietetically and therapeutically, than at present. In Germany the acid of the apple was used in the preparation of malates and tartrates.

Dr. DAVID ROSS briefly replied.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

"Hitherto" Cases of Scarlet Fever and the Danger of Infection from Convalescents and Carriers of Infection.

A MEETING of this society was held [illegible] Dr. C. J. [illegible], the President, being in the chair.

Mr. A. [illegible] read a paper on the [illegible]

the Brain; and (3) a specimen of Probable Syphilis of the Aorta, with the Kidney from the same case, showing the Remains of Gummata.

Dr. A. L. WHITEHEAD: A case of Dermoid Tumour of the Conjunctiva.

Dr. T. CHURTON; A case of Doubtful Cardiac Murmur.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—held on April 6th, Dr. J. B. chair.—Mr. Percy Dunn read in Children and its Treatment, in which he said that nothing new or original had been left to be said upon it, although the disease still remained, so to speak, one of extremes, inasmuch as, despite the fact that it could with ease be prevented, nevertheless, on the other hand, it far exceeded every other ocular affection in the amount of blindness which it caused. He discussed the subject under the three heads of etiology, prophylaxis, and treatment, and in regard to the second he laid great stress on the value of Credé's method and showed by statistics how vastly it had been instrumental in reducing the prevalence of the disease. For treatment he relied on a weak solution of nitrate of silver (one grain to an ounce of water) frequently applied, together with a solution of sulphate of zinc. By means of these solutions the parents of the patients could be safely allowed to carry out the treatment for themselves. When corneal complications arose he advocated the instillation of eserine, which was most valuable. He condemned the use of perchloride of mercury solutions in these cases, as they frequently excited irritation, and, moreover, because the perchloride was not an astringent.—Remarks were made by the President, Dr. Herbert Snow, Dr. T. R. Atkinson, Dr. G. D. Robinson, Dr. H. P. Potter, Mr. H. Rogers, Mr. W. McAdam Eccles, and Mr. Kenneth Scott.—Mr. Percy Dunn replied.—Dr. Herbert Snow read notes of three cases illustrating the Clinical Behaviour of Gall-stones. Case 1.—A small gall-bladder with rigid fibrous walls densely packed with gall-stones closely simulating cancer of the stomach; cholecystectomy; recovery. Case 2.—Removal of gall-stones from the common duct and drainage of the gall-bladder, followed by biliary fistula; cholecystectomy; recovery, with emission of bile from the fistula. Case 3.—Abdominal tumour simulating malignancy; suppuration and discharge of gall-stones; spontaneous cure of the mucous fistula.—Remarks were made by the President, Mr. Rickard Lloyd, and Mr. McAdam Eccles.—Dr. Snow briefly replied.—Mr. Percy Dunn then proposed the following motion:—

That a sub-committee of the society be appointed to consider and report upon the advisability of recommending that ophthalmia neonatorum be made a notifiable disease in all cases attended by midwives.

Dr. G. E. Shuttleworth seconded the motion.—After some remarks by Dr. Snow and Dr. T. R. Atkinson the following gentlemen were elected members of the sub-committee, with power to add to their number: Dr. G. E. Shuttleworth, Dr. G. D. Robinson, Dr. H. P. Potter, Dr. T. R. Atkinson, Mr. Percy Dunn, and Mr. Kenneth Scott.

LARYNGOLOGICAL SOCIETY OF LONDON.—An ordinary meeting of this society was held on March 3rd, Dr. F. de Havilland Hall, the President, being in the chair.—Mr. Charles Heath showed a case of Sinuses in the Vault of the Naso-pharynx. The patient, a woman, aged 31 years, appeared to have two transverse elliptical openings just behind the upper edge of the cheanu.—The case was discussed by Dr. Hill, Mr. Baber, Dr Grant, Dr. Spicer, Dr. Thomson, and Mr. Lake, who thought the sinuses were formed by the remains of adenoid tissue, while Sir Felix Semon and Mr. Spencer shared Mr Heath's opinion that there was some unusual development of the bony parts.—Dr. StClair Thomson showed a case of Obstruction of One Nostril from Antral Affection of Uncertain Origin. The case was discussed by Mr. de Santi, Dr. Grant, and Mr. Spencer.—Dr. Fitzgerald Powell showed a case of Laryngeal Growth in a male, aged 25 years. Sir Felix Semon said that the case reminded him of one he had described as fibro sarcoma.—Sir Felix Semon showed a case of Pseudo-membranous Adhesion in the Anterior Commissure and Symmetrical Thickening below the Anterior Part of the Vocal Cord.—Mr. Lake showed (1) a case of Bulbous Middle Turbinates; (2) a case of Growth in the Arytenoid Region; and (3) a specimen of Bony Spur from the Ethmoid.—Dr. Furniss Potter showed a case of Pharyngeal Growth involving the Larynx in a man aged 59 years.—Mr. Lawrence showed a case of Advanced Atrophic Rhinitis in a girl, aged 14 years.—Dr. Henry A. Davis showed a case of Suppurative Cyst of the Turbinal Bone, which gave rise to much discussion, Dr. Tilley, Mr. Lake, Dr. Grant, and Mr. Hill considering it a case of suppuration in the anterior ethmoidal cells and possibly in other sinuses, while Mr. Baber agreed with Dr. Davis that the cyst was located on the inferior turbinate.—Dr. Davis also showed a case of Extreme Hypertrophy of the Inferior Turbinates in a boy, aged 13 years, and the operative treatment of the condition was discussed by Dr. Tilley, Dr. Spicer, Dr. Grant, Mr. Baber, and Dr. Powell.—Dr. Scanes Spicer showed a case of Extensive Ulceration of the Throat and its syphilitic or tuberculous nature was discussed by the President, Mr. Lake, Dr. Thomson, Mr. Spencer, Sir Felix Semon, and Dr. Lack.—Mr. de Santi showed a case of Hoarseness and Aphonia of long standing in a girl, aged 13 years, and a case of Obstructed Subdermal Lymphatics of the Face in which frontal and antral disease had been suspected.—Dr. Jobson Horne showed a case of Ulceration of the Larynx.—Dr. Herbert Tilley showed a case of Tumour of the Nasal Septum.—Mr. Parker showed a case of Pachydermia Laryngis.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—A meeting of this society was held on April 9th, Dr. Thomas Barr, the President, being in the chair.—Dr. James Finlayson showed specimens from a case of Hodgkin's Disease. The case was interesting in so far as it had been apparently cured under the administration of arsenic and iron and after a fortnight an exacerbation of a severe nature had occurred in which intra-thoracic developments were clearly indicated. There was also very rapid enlargement of glands in superficial parts of the body. The microscopic appearances were those of replacement of lymphoid by fibro-cellular tissue (Dr. M. L. Taylor).—Professor Robert Muir agreed with Dr. Taylor's description and thought the condition analogous in some respects to an infective process.—Mr. Maylard, Dr. Alexander Robertson, and Dr. Walter K. Hunter also took part in the discussion.—Dr. G. H. Edington showed, for Professor Hector Cameron, a Calcaneum the Seat of a Round-celled Alveolar Sarcoma removed from a woman, aged 68 years.—Dr. John Rowan showed a Melanotic Sarcoma of the Choroid for which he had enucleated the eye. The patient was a woman, aged 69 years, and the eye presented cataract and corneal ulcer with hypopyon. She died a year later from malignant disease in the stomach and liver.—Dr. Munro Kerr exhibited a large Dermoid Ovarian Cyst in the wall of which was a thickening presenting some of the characters of carcinoma.—Dr. G. H. Edington showed (1) specimen of Old Fracture at the Elbow complicated by Recent Fracture of the Shaft of the Ulna; (2) Comminuted Fracture of the Astragalus, Compound, and Complicated by Fracture of the Calcaneum, Scaphoid, and External Malleolus, parts removed by amputation; and (3) Photographs illustrating Defective Development of the Forearms and Talipes in a girl who was subject to mental weakness.

MANCHESTER MEDICAL SOCIETY.—A meeting of this society was held on April 4th, Dr. T. C. Ballion, the President, being in the chair.—Dr. J. S. Bury made some remarks upon Chronic Anterior Poliomyelitis and Allied Diseases.—Dr. J. Dreschfeld read a paper upon the Cerebral Types of Influenza.—Mr. W. P. Montgomery read a communication on the Types of Rectal Cancer considered from the point of view of the Treatment by Excision. A number of specimens and sections were shown in illustration. Two great classes were described. 1. Those in which the extension of the growth took place more particularly in the submucous tissue—the intra-mucular type. The primary seat was usually low down in the first part or at the junction of the first and second parts of the rectum. In this type secondary infection of the liver through the portal system was common and was often found before the primary growth was extensive and while the case was still apparently most suitable for excision. 2. In the second group the growth, instead of spreading mainly in the submucous tissue, broke straight through the muscular coats and grew outside them—the extra-muscular type. The primary seat was usually in the second or higher in the first part of the rectum. In this class there was less tendency to infection of the liver, but lymphatic infection was common and the glands of the pelvic fossa were early involved. Both

Scarlet Fever for discussion. As an aid to diagnosis of scarlet fever and kindred diseases he urged a more frequent resort to bacteriological examination, and drew attention to Dr. Klein's reports to the Local Government Board on the micro-organism of scarlet fever. He urged that by systematic bacteriological examination in private and in hospital practice errors of diagnosis and the so-called "return case" might in a measure be prevented. The length of infectiousness of cases of scarlet fever might also be more accurately determined. Many discharged scarlet-fever patients, though having passed through a fairly long isolation period and though apparently [illegible] in some cases to be the cause of further [illegible] disease. A bacteriological examination of supposed scarlet-fever throats would, in many cases, be the means of excluding diphtheria from the diagnosis. Mr. Pearson mentioned a case presenting all the signs of scarlet fever of an anginous type from which he was able to cultivate diphtheria organisms. He read extracts from Dr. Klein's reports on the subject of the scarlet-fever micro-organisms and showed several specimens of the streptococcus conglomeratus or streptococcus scarlatinæ (Klein). Mr. Pearson had made 100 consecutive cultivations for this organism and was able to demonstrate its presence in 38 cases. He was inclined to urge from a somewhat cursory investigation that this streptococcus was the specific organism of scarlet fever. Mr. Pearson then dealt with hospital "return cases" of scarlet fever. In defining a "return case" he thought a specific limit of the "interval" (or incubation period) elapsing between the infecting and infected case should be insisted on. This should not exceed a week. If longer some other cause of infection was probable. He suggested that in some cases infection remained latent in houses from which scarlet-fever patients had been removed. Several second cases admitted from the same house occurring before the return home of the first case and with a seven or eight weeks' interval had come from time to time under his notice. The percentage of "return" cases were about 1·5 per cent. to total cases admitted. The possible length of infectiousness of scarlet fever patients was next discussed. Mr. Pearson thought it unfortunate that a six weeks' isolation had become so fixed in the minds of the public as a sufficient limit. Often from his own experience (and he would draw attention again to the result of Dr. Klein's investigations) it was several months. He thought that most often the cause of infection in long cases lay in the nasal and aural cavities. Mr. Pearson drew attention to the greater persistency and more frequent occurrence of otitis and rhinitis in the winter and spring months. He thought that perhaps a chill during disinfection and, occasionally, altered conditions of life after leaving hospital tended to re-start otorrhœa and rhinorrhœa. He would increase the minimum isolation limit to eight weeks in winter and seven weeks in summer. Mr. Pearson thought that in some cases the cause might be traced to inefficient or incomplete disinfecting methods. Steam, used for clothing or bedding, when allowed to pass from a saturated to a superheated state became ineffectual. It was necessary to urge this on workmen using steam disinfectors. Again, chemical disinfectants were often wrongly used, neglecting their strengths as germicides and the relation of germicidal strength to bulk of infected matter. He suggested two exposures of infected clothing to saturated steam. Another possible cause of reinfection in previously infected houses was the disposition of householders to withhold articles from a disinfecting process which they thought might damage them. These were often brought out on the return of the patient.—Dr. SPOTTISWOODE CAMERON regarded the duration of the period of infectivity as an unknown quantity. Mr. Wheelhouse, he believed, used to speak of the period of isolation for scarlet fever as three months. There were probably cases in which there was comparatively little risk of the patient himself conveying infection at so short a period as three weeks from the commencement of the illness. There were, however, strong grounds for supposing that infection had been conveyed by patients themselves even after three months. For his own part, when asked, he was inclined to measure the duration of the infective period by months rather than by weeks. It seemed to him likely that the patient remained infectious until he was well. The scarlet fever germ was probably present and capable of being conveyed in an active form until the tissues had so far recovered as to be able to destroy it. As long as there was catarrhal discharge from the nose, throat, ears, and possibly the kidneys, it was probable that that stage had not been reached. Whether the scarlet fever germ was Klein's streptococcus, or the [illegible] described by Kurth as streptococcus conglomeratus, or not, did not appear to have been decided. It did seem, however, as if patients kept in the ordinary wards were liable to get their discharges reinfected. In any case he thought the proper course was to place convalescents, after a proper disinfection of nose, mouth, and pharynx as well as clothes, in an uninfected ward. He should prefer after a time to transfer them again, after a second disinfection, to another ward before finally sending them home. The practical difficulty, however, was one of accommodation. Although it was right to canvass very carefully the causes of any "return" cases, fortunately, after all, these were not very numerous in proportion to those isolated in hospital; and while a few cases of scarlet fever might thus occur, they were very few indeed compared with the large number that were prevented by an early isolation of patients.—Dr. W. H. CHEETHAM, Dr. SANDERSON LONG, Dr. J. B. HELLIER, Dr. J. E. EDDISON, and the PRESIDENT also joined in the discussion, and Mr. PEARSON replied.

Dr. J. STEWART read notes of a case presenting Symptoms simulating Perforation of the Stomach. A woman, aged 25 years, had had double oöphorectomy performed for severe pelvic pain two years ago. After this attacks of hæmatemesis which had been present before did not recur, but signs of an ulcer of the stomach remained. One day she was seized with acute pain over the stomach, a rapid pulse, and signs of collapse, from which she rallied. A dull area in the region of the stomach developed and at a consultation with Mr. B. G. A. Moynihan chronic gastric perforation was diagnosed. Several attacks of a similar nature followed, so the abdomen was opened. The stomach was found to be quite healthy and nothing abnormal was seen. The patient made a good recovery, was free from pain, ate good meals, and attended to her household duties.—Mr. B. G. A. MOYNIHAN and Dr. T. CHURTON took part in the discussion and Dr STEWART replied.

The following cases, pathological specimens, &c., were exhibited:—

Dr. E. O. CROFT: Mole and Sac removed from a case of Tubo-ligamentary Ectopic Gestation with Hæmatocele.

Mr. H. LITTLEWOOD: (1) Two specimens of Fibromyoma of the Uterus removed by Abdominal Hysterectomy; (2) Parts from a case of Ruptured Intestine, with a tear in the vena cava; and (3) Perforated Vermiform Appendix with large concretion.

Dr. BRONNER: Snellen's New-shaped Artificial Eyes.

Mr. B. G. A. MOYNIHAN: (1) Some cases of Inguinal Hernia in which a radical cure was performed and the rectus muscle transplanted; (2) a case of Extensive Destruction of the Motor Area; Gradual Recovery of Power in the Affected Muscles; and (3) a Fibroid Uterus removed by Vaginal Hysterectomy.

Dr. T. WARDROP GRIFFITH: (1) A case of Obstinate Ringworm of the Nails treated with Formalin Solution; (2) Lupus of the Forearm treated with Oil of Cloves; (3) Specimens of Renal Infarction; (4) Parts involved in a Pleural Effusion; and (5) a Specimen from Tuberculous Peritonitis.

Dr. ALGERNON WEAR: (1) Uterus removed by Vaginal Hysterectomy for Early Malignant Disease; and (2) Fibroid Uterus, and Appendages removed by Abdominal Hysterectomy.

Mr. SECKER WALKER: (1) Cataract Extraction; and (2) Pseudo-Glioma of the Retina.

Mr. WALTER THOMPSON: (1) Adeno-Carcinomatous Ovarian Tumour (with section); and (2) Double Pyosalpinx.

Mr. LAWFORD KNAGGS and Mr. P. C. CAMMIDGE: Malignant Pustule with Microscopic Sections showing Anthrax Bacilli.

Dr. J. B. HELLIER: (1) A specimen of Ectopic Gestation; (2) a specimen of Carcinoma of the Cervix; and (3) an Ovarian Tumour.

Mr. T. R. JESSOP: Specimen showing Carcinoma of the Cervix, Intra-uterine Polypus, Endometritis and Parovarian Cysts, removed by Vaginal Hysterectomy.

Mr. CONSTABLE HAYES: A case of Melanoma after a Wound of the Iris.

Mr. W. H. BROWN: (1) A Vesical Calculus weighing nine and a half ounces; and (2) Carcinoma of the Sigmoid Flexure with Secondary Growths in the Liver.

Dr. A. G. BARBS: A case of Thoracic Aneurysm in a Woman.

Mr. P. J. CAMMIDGE: A specimen of Renal Calculi with Consecutive Nephritis.

Dr. E. F. TREVELYAN: (1) A case of Peripheral Birth Palsy; (2) a specimen of Multiple Tuberculous Tumours of

the Brain; and (3) a specimen of Probable Syphilis of the Aorta, with the Kidney from the same case, showing the Remains of Gummata.

Dr. A. L. WHITEHEAD: A case of Dermoid Tumour of the Conjunctiva.

Dr. T. CHURTON: A case of Doubtful Cardiac Murmur.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 6th, Dr. J. B. Ball, the President, being in the chair.—Mr. Percy Dunn read a paper on *Purulent Ophthalmia in Children and its Treatment*, in which he said that nothing new or original had been left to be said upon it, although the disease still remained, so to speak, one of extremes, inasmuch as, despite the fact that it could with ease be prevented, nevertheless, on the other hand, it far exceeded every other ocular affection in the amount of blindness which it caused. He discussed the subject under the three heads of etiology, prophylaxis, and treatment, and in regard to the second he laid great stress on the value of Credé's method and showed by statistics how vastly it had been instrumental in reducing the prevalence of the disease. For treatment he relied on a weak solution of nitrate of silver (one grain to an ounce of water) frequently applied, together with a solution of sulphate of zinc. By means of these solutions the parents of the patients could be safely allowed to carry out the treatment for themselves. When corneal complications arose he advocated the instillation of eserine, which was most valuable. He condemned the use of perchloride of mercury solutions in these cases, as they frequently excited irritation, and, moreover, because the perchloride was not an astringent.—Remarks were made by the President, Dr. Herbert Snow, Dr. T. R. Atkinson, Dr. G. D. Robinson, Dr. H. P. Potter, Mr. H. Rogers, Mr. W. McAdam Eccles, and Mr. Kenneth Scott.—Mr. Percy Dunn replied.—Dr. Herbert Snow read notes of three cases illustrating the Clinical Behaviour of Gall-stones. Case 1.—A small gall-bladder with rigid fibrous walls densely packed with gall-stones closely simulating cancer of the stomach; cholecystectomy; recovery. Case 2.—Removal of gall-stones from the common duct and drainage of the gall-bladder, followed by biliary fistula; cholecystectomy; recovery, with emission of bile from the fistula. Case 3.—Abdominal tumour simulating malignancy; suppuration and discharge of gall-stones; spontaneous cure of the mucous fistula.—Remarks were made by the President, Mr. Rickard Lloyd, and Mr. McAdam Eccles.—Dr. Snow briefly replied.—Mr. Percy Dunn then proposed the following motion:—

That a sub-committee of the society be appointed to consider and report upon the advisability of recommending that ophthalmia neonatorum be made a notifiable disease in all cases attended by midwives.

Dr. G. E. Shuttleworth seconded the motion.—After some remarks by Dr. Snow and Dr. T. R. Atkinson the following gentlemen were elected members of the sub-committee, with power to add to their number: Dr. G. E. Shuttleworth, Dr. G. D. Robinson, Dr. H. P. Potter, Dr. T. R. Atkinson, Mr. Percy Dunn, and Mr. Kenneth Scott.

LARYNGOLOGICAL SOCIETY OF LONDON.—An ordinary meeting of this society was held on March 3rd, Dr. F. de Havilland Hall, the President, being in the chair.—Mr. Charles Heath showed a case of Sinuses in the Vault of the Naso-pharynx. The patient, a woman, aged 31 years, appeared to have two transverse elliptical openings just behind the upper edge of the cheanæ.—The case was discussed by Dr. Hill, Mr. Baber, Dr Grant, Dr. Spicer, Dr. Thomson, and Mr. Lake, who thought the sinuses were formed by the remains of adenoid tissue, whilst Sir Felix Semon and Mr. Spencer shared Mr Heath's opinion that there was some unusual development of the bony parts.—Dr. St Clair Thomson showed a case of Obstruction of One Nostril from Antral Affection of Uncertain Origin. The case was discussed by Mr. de Santi, Dr. Grant, and Mr. Spencer.—Dr. Fitzgerald Powell showed a case of Laryngeal Growth in a male, aged 25 years. Sir Felix Semon said that the case reminded him of one he had described as fibro-sarcoma.—Sir Felix Semon showed a case of Pseudo-membranous Adhesion in the Anterior Commissure and Symmetrical Thickening below the Anterior Part of the Vocal Cord.—Mr. Lake showed (1) a case of Bilobed Middle Turbinates, (2) a case of Growth in the Arytenoid Region; and (3) a specimen of Bony Spur from the Ethmoid.—Dr. Furniss Potter showed a case of Pharyngeal Growth involving the Larynx in a man aged 59 years.—Mr. Lawrence showed a case of Advanced Atrophic Rhinitis in a girl, aged 14 years.—Dr. Henry A. Davis showed a case of Suppurative Cyst of the Turbinal Bone, which gave rise to much discussion, Dr. Tilley, Mr. Lake, Dr. Grant, and Mr. Hill considering it a case of suppuration in the anterior ethmoidal cells and possibly in other sinuses, while Mr. Baber agreed with Dr. Davis that the cyst was located on the inferior turbinate.—Dr. Davis also showed a case of Extreme Hypertrophy of the Inferior Turbinates in a boy, aged 13 years, and the operative treatment of the condition was discussed by Dr. Tilley, Dr. Spicer, Dr. Grant, Mr. Baber, and Dr. Powell.—Dr. Scanes Spicer showed a case of Extensive Ulceration of the Throat and its syphilitic or tuberculous nature was discussed by the President, Mr. Lake, Dr. Thomson, Mr. Spencer, Sir Felix Semon, and Dr. Lack.—Mr. de Santi showed a case of Hoarseness and Aphonia of long standing in a girl, aged 13 years, and a case of Obstructed Subdermal Lymphatics of the Face in which frontal and antral disease had been suspected.—Dr. Jobson Horne showed a case of Ulceration of the Larynx.—Dr. Herbert Tilley showed a case of Tumour of the Nasal Septum.—Mr. Parker showed a case of Pachydermia Laryngis.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—A meeting of this society was held on April 9th, Dr. Thomas Barr, the President, being in the chair.—Dr. James Finlayson showed specimens from a case of Hodgkin's Disease. The case was interesting in so far as it had been apparently cured under the administration of arsenic and iron and after a fortnight an exacerbation of a severe nature had occurred in which intra-thoracic developments were clearly indicated. There was also very rapid enlargement of glands in superficial parts of the body. The microscopic appearances were those of replacement of lymphoid by fibro-cellular tissue (Dr. M. L. Taylor).—Professor Robert Muir agreed with Dr. Taylor's description and thought the condition analogous in some respects to an infective process.—Mr. Maylard, Dr. Alexander Robertson, and Dr. Walter K. Hunter also took part in the discussion.—Dr. G. H. Edington showed, for Professor Hector Cameron, a Calcaneum the Seat of a Round-celled Alveolar Sarcoma removed from a woman, aged 68 years.—Dr. John Rowan showed a Melanotic Sarcoma of the Choroid for which he had enucleated the eye. The patient was a woman, aged 69 years, and the eye presented cataract and corneal ulcer with hypopyon. She died a year later from malignant disease in the stomach and liver.—Dr. Munro Kerr exhibited a large Dermoid Ovarian Cyst in the wall of which was a thickening presenting some of the characters of carcinoma.—Dr. G. H. Edington showed (1) specimen of Old Fracture at the Elbow complicated by Recent Fracture of the Shaft of the Ulna; (2) Comminuted Fracture of the Astragalus, Compound, and Complicated by Fracture of the Calcaneum, Scaphoid, and External Malleolus, parts removed by amputation; and (3) Photographs illustrating Defective Development of the Forearms and Tallpes in a girl who was subject to mental weakness.

MANCHESTER MEDICAL SOCIETY.—A meeting of this society was held on April 4th, Dr. T. C. Railton, the President, being in the chair.—Dr. J. S. Fury made some remarks upon Chronic Anterior Poliomyelitis and Allied Diseases.—Dr. J. Prescfield read a paper upon the Cerebral Types of Influenza.—Mr. W. P. Montgomery read a communication on the Types of Rectal Cancer considered from the point of view of the Treatment by Excision. A number of specimens and sections were shown in illustration. Two great classes were described. 1. Those in which the extension of the growth took place more particularly in the submucous tissue—the *intra-muscular type*. The primary seat was usually low down in the first part or at the junction of the first and second parts of the rectum. In this type secondary infection of the liver through the portal system was common and was often found before the primary growth was extensive and while the case was still apparently most suitable for excision. 2. In the second group the growth, instead of spreading much in the submucous tissue, broke straight through the muscular coats and grew outside them—the *extra-muscular type*. The primary seat was usually in the second or higher in the first part of the rectum. In this class there was less tendency to infection of the liver, but lymphatic infection was common and the glands of the lower rectum were early involved. Such

cases were more suitable for radical cure than those of the intra muscular type, but wide excision, with removal of the glands and pre-sacral tissues, was [illegible] instances would be best done by [illegible] or abdomino sacral method.

WIGAN MEDICAL SOCIETY.—A meeting of this society was held on April 5th, Mr. R. H. Cowan, the president, being in the chair.—Dr. E. S. Yonge, assistant physician to the Manchester Hospital for Consumption, attended and gave details of a Practical Scheme for Post-graduate Instruction in Diseases of the Throat and Nose.—A discussion followed, the following members taking part therein: Dr. White, Dr. Benson, Dr. Jones, Mr. Monks, Dr. Fletcher, Mr. Brady, and the President.—A vote of thanks was accorded to Dr. Yonge for his address.—The honorary secretary read a paper on Pharmaceutical and Therapeutical Snapshots, advocating reliance on the drugs found in the British Pharmacopœia rather than the drugs and synthetic remedies so largely advertised by manufacturing chemists.—A discussion ensued, Mr. Roocroft, Mr. Brady, Dr. White, Dr. Benson, Mr. Cooke, Mr. Monks, and the President taking part.—The honorary secretary replied.

SOUTHPORT MEDICAL SOCIETY.—A meeting of this society was held on April 11th, Dr. Pinkerton being in the chair.—Dr. Penrose read a few notes on Laceration of the Perineum and advocated the use of hypodermic injections of cocaine into the perineum for the relief of pain.—Mr. Russ Wood showed a case of Optic Atrophy in a subject in the pre ataxic stage of tabes dorsalis.—Dr. Baines gave some details of a case of Pneumonia complicated by the presence of Streptococci in the Secretions and successfully treated with anti-streptococcic serum.—Dr. Baildon showed a good specimen of Bipartite Placenta.—Mr. A. J. Popert read an interesting paper on the Treatment of Impotence, emphasising the importance of treating the inflamed prostatic urethra in these cases.

Reviews and Notices of Books.

Twentieth Century Practice: An International Encyclopædia of Modern Medical Science. By leading authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D., New York City. In 20 volumes. Volume XVIII.: Syphilis and Leprosy. London: Sampson Low, Marston, and Company. 1899. Pp. 703.

THIS volume deals with only two diseases—syphilis and leprosy. The account of acquired syphilis has been written by Professor Lang of Vienna and Mr. Jonathan Hutchinson has contributed the description of the congenital form of the disease. We do not think that any writers could have been chosen who would be more generally acknowledged as authorities on the subject. Professor Lang's contribution occupies nearly 370 pages. The author considers that we are justified in thinking that syphilis is due to a micro-organism, but he is disinclined to believe in any of the bacilli which have up to the present been put forward as the cause of the disease. In describing the pathological changes which occur in the tissues, Professor Lang states that there is an essential difference between the inflammatory infiltrations leading to the formation of connective tissue and the infiltration which produces gumma. The difference, surely, is by no means essential, but merely one of degree. In the "inflammatory" infiltrations the effused cells are so well supplied with blood that they naturally go on to the formation of fibrous tissue; but when, as in a gumma, the effused cells are so crowded together that the centre is badly supplied [illegible] blood, then the result is that fatty degeneration [illegible] there is no real difference between [illegible] pro-cesses; the difference [illegible] marked difference in [illegible] amount of leucocytes [illegible] he author tells us [illegible] cases of re-infection, and in one of these the second infection occurred only five and a half months after the first. This is, we believe, the shortest time intervening between two attacks which has ever been recorded by a competent observer. A natural and justifiable deduction from the fact of re-infection is that the disease must be "curable." It is very curious that there are still some syphilologists who deny the possibility of re-infection. The description of the various manifestations of the disease is exceedingly good and the account of the syphilitic manifestations in the different organs of the body occupies about 200 pages. Professor Lang, in describing "syphilis maligna," states that he does not consider that this variety of the disease is due to an increased virulence of the contagium, but to a "bad constitutional condition"—for instance, such as that produced by the endemic diseases of hot climates. Many interesting points in the disease are ably discussed, but they need not detain us now. The treatment of syphilis is of immense importance and therefore we will describe more fully this latest presentment of Professor Lang's views. Much difference of opinion has existed, and still exists, as to the value of excision of the primary sore. The generalisation of the virus occurs at so early a period that many have doubted whether it is possible to prevent secondary symptoms by removal of the initial lesion, but sufficient cases are on record to prove conclusively that the disease may be aborted by excision of the chancre if this operation be performed early, and this is the opinion which the author holds. He considers that excision should be recommended only when the initial manifestation is a perfectly distinct isolated lesion, so situated that it may be removed with a wide border of healthy tissue without causing a malformation or a severe loss of substance; the neighbouring lymphatic glands [illegible] must also be free from involvement. E. [illegible] of the primary sore does not prevent secondary symptoms Professor Lang thinks that the disease runs a milder course. When the initial lesion cannot be removed the author advises that abortive injections of germicidal solutions should be made into the chancre and into the lymph channels connected with it; a ½ per cent. or a 1 per cent. solution of nitrate of silver is most frequently used by him. It causes a good deal of pain, lasting, however, only a few minutes. The constitutional effects are not always prevented by these injections, yet in several patients no further signs of syphilis showed themselves. For cases in which neither excision nor injection of the primary lesion is possible Professor Lang employs "gray plaster," and it is even applicable to chancres of the urethra, for a small piece of the plaster is rolled and passed into the meatus; it is renewed after each micturition. Great stress is laid on the value of the local treatment of secondary and tertiary syphilitic manifestations, and with this opinion we fully agree; general mercurial treatment alone is not nearly so effective in removing local lesions as when it is combined with suitable local applications. The constitutional treatment is very fully described. The author speaks well of corrosive sublimate baths in the case of children, but he goes on to say: "Of incomparably great efficiency are corrosive sublimate baths with electrical cataphoresis." The bath contains from 12 to 13 grains of corrosive sublimate thoroughly dissolved. The current is gradually increased to 100 or even 200 milliampères and as gradually lowered. The bath lasts about half an hour. These baths have a remarkably favourable influence on the syphilitic process and they are very clean in administration. The only objection to their use is the expense. As Professor Lang [illegible] 1884 of the "gray oil" for the subcutaneous injec-[illegible] we should expect, as we find, a good account [illegible] of treatment. He now uses a mixture of [illegible] liquidum which is just solid at ordinary

temperature. This is heated in order to liquefy it before it is injected. The strength of the oil now employed by the author almost always is 50 per cent., though occasionally a strength of 30 or 20 per cent. may be used with benefit. The injections are made into the back on either side of the spinous processes about four centimetres from the middle line, and each succeeding injection is made about four centimetres lower down. After the needle has been inserted, and before the oil has been injected it is important to see that the point is not caught in the cutis, otherwise great pain may be caused and possibly suppuration. The injections are always subcutaneous and never intermuscular. Professor Lang never injects more than 0·05 cubic centimetre of the 50 per cent. preparation of the gray oil; this is about a minim. At first the administrations of the oil are given twice a week, but if improvement ensues the frequency is diminished. For a thorough mercurial course from eight to 12 injections are all that are required, but in grave cases it may be necessary to repeat the course. We have described somewhat in detail this method of treatment for we consider it to be probably the best method of the treatment of syphilis by injection; it is less painful and less likely to lead to complications such as suppuration.

Hydrargyrism is occasionally so important an occurrence during the course of treatment of a syphilitic case that its careful consideration is of great moment. The persistence of the mercurial absorption varies greatly in the different methods of administration; and the absorption is probably most prolonged when inunction has been employed. In the case of subcutaneous injection of soluble salts the author makes the valuable suggestion that if hydrargyrism should arise it would be possible to remove by excision all the mercury which had not been absorbed. Of the employment of iodine there is little to be said, but we may quote a case in which Professor Lang was unable to administer iodide of potassium by the mouth as the patient had dysphagia from a gumma of the medulla oblongata and the drug could not be given by the rectum as the sphincter was paralysed; he therefore gave it subcutaneously.

Mr. Hutchinson's monograph on Inherited Syphilis, it is hardly necessary to say, is a valuable account of this important form of syphilis. His name has been for many years closely associated with the recognition of two important signs of congenital syphilis—namely, the malformation of the teeth and interstitial keratitis—and we do not think that anyone has done more than he has to advance our knowledge of this subject.

Mr. Hutchinson points out that the public have a very exaggerated idea as to the prevalence of inherited syphilis. He considers that the disease is much less common now than it was in the sixteenth century and that the extent to which its hereditary transmission influences the well-being of the community is exceedingly small. He holds that no case has ever been made out for the occurrence of transmission of the disease to the third generation.

Professor Prince A. Morrow of New York has written the article on Leprosy. The question as to the hereditary nature of leprosy is very fully discussed, and abundant evidence is brought forward to show that it is probably never transmitted by heredity. As to its contagiousness numerous facts on both sides of the question are given. Professor Morrow points out that many persons have lived for years in close association with lepers and have not contracted the disease, yet some of these cases which have been quoted in text-books as proof of the non-contagiousness of the disease have afterwards become well-marked. That the contagiousness is not great must be acknowledged, but it is not possible to say that the disease is non-contagious. What is the exact method of infection and by what channel the organism enters the body we do not know.

The symptoms and course of the disease are well described, and numerous excellent reproductions of photographs illustrate the chief features of the disease.

We fully agree with the author that the leprosy of Leviticus included many diseases having no connexion with the disease which we call leprosy, and certainly in the Middle Ages the dwellers in the numerous leper houses were not all lepers. The diagnosis in well-marked cases is easy; in the early stages it is exceedingly difficult and probably many cases are overlooked.

As to the treatment the author does not speak with much hopefulness. He acknowledges that many lepers have improved while under treatment, but he considers that the improvement is merely a coincidence, and that in the vast majority of cases leprosy is an incurable disease. Serum-therapy he looks upon as useless.

With regard to prophylaxis, Professor Morrow "believes that segregation is the most effective measure that can be employed to limit the spread of leprosy, and in some countries it is a necessary measure, but he does not believe that it can ever result in the entire suppression of leprosy largely because of the nature of the disease and the impossibility of making it thorough and complete." Valuable and interesting chapters are those on the history and geological distribution of this important malady.

Clinical Medicine: a Manual for the Use of Students and Junior Practitioners. By JUDSON S. BURY, M.D., F.R.C.P. Lond., Physician to the Manchester Royal Infirmary. Second Edition. London: Charles Griffin and Co. 1899. Numerous Illustrations. Pp. 532. Price 21s.

THE author explains in the preface that the chief aim of the present manual is to assist the student and junior practitioner in the examination of medical cases. For this reason symptoms and signs are treated of rather than diseases, and much thought and labour have been devoted to the arrangement of symptoms in the order in which they are usually considered in practice.

A text-book of this nature will be found of great use by those for whom it is intended, as shown by the title. The senior student will find in it numerous hints as to the physical examination of patients and the conclusions that may be derived therefrom, and the practitioner whose knowledge of anatomy will probably not have improved since the time when he left the hospital will by reference to its pages be able to refresh his memory on the position and relations of the internal organs which are only too apt to slip the memory. Another advantage of this work is that it enables the student to "read" the physical signs which he has elicited on examination. It is not sufficient that he should be able to recognise "rales" and "murmurs" when he hears them, but he must be able to interpret them in such a way as to understand fully the nature of the morbid processes which are taking place.

The value of close observation is of course insisted on, and this is particularly the case in Chapter II on Symptoms, for the most part subjective in character. He gives full sections dealing with symptoms indicating disturbance of the nervous system, such as pain, numbness and tingling, vertigo, and disorders of consciousness, next, a short alteration of symptoms indicating disturbance of the functions of the respiratory or circulatory organs, of the digestive organs, and of the urinary or sexual organs. These various subjects give the author a opportunity of showing the value of observation and detail of which we have taken the fullest advantage.

The chapter on the [illegible] of the [illegible] legs and also be found [illegible] [illegible]

Circulatory Systems are as lucid as such chapters can be. It is almost impossible to describe in words the varieties of changes in the breath sounds in disease or the characteristics of cardiac murmurs; in order to be able to recognise them with any degree of confidence the student must actually hear them for himself through the medium of the stethoscope; nevertheless, their significance can be best studied by reference to books, and then corroborated by attendance in the post-mortem room.

The examination of the blood for clinical purposes has received much attention during the past few years. Dr. Bury has brought this chapter fully up to date; the methods of examining the blood are carefully described and some useful illustrations are inserted.

The chapters on the Examination of the Digestive System and Abdominal Organs are also full and lucid. The chemical and microscopical examinations of urine are described in a manner easy to follow and only those tests and processes are given which are simple and thoroughly reliable.

There is no class of diseases the study of which requires such an intimate knowledge of anatomy and physiology as that of diseases of the nervous system. Again and again the student is baffled when attempting to make a diagnosis, not so much through inability to investigate a nervous case, but because he forgets the function of a particular centre or the origin of a particular cranial or spinal nerve. Dr. Bury therefore very rightly briefly reviews some of the more essential facts relating to the structure and functions of the nervous system, giving special prominence to those which most commonly call for consideration in the diagnosis of nervous diseases. Judiciously selected diagrams considerably aid in this description.

We can cordially recommend this volume to our readers and congratulate the author on the success of his labours.

Surgical Anatomy: A Treatise on Human Anatomy in its Application to the Practice of Medicine and Surgery. By JOHN B. DEAVER, M.D., Surgeon-in-Chief to the German Hospital, Philadelphia. London: Rebman, Limited. 1899. Vol. I. Price 35*s.* net.

THIS very comprehensive work on applied anatomy is to be published in three volumes, with about 400 plates, of which nearly all will be drawn from original dissections. The first volume includes the upper extremity, the back of the neck, the shoulders, the trunk, the cranium, the scalp, and the face, and contains 632 pages, so that the complete work in three volumes will be an encyclopædia rather than a text-book or a manual. Superficial landmarks are carefully noted and the more important congenital variations and anomalies are described so far as they have any bearing on medical and surgical procedures. A fully detailed description of human anatomy is also given, although we fail to see its connexion with the surgical anatomy of the region—as, for instance, there is a minute account of the shape, position, attachments, blood-supply, nerve-supply, and action of the subclavius muscle. Such details are surely more interesting to the student in the dissecting-room than of value to the surgical operator. In fact, the steps of the necessary dissections on the subject are all minutely described as the course proceeds, and every small structure, surgical or non-surgical, is mentioned at length. The general descriptive anatomy is supplemented by chapters on excisions, amputations, fractures, &c., but these would be more valuable if they were separated from an elaborate epitome of anatomy, including even the deep muscles of the back, accurate as their description undoubtedly is. A compendium of detailed human anatomy is not surgical or medical anatomy, and the two should not be forced into one book. A manual is one thing, a work of reference is another, and this treatise is the latter. We admire, however, the thorough manner in which the material has been systematised and arranged.

The Practice of Medicine. By the late M. CHARTERIS, M.D. Eighth Edition. Edited by F. J. CHARTERIS, M.B., Ch.B. Glasg., Assistant to the Professor of Materia Medica and Therapeutics, Glasgow University. London: J. & A. Churchill. 1899. Pp. 655. Price 10*s.*

THE fact that this work has reached an eighth edition is sufficient proof that it has satisfactorily supplied a want, and no words are required from us as to the nature and scope of the book. The present edition was called for after the death of the late Dr. M. Charteris and has been edited by his son, Dr. F. J. Charteris. The book has been carefully revised and brought fully up to date. It has been considerably enlarged since the first edition and has taken its place as a recognised text-book in general medicine.

The prescriptions contained in the appendix have been altered so as to bring them into conformity with the requirements of the new edition of the British Pharmacopœia. We are not advocates for abridged text-books on medicine, believing that every student should strive to obtain as full a knowledge as possible of his profession. With this text-book in his hand, however, together with constant and careful attention in the wards and out-patient rooms, a student should have no difficulty in preparing himself for his final examinations.

A Manual of Surgical Treatment. By W. WATSON CHEYNE, M.B. Edin., F.R.C.S. Eng., F.R.S., Professor of Surgery in King's College, London, &c., and F. F. BURGHARD, M.D., M.S. Lond., F.R.C.S. Eng., Teacher of Practical Surgery in King's College, London, Surgeon to King's College Hospital, &c. In six parts. Part 1, Second Edition. London: Longmans, Green, and Co. 1899. Pp. 285. Price 10*s.* 6*d.*

IT is not often that two editions of a work on a medical or surgical subject are published in the same year; but such has been the case with the first part of this excellent treatise and we are not in any way surprised at the cordial reception which it has received from the profession. We published so full a notice of this part on its first appearance that it is necessary to say but little about this, the second, edition.

The preface contains replies to some criticisms of the first edition on the proportion of space allotted to pathology and on the question of the antiseptic or aseptic treatment of wounds. With regard to the first point we are quite at one with the authors as to the propriety in a work like the present of introducing only so much of the symptoms and pathology as is needed in order that the treatment may be carried out efficiently. With reference "to the controversy concerning the treatment of wounds" we have always maintained that the difference between the methods is much more apparent than real. With the careful employment of either method perfect results may be obtained; with either method carelessness will lead to failure. The most important difference between the two lies in the fact that in the antiseptic method, as usually practised, antiseptics are applied to the wound itself; in so far as these antiseptics are irritants they must tend to check the healing of the wound, but if the antiseptics are of such a nature or of such a strength as to cause no irritation then they can have no harmful influence. Moreover, if the incision be made into aseptic tissues, there can be no necessity for the application of any antiseptic to the surface of the wound itself.

We ventured in our notice of the first edition to draw attention to a few points which we considered to require correction. None of these appears to have been altered; only one error was of much importance, that where it is stated that "as hot as the hand can bear" is "about 150° F." This temperature is at least 25° too high.

LIBRARY TABLE.

Brain and Body: the Nervous System in Social Life. By ANDREW WILSON. London: James Bowden. Price 1s. 6d. Pp. 142.—The author is a clear and interesting writer, and this small book deals in a popular way with many points in the physiology of the nervous system. He gives a short account of the three great portions—namely, the brain, the spinal cord, and the sympathetic systems—and then proceeds to discuss the influence of food and stimulants. There is also a chapter on "Some Nervous Ills and their Remedies" in which we are glad to see that the author lays down the principle that the only safe course is to consult a medical man. On page 31 he refers to Sydney Smith's simile that "you could diagnose the faculties of the dean and chapter of St. Paul's by an inspection of the Cathedral dome." Surely this story is wrongly told. So far as we remember it runs thus: Sydney Smith saw a young lady stroking a tortoise "to please it." On this he said, "You might as well try to please the dean and chapter by stroking the dome of St. Paul's."

The Art of Feeding the Invalid. By a Medical Practitioner and a Lady Professor of Cookery. London: The Scientific Press. Pp. 260 and Index. Price 1s. 6d.—This is a fairly good book on the whole, if we make the proviso that the medical details are, as is so often the case in such books, too explicit for the lay reader and well known to the medical reader. But the diet tables are very full and there is a host of most excellent recipes. We see that the authors sensibly say that diet must not be too monotonous. On page 165 a recipe "by a staff nurse" is given for custard pudding, which we are quite certain would prove a failure. To begin with, two eggs are not enough for a pint of milk, and "bake it for about 25 minutes" may mean anything. It depends on the heat of the oven, and the average custard pudding is baked in far too hot an oven. Albumin congulates at a temperature of about 140°F., which is far below 212°, and the average pudding is allowed to boil and consequently is spoiled. We are not so sure as are the authors with regard to the advisability of a gouty person eating curries, and we should say that for such a patient game, if simply cooked and not decomposing, was harmless.

Bailey's Index to the Times. Published monthly. London: Eyre and Spottiswoode. February, 1900. Pp. 111. Price 3s.—To search for a given subject in a file of the *Times* is a task of no small magnitude, but with the aid of such a key as *Bailey's Index* the place wanted can generally be found at once. In the present number there are 20 pages of references to the South African war arranged in alphabetical subheadings according to the contents of the various articles. There are cross-references to many subjects, a system which is a great help in finding the passages of which readers may be in quest.

Practical Nursing. By ISLA STEWART, Matron of St. Bartholomew's Hospital, London, and HERBERT E. CURY, M.D. Lond., F.R.C.S. Eng., Medical Superintendent North-Eastern Fever Hospital, Tottenham, London. In two volumes. Vol. I. Edinburgh and London: William Blackwood and Sons 1899. Pp. 250.—In this volume the nurse's work is dealt with from a general point of view. Probationers just entering on their work will do well to read its pages thoroughly, whilst fully trained nurses will find much that will help them to carry out their duties with credit to themselves and thereby considerably add to the comfort and welfare of their patients. The aim of the authors has been to make the practical part of the book as thorough as possible and in this endeavour they have admirably succeeded. The hygiene of the ward, the personal care of the sick, diet in disease, the methods of giving baths and packs, hot and cold applications, the methods of giving enemata, &c., are most carefully described with an attention to detail which is worthy of great praise. Nurses will doubtless wait with eagerness for the second volume, in which will be considered in detail the nursing of the various medical and surgical diseases.

JOURNALS.

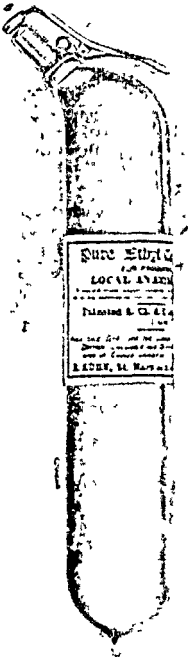
Caledonian Medical Journal.—The April number contains the introductory portion of an interesting article on the Ethnology of the Scottish Gael, by Mr. Alexander Macdonald, secretary of the Gaelic Society, Inverness. Although not prepared to maintain that there was no aboriginal race he considers it most probable that the British Islands were peopled from the continent and that the first settlers were dark-featured and dolicho-cephalic, coming presumably from Gaul. This he regards as most likely from the fact that in studying the general question it is found that the darker inhabitants occupy the remotest and most mountainous parts of the country, both in Britain and Ireland, as if their ancestors had retired before the later comers, who would seem to have been fairer in complexion.

Mercy and Truth.—In the April number Dr. H. Martyn Clark describes a visit to the Medical Mission Hospital at Peshawar in the Punjab. Dr. Marcus Mackenzie writes on Dispensary Work at Ning-Dalk in South China.

New Inventions.

APPARATUS FOR THE LOCAL APPLICATION OF ETHYL CHLORIDE.

THE illustration represents a new ethyl chloride container, manufactured by Mr. B. Kühn, 36, St. Mary-at-hill, London, E.C., for the application of ethyl chloride in the form of spray as a local anæsthetic in minor surgical and dental operations. The container is a strong glass tube provided with a patent automatic stopper in place of the screw cap which was used to close the orifice in the older patterns. When the lever is pressed with the forefinger or thumb the liquid escapes in a jet of spray, and this is directed on the part which it is desired to anæsthetise, the muzzle being held at a distance of from six to eight inches from the skin. Anæsthesia is produced in from half a minute to one minute and lasts about two minutes. In addition to its use in surgery ethyl chloride spray has also been found to give relief in various neuralgic conditions. The sizes and prices of the tubes are as follows: tubes containing 10 grammes of ethyl chloride, 1s. 3d. each or 10 for 10s.; tubes containing 30 grammes, 2s. 3d. each, or three for 5s. 6d.; tubes containing 60 grammes, 4s. 3d. each. The tubes of the tubes are either straight or bowed, according as may be desired.



THE LANCET.

LONDON: SATURDAY, APRIL 21, 1900.

LAST year plague prevailed in Alexandria and Oporto and caused a spasmodic interest in the subject which quickly subsided as soon as the epidemic in both centres declined. Similarly when plague first appeared in India the interest in Europe bordered on alarm until the conference of the Powers at Venice framed regulations to prevent its importation into other countries. Since then plague has slowly pursued its own course and has spread in many directions in spite of the Venice Convention and other means for its control. Plague continues its ravages in India and destroys at present nearly 5000 of its inhabitants every week. Still, so little accustomed are the English people as a whole to take an interest in the welfare of that great dependency, unless it is brought home to them in some exceptional manner, that the enormous mortality does not arrest any particular attention. The distance from India, the comparative immunity of the European, and the absorbing interest of the war in South Africa have contributed in no small degree to intensify an indifference which everyone who has followed the effects of the plague must deplore. The plague has now existed in India for five years, has destroyed over 250,000 lives, and shows not the slightest tendency to abate its fury. It has caused unrest and disturbances in important centres of India because of the preventive measures which have to be adopted, and only last week the military had to be called out to quell a serious riot in Cawnpore, the rioters having set fire to the segregation camp and thrown the bodies of five of the policemen who opposed them into the flames. The multiplication of centres is apt to become a political danger. Disorder is the ordinary accompaniment of great epidemics of plague and is as likely to occur in Europe as in India. The comparative immunity to plague of Europeans in India is responsible for a very comforting though curious impression that plague is a disease of Asiatics. The occurrence of plague in Oporto tended to shake this belief, but the decline of the epidemic there, without attaining any great size, notwithstanding the exceptional character of the sanitary condition of Oporto, once more strengthened this hypothesis. The outbreak of plague in Sydney is sufficient to dispel notions of this kind. Unlike Oporto, it is not an old town and in this respect has an advantage. It possesses also a well-organised sanitary department, and yet notwithstanding the active and watchful care of Dr. ASHBURTON THOMPSON and his able staff plague has gained an entrance and a lodgment. In January a fatal fever was attended by a rapid and anomalous form of [illegible] and recovered. In a little over three weeks [illegible] was attacked and died on the eighth day, and [illegible] that a greater number [illegible] of [illegible] to be seen at a certain wharf. The sailmaker had removed five dead rats from his water-closet shortly before his attack. As elsewhere, the mode of importation of plague into Sydney has not been traced. Careful inquiry instituted by Dr. ASHBURTON THOMPSON takes it no further than the landing wharves, but no light can be thrown on its source or as to whether the infection was brought by man, by goods, or by rats. Every endeavour is being made to stamp out the disease; the success hitherto attained has, unfortunately, not been altogether as desired, and the ominous fact remains that in spite of the most rigorous inspection and other port arrangements, in spite of the recognition of early cases and their removal to hospital, and in spite of a crusade against rats, plague has attacked as many as 90 persons, has caused 23 deaths, and after three months' endeavour to stamp it out is still a source of anxiety.

So far as an opinion can be formed at this stage Sydney is not a town the conditions of which render it specially liable to be attacked with plague. Its situation, general construction, and its sanitary organisation are all in its favour. The danger lies in the disease becoming disseminated in parts of Australia less ready to defend themselves against its invasion and in those parts which have suffered from drought. We see that the different health authorities are appreciating the gravity of the fact and that the health officers have met in consultation. Special attention will no doubt be paid to rats and we trust that it will not be forgotten that other rodents are liable to the disease. The rabbits which infest Australia will, we hope, not be lost sight of as a possible source of danger.

The experience of Sydney is not calculated to inspire confidence as to the invulnerability to plague of European towns or the sufficiency of the methods now in vogue to meet an epidemic. Without being pessimistic it is well to recognise the true nature of the situation. A good deal has been learnt about plague since it started in China, thanks mainly to *savants* who do not bear English names and who have worked unceasingly at the problems presented, but much more apparently has still to be learnt before the protective measures now practised are wholly effective. While making use of what is known we should be glad if more attention were paid to that which is not known. It would, we feel sure, serve a most useful purpose. It seems as remarkable as it is unintelligible that the only English Scientific Committee to investigate plague was appointed at the commencement of the Bombay epidemic in 1896 and that its work was completed in six months. Since then there is ample evidence to prove that we are supremely ignorant of the means of the diffusion of plague, and yet all these years have been lost in treading the old paths without attempting to search for others that may be new. Even when the plague broke out in Oporto it was not thought to be serious enough to demand an investigation into its methods of spread. This state of lethargy which appears to be constitutional in England will, we fear, have a rude awakening. It will not be because of the absence of warnings. The insidious character of the plague, the pandemic powers which evidently belong to it, and its progressive extension have been persistently pointed out by Professor W. J. SIMPSON on many occasions. Last year we gave prominence to

his address before the Sanitary Institute on the recrudescence of plague in the East and its relation to Europe, and in THE LANCET of April 14th we published an important address by him on the subject to the South-West London Medical Society. In these and other papers he has always urged that side by side with the ordinary measures there is an absolute necessity for scientific research, declaring that it is only by continued investigation on systematic lines that we are likely to discover further means of securing protection. Plague is the same as it always has been, and the only safe course is not to shut our eyes to its power and to our proved inefficiency of defence but to prepare beforehand for eventualities by sparing no pains or expense in ascertaining the tactics of the enemy. This is necessary in the interests of England and her colonies, but there are special reasons that it should be done for the sake of South Africa. For should plague gain a foothold in any of its towns, as it has done in Sydney, the drought of the summer and autumn, the large armies in the field, the misery caused by the war and the pestilential condition of the battlefields are factors well known to influence the rapid spread of the disease.

THE Act making provision for next year's census in England and Wales and Scotland having received royal assent, it is now possible to discuss the points in which the Act differs from the Acts that provided for preceding censuses in England and Wales and Scotland. In the first place, however, it is necessary to notice, with serious regret, that the Act for the usual decennial census does not make provision for that simple intermediate census which year by year becomes increasingly necessary in order to assure approximate accuracy and trustworthiness to the periodical returns of vital statistics issued by the Registrars-General for England and Wales and Scotland and by medical officers of health for counties, county boroughs, and other Local Government areas. Notwithstanding the urgent appeal of the Royal Statistical Society, supported by collective representation from associations of medical officers of health, actuaries, and county councils, all interested in, and qualified to approach the Government on, this subject, the President of the Local Government Board, while expressing sympathy with the desire for a quinquennial census, introduced the Bill without any attempt to meet the general appeal for a simple enumeration of the population (with distinction of sex and age) in 1906, midway between the usual decennial census in 1901 and 1911. Sir FRANCIS POWELL gave notice of amendments to the Bill on the second reading in the Commons, with a view to provide for this intermediate census, but they were ruled out of order, and once more through the apathy of the Local Government Board, on a matter of real, though indirect, importance for the promotion of public health the realisation of a quinquennial census is relegated to the off chance of convincing the President of the Local Government Board in 1905 that the very moderate expenditure involved in a simple enumeration in 1906 would from a public health point of view, be distinctly remunerative by strengthening the efforts of local authorities in the acceleration of sanitary progress.

The Census (Great Britain) Act, 1900, apart from the fact that it provides for the census in England and Wales and Scotland, whereas in 1890 two separate Census Acts were passed, is identical in all essential provisions with previous Acts, although in drafting it has been considerably simplified with advantage. The new Census Act leaves the Registrars-General of England and Wales and Scotland with a freer discretion as to the method of dealing with the householders' schedules and the subsequent tabulation of the results. It will thus be possible to adopt the card system of tabulation in place of the previous system of making ticks on elaborate abstract sheets. Judging by the experience of foreign countries and of some of our colonies, the card system not only tends to expeditious, accurate, and economical tabulation, but it opens up possibilities of additional combinations of statistical facts which the older system does not afford. Among the minor improvements in the Act, compared with preceding Census Acts, may be noted the following, mainly due to the suggestions of the Royal Statistical Society. An attempt will for the first time be made to ascertain the nationality of persons born abroad. There is also an instruction to record, with reference to houses uninhabited on the census night, whether they are occupied or unoccupied, that is, whether they are or are not on the rate books. An additional clause in the Act under notice has especial interest for medical officers of health. This clause provides that the Registrar-General may, at the request and cost of the council of any county, borough, or urban district, cause special abstracts to be prepared, containing statistical information derivable from the census returns and not included in the published Census Report, which in the Registrar-General's opinion the council may reasonably require. The card method of tabulation would materially facilitate the preparation of these supplementary local returns which would in many cases be invaluable to medical officers of health in the prosecution of special investigations.

In response to an urgent appeal of the Registrar-General, supported by memorials from the Royal Statistical Society and other scientific associations interested in census matters, the Act just passed will allow of more time for preparatory measures than has on previous occasions been afforded, as the Census Acts have not usually received royal assent until the close of the session in the year preceding the census year. The four additional months available for preparation on the present occasion will afford invaluable opportunity for well-considered revision of the subdivision of the country into enumeration districts, with due regard to the boundaries of the various local areas, which [illegible] will [illegible] facilitate the final tabulation of the [illegible] of the census. It is therefore reasonable to [illegible] the [illegible] upon the census of 1901, dealing with [illegible] results may be available [illegible] earlier date [illegible] four [illegible] [illegible] we [illegible] that the [illegible] of a census [illegible] upon the [illegible] can be [illegible] as that [illegible] to [illegible]

THE re[illegible] of the [illegible] County Council for the [illegible] [illegible] [illegible] [illegible] [illegible]

in a Parliamentary session like the present one, in which so much time must necessarily be occupied by questions referring to the war, it would probably be impracticable for the Government to devise a scheme embodying everything recommended by Lord LLANDAFF'S Commission's Report and to bring in a Bill which would have any chance of passing. The Government cannot be advised at the present juncture to deal with the question of the formation of a new Water Board or the purchase of the metropolitan water companies' undertakings. To any such proposed legislation whenever brought forward a great many objections will be forthcoming from the authorities of the districts affected, whose interests are not only not identical but are often opposed to one another. We do not hesitate to say that a Bill intended to give effect to all the recommendations of Lord LLANDAFF'S Commission with regard to the formation and composition of a Water Board would meet with the strongest resistance, and whatever may be the justice of that resistance it is clear that at the present time the Government could not deal with it. There are, however, recommendations in Lord LLANDAFF'S Commission's Report which deserve, and would meet with, general approval on the part of all the water consumers of the metropolitan district. These recommendations refer to the question of "control"—that is, to the placing of the present metropolitan water companies under a more efficient and thorough condition of supervision by the Local Government Board. Whether the companies are allowed to continue to supply water in the future as they have in the past, or whether their businesses are bought up by a Water Board, the measures of control recommended by Lord LLANDAFF'S Commission's Report should, in the opinion of the Commission, be carried out. And to our mind there is no reason whatever why there should be any delay in passing an Act which will be of use in either case. Mr. CHAPLIN has recently pointed out that although Lord LLANDAFF'S Commission's Report has been issued the evidence has not been published. This should not be made a pretext for delay.

We may mention some of the directions in which control is urgently called for. The Act of 1871 which provided for the appointment of a Water Examiner to the Local Government Board made no provision that he should have the right of entry to the works of the companies. Any inspection, therefore, which he makes is done by the "courtesy" of the companies. The Water Examiner ought to be able to enter any works of the companies at any time as a matter not of courtesy but of right. He will then be able to ascertain the cause of any defect with regard to the filtration of the water. And he should have power to make regulations as to the construction of filter-beds and their effluents; for example, each filter-bed should have a separate filter-well so that a sample can be taken at will and the results of filtration in each bed determined, while the rate of filtration ought also to be automatically recorded. The examinations of the filtered water should be more frequently made, and the work should be done by men appointed by the Water Examiner. The companies which obtain their supplies from deep wells should be compelled to keep an accurate record of the height of the water in the wells and of the amount which is pumped daily. It is very important that this by no means new suggestion should be acted upon. As long ago as the year 1893 Lord BALFOUR'S Commission reported in favour of this measure of control and Lord LLANDAFF'S Commission concurs in the recommendation. There is no excuse for further delay in giving statutory power to carry it out. It may be worth while to quote the exact words given in Lord BALFOUR'S Commission's Report. "We think it of very great importance," says the Report, "that distinct obligations should be laid upon any company or local authority which is allowed to pump water from the chalk for purposes of public supply to keep accurate observations of the effect of their operations on the level of the water in the wells from which they pump and to return the results to the water examiner under such regulations as may be framed. The great difficulty which we have had to encounter has been in getting accurate and reliable information as to the actual effect of the operations now carried on. The importance of procuring this will increase each year as the limit of what can be taken from any district with safety is gradually being reached." Had this recommendation been carried out when it was made nearly seven years ago we should now be in possession of facts which would be of the greatest use in helping to estimate the quantity of water which the chalk formations near London are, and are likely to be, able to supply.

There is another point which deserves the early attention of the Government. Although this was not brought before Lord LLANDAFF'S Commission we think well to notice it in this place, especially in view of the increased duties which will be thrown on the Water Examiner when he is properly provided with facilities to do his work. Under the Act of 1871 provision for the payment of the salary of the Water Examiner was imposed on the metropolitan water companies. It is obviously unfair to the companies that they should have to pay, or even contribute towards the payment of, an officer who is specially appointed to keep them up to their duties. The sum contributed by each company is doubtless small, but that does not affect the principle of the question. Again, it is derogatory to the position of so important an official as the Water Examiner to the Local Government Board that his salary should be paid by a number of trading companies. At the present time the Water Examiner is obliged to rely for his statistics upon the figures supplied to him by the engineers and other officials of the metropolitan water companies. The reports of some of the experts which he publishes in his official record are made not by his own employés but by gentlemen chosen by, and paid by, the companies. The Water Examiner should have the power of obtaining directly all the information which he requires for his reports and the work should be done either by himself or by subordinates appointed by, and responsible to, him and these subordinates should be paid not by the metropolitan water companies but by the Local Government Board. There may be, and perhaps naturally, an objection on the part of the Treasury to increase expenses in this way, but in a matter of such very great importance parsimony is entirely misplaced.

The Act of 1871 brought into force another unsatisfactory arrangement which needs immediate amendment. Under

this Act an auditor was appointed by the Local Government Board to examine the accounts of the water companies. But under this Act it was provided that should one of the companies feel aggrieved by a decision of the Auditor the matter in dispute is to be referred to arbitration, when the Auditor himself out of his own pocket has to fee counsel and pay his own costs. This is really a monstrous iniquity. In the Report on this matter Lord LLANDAFF'S Commission says: "We think that provision should be made for paying the expenses of the Auditor out of public moneys, as he is a public officer; and that he should not be discouraged from asserting his views, in opposition to the companies, by the prospect of being out of pocket if he does so." The Auditor is paid from the same sources as is the Water Examiner—that is to say, his salary is obtained from the water companies, and although the money is paid to him through the Local Government Board the fact remains that he is actually paid by money derived from the profits of the water companies which are private business speculations. We are strongly of opinion that all the officials appointed to supervise the London water-supply should be paid entirely out of Government funds. It is a most undignified arrangement that persons holding positions of such power and responsibility should be paid in the way at present arranged.

We have no doubt that a Bill containing provisions necessary to increase the power of control of the Water Examiner to the Local Government Board in the respects which we have mentioned and at the same time to arrange for the payment of the officials from public funds would be supported from both sides of the House. The question of the London water-supply is one of really national importance and party politics cannot properly be intruded into a matter which is intrinsically above the considerations of class and of party interests. The attempts which have been made in the past to make party capital out of the London water question will be rendered entirely futile in the future if the President of the Local Government Board will consider the question on its merits and will introduce a Bill which is obviously for the public good.

Annotations.

"Ne quid nimis."

THE ROYAL ARMY MEDICAL CORPS SOUTH AFRICA FUND.

The third circular just issued in connexion with this fund contains some information which will be found both useful and interesting to those who are taking any part in promoting its excellent design and objects. In the two previous circulars an account of the formation and objects of the fund was given. The present circular is intended partly as a report from the Executive Committee to the subscribers, while at the same time advocating still further the claims of the non-commissioned officers and men of the Royal Army Medical Corps. The fund supplies comforts to those attending on the sick and wounded only and has obtained, we are glad to say, the most generous support from all classes, chiefly from the medical profession. The subscriptions received by the treasurer amount to £1735 [illegible], to say nothing of the consignments of clothing and gifts in kind from all quarters. The office in Victoria-street having proved inconvenient in many ways has been removed to 77, George-street, Portman square, W., where all communications are to be addressed in future. Gifts in kind and all inquiries are to be directed to the honorary secretary at this address. The first list of subscribers to the fund appeared in the *Times* of Feb. 27th and a second will be published shortly. The method of procedure in the distribution of the funds and gifts and the nature of the further requirements are clearly set forth in the circular together with a list of those articles mentioned in a despatch from Lord Roberts as being most needed for the approaching cold weather. Mrs. Skey Muir, the wife of the Deputy Director-General of the Army Medical Service, is kindly acting as honorary secretary. Cheques should be made payable to the Royal Army Medical Corps South Africa Fund and crossed Holt and Co. Subscriptions are to be sent to the honorary treasurer, Mrs. Charters Symonds, 58, Portland-place, W., or to Messrs. Holt and Co., 3, Whitehall place, S.W. It is needless to add that the object of the fund has our entire sympathy and support and that we wish its promoters every success in their excellent and humane undertaking.

HEMIPLEGIA IN SCARLET FEVER.

AT the meeting of the Société Médicale des Hôpitaux of Paris on March 16th M. Ferrier related two cases of scarlet fever complicated by hemiplegia. This complication is exceedingly rare. Dr. Foord Caiger does not mention it in his article in "Allbutt's System of Medicine" which contains an analysis of the complications met with in 4015 cases of scarlet fever in the South-Western Fever Hospital. In the first case a soldier had a very severe attack of scarlet fever which began on Dec. 15th, 1893. It was attended with great pyrexia, extreme rapidity of pulse, præcordial distress, and dyspnœa without pulmonary lesions. On the fifth day, however, he was better and the disease seemed to be running a normal course; but suddenly on the seventh day an apoplectic seizure took place. It was attended by unconsciousness and complete left hemiplegia with early and transient rigidity. The coma passed off on the third day, but the hemiplegia persisted. After a time the hemiplegic symptoms slightly improved and hemianæsthesia, which was at first complete, partly disappeared. In April, 1894, he was discharged from hospital convalescent. When seen again in August the left arm was contracted in [illegible], the forearm was flexed at right angles to the arm, and the fingers were bent on the palm. The patient could not perform any movement of the fingers, wrist, or elbow, and could only slightly raise the arm from the side. The lower limb was in the position of extension; movements of the toes and ankle were impossible; the knee could be slightly flexed and the thigh considerably. Walking was performed with difficulty. The left side of the face was a little smoother than the right and the asymmetry was exaggerated on laughing. The paralysed limbs were slightly atrophied, showed some cyanosis, and were of lower temperature than on the other side. The tendon reflexes were increased on the left side and the plantar reflex was "extensor" (Babinski's sign). Sensibility was present, but there was difficulty in localising sensations and in recognising the position of the limbs. In the second case a soldier had a sore throat on Dec. 21st, 1893, and entered hospital with scarlet fever on the following day. The disease ran an ordinary course until Dec. 27th, when an attack of apoplexy very similar to that in the first case occurred. There was complete left hemiplegia, but the coma was not as prolonged. After some weeks [illegible] and [illegible] appeared in the left leg and the patient could [illegible]

much difficulty. In August all movements of the arm could be executed but they were slower and less forcible than on the right side. The patient walked easily, but there were in the lower limb, as in the upper, some paresis and contracture. There was no facial deformity except on laughing when slight lowering of the left angle of the mouth were observed. The plantar reflex was "extensor." There was slight atrophy of the affected limbs. The hemiplegia in these two cases was manifestly organic. M. Ferrier thinks the most probable cause was softening of the cerebral cortex. The early rigidity is in favour of a cortical lesion. Moreover, the hemianæsthesia observed in the first case was not accompanied by other sensory symptoms, which often are found in hemianæsthesia of capsular origin. The absence of cardiac troubles is opposed to the hypothesis of embolism. Arteritis giving rise to thrombosis seems the most probable explanation. Moreover, in a recorded case of post-scarlatinal paralysis destruction of the lenticular nucleus and of the posterior part of the internal capsule from thrombosis of the middle cerebral artery was found at the necropsy. Finally, arteritis has been observed in many of the infectious diseases.

THE CARDIFF INFIRMARY.

THE Management Committee of the Cardiff Infirmary, comprising lay as well as medical members, is at last paying the penalty of its undue interference with the resident staff of the institution, for it has lately experienced considerable difficulty in filling the vacant post of senior resident medical officer. At the end of last month, in response to repeated advertisements, three gentlemen sent in their applications to the medical board and one of them, Mr. Geary Grant of Halifax, was selected for the position. The rules of the infirmary require the appointment to be actually made by the Management Committee, but for many years past the recommendation of the medical board has invariably been adopted under similar circumstances; so that when Mr. Grant inquired definitely whether he was elected the chairman of the Management Committee, Major-General Lee, to whom th[illegible] as referred, could hardly be blamed for replying [illegible] nativ[illegible] meeting of the committee h[illegible] It [illegible] tion of responsi[illegible] ler [illegible] o [illegible] verely critici[illegible] tened to resi[illegible] d his action [illegible]

IN [illegible] the I[illegible] occurr[illegible] circum[illegible] person [illegible] of Dr. [illegible] His rer[illegible] suggest[illegible] towards [illegible] in lead [illegible] appear [illegible] shop, [illegible] the H[illegible] ther [illegible]

this kind have been notified, but after laborious inquiry no ground could be discovered for assuming causation at the factory or workshop. He therefore states that in order to avoid unnecessary trouble on the part of all concerned the practice now adopted at the Home Office is to accept the certificate on the assumption (1) that the practitioner is in a position to say that the patient is employed in connexion with a given factory or workshop in which from the nature of the work carried on risk of lead poisoning may reasonably be anticipated, and (2) that no case will be notified in which this is not so. In reference to the notification of recurrences Dr. Whitelegge says that there can be no question that if the affected person continues to work in lead successive attacks, especially when distinct from the preceding, should each be notified. We commend a perusal of the memorandum to all those practitioners who are likely to meet with cases of plumbism arising in the manner named in the Act.

THE SCHOTT TREATMENT OF FATTY HEART

THE *New York Medical Record* of March 24th contains an article on this subject by Professor Theodor Schott, M.D., of Nauheim, in which he criticises various other modes of treating fatty degenerations of the heart and ends by defining the conditions under which the treatment associated with the names of himself and his brother may be expected to give the best results attainable. As is well known this system consists in the careful use of finely graduated exercises, of suitable diet, and of baths. Professor Schott is opposed to all systems of dealing rapidly and severely with accumulations of fat. The variations of obesity in the human body are remarkable. It is said of the late pretended Sir Roger Tichborne, whose immense shoulders will never be forgotten by those who saw them during his trial, that he varied within a comparatively short period between 11 st. and 25 st., the variation doubtless being mostly in fat. The dietary which Professor Schott thinks most conformable to the reliable investigations of Pettenkofer and Voit is that of Oertel. But unfortunately Oertel combined with their formulæ a severe reduction of liquids and the well-known climbing exercises—the effect of which was often the very opposite of that desired—viz., the production of an insufficiency of heart muscle. Experiment shows that the fat and muscles of the body may be much reduced without any appreciable diminution of the heart fat. The echanical part of the treatment requires as much dis-mination as the dietetic. Oertel's climbing treatment often been followed by injurious consequences and is largely abandoned. It may come in at the end of r mechanical measures, but never at the beginning. The anical treatment in Professor Schott's system consists ercises of resistance or self-resistance, and has been ously described by himself and his brother. Professor or Schott thinks it can be safely undertaken in all ifferent forms of fatty heart which are not too far ced. Similarly when the degenerative process is not dvanced the balneological and hydro-therapeutic f the Nauheim treatment comes into use. It consists ths of gradually increased concentrations of salt, as baths with increased quantities of carbonic acid gas, is especially in fatty heart cases that we can have ourse to the use of Sprudel- and Sprudelstrom-bäder scent running baths)," unless there are contra-indica-ereto, such as chlorosis, anæmia, rheumatic or complaints, or old age, all of which require a temperature; the baths are generally commenced perature of from 88° to 86° F., with a duration of es. It is claimed for this balneological-gymnastic combination with the dietetic treatment, that with weight a decrease of the panniculus adiposus and

of the abdominal masses of fat may be demonstrated and that the symptoms of fatty heart disappear.

THE DIAGNOSIS OF MEDIASTINAL GROWTHS.

WE published last week the account of two interesting cases of mediastinal growths which came under the care of Dr. H. J. Campbell and Dr. H. C. Major at the Bradford Royal Infirmary. The account of these cases is worth more than passing attention. The earliest symptoms noticed were due to the involvement of the spinal cord by the tumour. The diagnosis of a mediastinal growth is exceedingly difficult in the earlier stages, and it is usually not until pressure effects are produced, extensions occur, or secondary deposits are formed that the presence of a tumour in the mediastinum is suspected. The frequency of the occurrence of mediastinal growths varies greatly in different districts; in some parts they are decidedly rare, but in others they are common. Hesse, in the *Archiv der Heilkunde* for 1878,[1] states that in the mines of the Schneeberg 75 per cent. of all the miners die from "cancer of the lung" spreading from the root; the growths when examined proved to be lympho-sarcomata. Specimens from a case in many respects closely resembling the cases recorded by Dr. Campbell and Dr. Major were shown by Dr. T. S. Short at a meeting of the Midland Medical Society in 1894, and were recorded in the *British Medical Journal*.[2]

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[1] Quoted in Ziegler's Manual of Pathological Anatomy, Eng. trans.
[2] Brit. Med. Jour., Nov. 3rd, 1894.

much difficulty. In August all movements of the arm could be executed but they were slower and less forcible than on the right side. The patient walked easily, but there were in the lower limb, as in the upper, some paresis and contracture. There was no facial deformity except on laughing when slight lowering of the left angle of the mouth were observed. The plantar reflex was "extensor." There was slight atrophy of the affected limbs. The hemiplegia in these two cases was manifestly organic. M. Ferrier thinks the most probable cause was softening of the cerebral cortex. The early rigidity is in favour of a cortical lesion. Moreover, the hemianæsthesia observed in the first case was not accompanied by other sensory symptoms, which often are found in hemianæsthesia of capsular origin. The absence of cardiac troubles is opposed to the hypothesis of embolism. Arteritis giving rise to thrombosis seems the most probable explanation. Moreover, in a recorded case of post-scarlatinal paralysis destruction of the lenticular nucleus and of the posterior part of the internal capsule from thrombosis of the middle cerebral artery was found at the necropsy. Finally, arteritis has been observed in many of the infectious diseases.

THE CARDIFF INFIRMARY.

THE Management Committee of the Cardiff Infirmary, comprising lay as well as medical members, is at last paying the penalty of its undue interference with the resident staff of the institution, for it has lately experienced considerable difficulty in filling the vacant post of senior resident medical officer. At the end of last month, in response to repeated advertisements, three gentlemen sent in their applications to the medical board and one of them, Mr. Geary Grant of Halifax, was selected for the position. The rules of the infirmary require the appointment to be actually made by the Management Committee, but for many years past the recommendation of the medical board has invariably been adopted under similar circumstances; so that when Mr. Grant inquired definitely whether he was elected the chairman of the Management Committee, Major-General Lee, to whom the matter was referred, could hardly be blamed for replying in the affirmative. At the meeting of the committee held on April 11th this assertion of responsibility under very exceptional conditions was severely criticised, and it was only after General Lee had threatened to resign his position that better counsels prevailed and his action was endorsed.

INDUSTRIAL LEAD POISONING.

IN another column we publish in full a memorandum from the Home Office referring to cases of Lead Poisoning occurring in House Painters and Plumbers and also to the circumstances in which recurring attacks in the same person should be notified. The document bears the signature of Dr. Arthur Whitelegge, Chief Inspector of Factories. His remarks will meet with general approval, and if his suggestions are carefully followed much will be done towards averting the dangers connected with working in lead. The Act only applies to those cases which appear to have been contracted in a factory or workshop, and it is pointed out that beyond these limits the Home Office has no power to interfere, and plumbism otherwise acquired cannot be dealt with by the Factory Department. With regard to house painters there are some obvious difficulties. Although the workmen perform most of their duties away from the factory or workshop occupied by the employer, yet part of the time they may be occupied in grinding lead pigments or mixing lead paints within the premises. The question may then arise whether when such men become affected the cases become notifiable. Dr. Whitelegge states that several instances of this kind have been notified, but after laborious inquiry no ground could be discovered for assuming causation at the factory or workshop. He therefore states that in order to avoid unnecessary trouble on the part of all concerned the practice now adopted at the Home Office is to accept the certificate on the assumption (1) that the practitioner is in a position to say that the patient is employed in connexion with a given factory or workshop in which from the nature of the work carried on risk of lead poisoning may reasonably be anticipated, and (2) that no case will be notified in which this is not so. In reference to the notification of recurrences Dr. Whitelegge says that there can be no question that if the affected person continues to work in lead successive attacks, especially when distinct from the preceding, should each be notified. We commend a perusal of the memorandum to all those practitioners who are likely to meet with cases of plumbism arising in the manner named in the Act.

THE SCHOTT TREATMENT OF FATTY HEART

THE *New York Medical Record* of March 24th contains an article on this subject by Professor Theodor Schott, M.D., of Nauheim, in which he criticises various other modes of treating fatty degenerations of the heart and ends by defining the conditions under which the treatment associated with the names of himself and his brother may be expected to give the best results attainable. As is well known this system consists in the careful use of finely graduated exercises, of suitable diet, and of baths. Professor Schott is opposed to all systems of dealing rapidly and severely with accumulations of fat. The variations of obesity in the human body are remarkable. It is said of the late pretended Sir Roger Tichborne, whose immense shoulders will never be forgotten by those who saw them during his trial, that he varied within a comparatively short period between 11 st. and 25 st., the variation doubtless being mostly in fat. The dietary which Professor Schott thinks most conformable to the reliable investigations of Pettenkofer and Voit is that of Oertel. But unfortunately Oertel combined with their formulæ a severe reduction of liquids and the well-known climbing exercises—the effect of which was often the very opposite of that desired—viz., the production of an insufficiency of heart muscle. Experiment shows that the fat and muscles of the body may be much reduced without any appreciable diminution of the heart fat. The mechanical part of the treatment requires as much discrimination as the dietetic. Oertel's climbing treatment has often been followed by injurious consequences and is now largely abandoned. It may come in at the end of other mechanical measures, but never at the beginning. The mechanical treatment in Professor Schott's system consists in exercises of resistance or self-resistance, and has been previously described by himself and his brother. Professor Theodor Schott thinks it can be safely undertaken in all the different forms of fatty heart which are not too far advanced. Similarly when the degenerative process is not far advanced the balneological and hydro-therapeutic part of the Nauheim treatment comes into use. It consists of "baths of gradually increased concentrations of salt, as well as baths with increased quantities of carbonic acid gas, and it is especially in fatty heart cases that we can have early recourse to the use of Sprudel- and Sprudelstrom-bäder (effervescent running baths)," unless there are contra-indications thereto, such as chlorosis, anæmia, rheumatic or arthritic complaints, or old age, all of which require a warmer temperature; the baths are generally commenced at a temperature of from 88° to 86° F., with a duration of 10 minutes. It is claimed for this balneological-gymnastic system, in combination with the dietetic treatment, that with no loss of weight a decrease of the panniculus adiposus and

of the abdominal masses of fat may be demonstrated and that the symptoms of fatty heart disappear.

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the treatment of bleeding as the all-important part of first aid, but, as we have said, the resuscitation of the apparently drowned is equally of importance, and it is to be hoped that where such good work has been done in one department excellence in both will soon be shown. The report states that the Wolverhampton team, being the champion team of the year, will again represent the London and North-Western Railway Company in the St. John Ambulance Association Railway Competition, the "preliminary" for which will be held at King's Cross Station, London, on April 26th.

THE MEDICAL REGISTER FOR 1900.

THE Medical Register for 1900 has made its appearance. As on previous occasions we have been able to find upon the official roll of the profession the names of several dead men, although our inspection has been as yet of the hastiest description. Where the Register is incomplete or incorrect in the matter of addresses or qualifications of living members of the medical profession the fault is clearly in the first instance on the side of the practitioners who do not keep the Registrar adequately informed upon these points in spite of his entreaties and warnings. But when a man is dead he cannot write to say so himself, and there may be no onus upon anyone else to say it for him. It is time that the General Medical Council recognised this and devised some machinery whereby the official roll of the profession could be corrected from the obvious sources of information. We wonder when a reply was last received from Dr G. McF. Lawson, who, if we credit him with having taken the degree of M D. Edin. at the age of 21 years, must be 103 years of age. Surely it will soon be this gentleman's turn to be written to in the ordinary precautionary course, even if the date of his medical qualification does not suggest the advisability of exceptional treatment. Surely, again, the Registrar ought to have been aware of the death of the medical bishop of Bloemfontein, Dr. John Wale Hicks An obituary notice of this distinguished medical graduate, who died just before the commencement of the South African war, appeared in almost every newspaper in the kingdom.

THE RATIONALE OF THE TREATMENT OF ANÆMIA BY IRON AND ARSENIC.

DR. F. APERTI has published a valuable paper devoted to the above subject in the *Centralblatt für Innere Medicin* of Jan. 6th. From careful observations carried out for several years in the clinic of Professor Riva it had been found that the use of injections of iron and of arsenic had different results in the primary anæmias Thus it was found that while iron increased the amount of hæmoglobin in the red corpuscles arsenic increased only the number of the red corpuscles. The experimental work referred to in the paper was undertaken to determine the conditions of the blood (both as regards corpuscles and hæmoglobin) after a small amount of blood had been abstracted and also when iron was given with the food; and also to ascertain the influence of arsenic and iron upon the regeneration of the blood in animals from whom blood had been repeatedly withdrawn and whose food and medicament were free from iron. From these experiments it appeared that two things were necessary for a complete regeneration of the blood,—viz., a restitution of the hæmoglobin of the red corpuscles and a sufficiency of iron for the production of hæmoglobin. When no iron was given in the food the iron necessary for the formation of hæmoglobin had to be obtained from the liver and from other organs of the body where hæmoglobin and iron were deposited. If iron was withheld from the food the blood and finally the body tissues, lost their hæmoglobin and the animal died apparently from profound anæmia and exhaustion. Dr. Aperti found from careful chemical analysis that when the period of profound anæmia and of grave exhaustion had been reached the iron in the liver was greatly reduced, so that the amount in this organ fell as low as that contained in the spleen and muscles, while the amounts in all three organs were considerably below those in the organs of healthy animals. In animals rendered slightly anæmic by bleeding or by withdrawing all iron from the food the administration of arsenic caused a very considerable increase in the number of red corpuscles but none in the amount of hæmoglobin. Injections of iron now caused a very striking increase in the hæmoglobin, the amount almost doubling itself in seven days, rising in this time from 50 per cent. to 95 per cent. Repeated experiments gave the same results and confirmed the belief that the two substances act differently, and that while the arsenic increases the number of red corpuscles the iron increases the total quantity of hæmoglobin. A rational basis is thus afforded for the therapeutic use of these drugs

LONDON SMOKE AND LONDON FUMES.

THE first annual report of the Coal Smoke Abatement Society has recently been published and shows that very useful work has been done. Since receiving this report we have been able to chronicle three more cases where the society has been of great use to the community by promoting successful prosecution of the owners of the ill-behaving chimneys. And now we would suggest to its executive the possibility of making an attempt to protect the stateliest and one of the most ancient of London's historic buildings. A short time ago an announcement was made in the *Times* that a question would be asked in Parliament with regard to the condition of the stonework at the Chapter House of Westminster Abbey which it was stated had been injuriously affected by the fumes from the chimneys of some manufacturers. The fact that very many stone buildings of London have been injuriously affected by smoke and fumes has been a well-recognised fact for a very long time, but until recently nothing has been proposed by way of prevention or of remedy. Of late, however, experiments have been made with a view to protect the surface of the stone by a local application of some substance which it was hoped would modify or neutralise the action of the fumes. The matter is still being investigated, but it is to be feared that any local application to the surface of the stone which is likely to be beneficial for its preservation will at the same time destroy the beauty of its surface, in which case the strong remedy might be considered worse than the wasting disease. The chief hope for improvement in the future must be looked for in the abolition of the acid fumes, and if the Coal Smoke Abatement Society can help in this matter it will perform a great work. Would it be possible for the society to ascertain exactly what harm has been done and exactly who is responsible for the damage? The society, we learn from Sir William Richmond's report, needs more subscribers. It has at present only 400 members and the work which it wishes to undertake requires an income of not less than £1000 a year. A glance at the balance sheet of the society shows that the money at the disposal of the executive has been most judiciously spent. Unlike many other somewhat similar societies nothing has been wasted in the useless multiplication of tracts, advertisements, and essays. The money has been spent in actual useful work and the society certainly deserves the support of all those who are interested in the improvement of the atmosphere of London and the protection and cleanliness of its public buildings. It should have many more subscribers and we are a little surprised to find that among medical men it is practically unsupported. To ask the executive to undertake such a task as the

prosecution of all whose business works may have a hand in damaging Westminster Abbey and at the same time to point out the slenderness of the resources of the society is not as illogical as it seems. If the society were known to be intending to undertake a task of such national importance we believe its subscriptions would increase enormously.

THE FORMATION OF RENAL CALCULI.

DR. M. L. HARRIS in a contribution to the *Journal of the American Medical Association* of March 17th, points out that in the formation of renal calculi something more than the mere presence of uric acid is required. In the case of gall-stones recent investigation has shown that micro-organisms in the form of colonies may afford a nucleus for the deposition of the biliary calculus, and Dr. Harris believes that renal calculi may also be produced by similar agencies and that they may be thus of bacterial origin. Among the clinical signs which may be present are blood, pus corpuscles, epithelial cells, and bacteria in the urine, together with the usual local pains of renal colic. The presence of a slight amount of blood in the urine, especially after riding and driving or jolting of the body, would add weight to the diagnosis of renal calculus, and Dr. Harris points out that the collection of urine from the separate kidneys by catheterisation of the ureters would definitely settle any doubts as to the diagnosis. The employment of the x rays is also recommended as an aid to the detection of renal calculi. The medicinal treatment is entirely symptomatic, and the only radical cure for calculus is a surgical operation. In operating the kidney should be exposed by the lumbar incision and carefully palpated, and if any stone is felt it should be reached by incising along the convex border. After the removal of the stone the kidney should be flushed with warm salt solution and hæmorrhage should be controlled by the application of hot water and pressure. In those cases where a septic condition is found and where the kidney is infiltrated with pus it may be necessary to perform nephrectomy. The microscopical and bacteriological examination of the urine is of primary importance, and especially should this be done where catherisation of the ureters has been performed and the urines of the two kidneys have been separately obtained.

A TELEGRAM from the Governor of Mauritius, Sir Charles Bruce, has been received by the Colonial Office stating that for the week ending April 12th one fresh case of bubonic plague had occurred and no deaths.

THE Penal Cases Committee of the General Medical Council is expected to meet on April 26th in anticipation of the meeting of the General Medical Council on May 22nd.

THE Society for Visiting Hospitals in their report for the year 1899 state that their work has gone on steadily during the past year. 3003 patients have been visited in the hospitals and 622 in their own homes. The visitors to the hospitals and the assistants in their visits to the convalescents in their own homes have done good and efficient work. The convalescents who leave the comforts with which they are surrounded in hospital while they are still weak and suffering and often without the means of procuring the necessaries of life, are cheered and consoled by the visits of the assistants, who give them timely pecuniary aid and also help them by friendly counsel and advice to carry out the good resolutions they formed whilst on their beds of sickness. The lack of means to help cases of distress is, however, most keenly felt by the society, who appeal for increased subscriptions. During the year under notice there has unfortunately been a falling-off in funds.

Obituary.

SIR WILLIAM PRIESTLEY, M.D., LL.D., F.R.C.P. EDIN., F.R.C.P. LOND., M.P.

SIR WILLIAM OVEREND PRIESTLEY, whose death occurred upon Thursday, April 12th, after a long illness, was the son of the late Joseph Priestley, formerly of Morley Hall, Leeds, by Mary, daughter of Mr. James Overend of Morley. He was a member of a family for ever celebrated in the scientific world as having produced the discoverer of oxygen. He was born in 1829 at Churwell, near Leeds, and was educated at the University of Edinburgh and King's College, London. He also studied in Paris, as was in his day a very usual proceeding with successful students. And Priestley was a very successful student, winning prize after prize until in 1853 he took the degree of M.D. at the University of Edinburgh as Senate Gold Medallist of his year. He now became physician's assistant to Sir James Y. Simpson, and that eminent and influential man did much to forward the after career of a favourite pupil, and the debt of gratitude which Priestley felt that he owed was paid in a graceful manner by the editing of certain of his old master's works in connexion with Dr. Horatio Storer of Boston. In 1856 Priestley came to London and commenced to practise as a physician, being also appointed a lecturer at the Grosvenor-place School of Medicine and lecturer on Midwifery at the Middlesex Hospital. In the same year he married Eliza, daughter of Robert Chambers of Edinburgh, a member of the celebrated Scottish publishing firm. His wife, though but a girl, knew all Edinburgh intellectual society intimately at a time when Edinburgh was generally, and without much exaggeration, called the "Modern Athens," and as a consequence Priestley started his London career under highly favourable auspices, both professional and private.

In 1863 Priestley was elected Professor of Midwifery and Diseases of Women and Children in King's College, London, and physician-accoucheur to the hospital upon the resignation of Dr. Arthur Farre. His election was not without opposition, for there were men already connected with the hospital who resented the introduction of a man from without to be placed over their heads; but Priestley's real merits combined with Sir James Simpson's influence secured the post for him. It must be remembered that the editor of Simpson's memoirs necessarily occupied a place of some significance in the fields of gynæcology, for Simpson was a great discoverer in these fields, especially in such practical directions as the invention and perfecting of artificial aids to diagnosis. Priestley's connexion with King's College Hospital began inauspiciously, for in the same year that he was elected he contracted a very severe attack of diphtheria. It was some months before he was able to return to work and his duties as lecturer were undertaken by the late Dr. Charles West, who in return for his services was elected an Honorary Fellow of King's College. At the time of Priestley's election 10 beds were placed at his disposal in the hospital for the reception of poor married women during their confinement with a view to the special training of midwifery nurses, and for the first six years that he held office this arrangement remained in force. But upon his recommendation the ward was closed to midwifery cases on account of the very high mortality which prevailed among the patients admitted for delivery. In 1872 Dr. Priestley resigned his post at King's College when he was elected consulting physician to King's College Hospital, later being made an Honorary Fellow of the College; and although his active attention upon the sick and duties towards the students then ceased he for many years was one of the most energetic members of the council, when his voice was always raised on the side of right. He now had a very large obstetric practice, probably the most lucrative in London until the advent of Dr. Matthews Duncan, and if he never occupied in the scientific world quite the standing of the late Dr. Braxton Hicks or Dr. Robert Barnes he was considered by his colleagues a very sound practitioner. It must be remembered that when he entered the medical profession the modern means of exploring the pelvis were not known, the position of gynæcology was [illegible] more confined, so that the passage of a sound or the employment of an instrument might be the limits of procedure

where now much more rigorous and intelligent methods could be employed. This is not said with any idea of detracting from Priestley's recognised position as a leader in his speciality, and when the Queen selected him as accoucheur to two of the princesses the medical profession felt that the honour was such as he had deserved by his experience and practical wisdom. In 1893 he was knighted in recognition of his medical services.

In 1896 he was elected to the House of Commons without contest as Member for the Universities of Edinburgh and St. Andrews in succession to Sir Charles Pearson, who was elevated to the Scottish Bench. His election was warmly welcomed by the medical profession, for not only had it been felt that a University so distinguished upon medical grounds as Edinburgh should occasionally be represented in Imperial Parliament by a medical *alumnus*, but it was also believed that Sir William Priestley was particularly likely to turn out a successful and influential legislator whose voice would be raised with intelligence upon medical questions. His career in the House was too brief for us to gauge exactly how far this expectation was realised, but to some extent he exercised a real influence in relation to many legislative measures connected with the public health. He was marked out early by his Parliamentary colleagues and by the Government as a wise counsellor, and his personal bearing in the House, which was a happy blend of dignity and good natured courtesy, much increased the value of his advice. Two measures of great medical importance came before the House during his membership—viz., the Vaccination Act of 1898 and the Bill for the Registration of Midwives. His views with regard to the latter were never formulated, we believe, in so many words, but he is understood to have been opposed to the Bill unless he could be satisfied that its provisions were not virtually an infringement of the Medical Acts. Undoubtedly his absence from the debates upon the Bill was a great loss to the medical profession, for the matter was one that he would have been able to speak upon with the particular authority of his medical position, while the incorrect statements made in the House of Commons with regard to the attitude of the General Medical Council or the medical corporations towards the proposed legislation would have received contradiction. To the debate on the second reading of the Vaccination Bill—afterwards the Vaccination Act of 1898—Sir William Priestley made an important contribution. He pointed out in clear non-technical language that in his opinion the employment of glycerinated calf-lymph systematically should remove the most serious apprehensions of the conscientious objector, while he expressed approval of domiciliary vaccination and called pointed attention to the omission in the Bill of all mention of revaccination. Later, in Grand Committee, he carried an amendment against the Government with the assistance of Sir Charles Cameron, Sir Charles Dalrymple, and Mr. Monk, whereby a parent opposed to vaccination was given a second opportunity of considering the matter when the infant in question had reached five years of age. Sir William Priestley thought that when a child reached the age of five years the objection of the parents to vaccination might have ceased, especially as it might be thought that a five year old child would bear the operation more easily than an infant. He argued that during the first five years of life the danger from small-pox was incurred chiefly by the family of the infant, but afterwards, the school age having been reached, the unvaccinated child became a danger to the whole community. The working of Sir William Priestley's clause has still to be tested, but the spirit of the amendment is characteristic of its author's wisdom and moderation. These qualities, we may add, were precisely the ones that gave Sir William Priestley a position of some importance in the House of Commons in other matters less distinctly medical than questions of vaccination or the regulation of the practice of midwives. He was felt by his leaders to be a capable man of wide sympathies but also of prudent as well as great instincts, consequently he was often asked to give his opinion. With such a reputation, and supported by a successful past and the fact that he represented an important constituency, it is possible that Sir William Priestley would have gone far politically, although he did not enter upon politics until the beginning of the evening of his days and when he was slightly deaf.

In private life Sir William Priestley was a kindly man and a most excellent host, and the hospitality of his house in Hertford-street was proverbial. Pasteur and Oliver Wendell Holmes may be mentioned as two persons of world-wide celebrity who made this house their headquarters, while some of the most distinguished persons in our own country have at one time or another diverted themselves within its walls.

A charming characteristic of Sir William Priestley, and one that did much to enhance his social popularity, was his keen sense of humour and quick repartee. Two examples of the latter may be quoted, although many of our readers may have already heard them. On one occasion his wife was regretting the way in which he was overworked, adding that she was sure he would die in harness. "Well, if I do," he replied, "it will only be to put the *bit in your mouth*." On another occasion when crossing the ocean from America he was feeling very badly when his wife, who was a good sailor, remarked cheerfully that she never knew him get so little out of a *berth* (birth) before. "Ah, yes," he replied dismally, "it is a case of *mal de mère*."

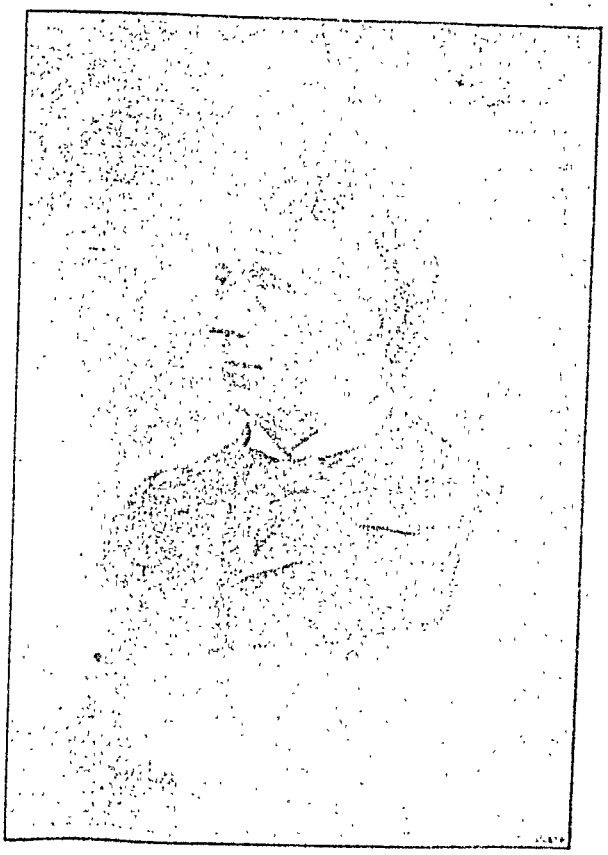
A friend of 35 years writes as follows, and in so doing sums up gracefully the general estimate of his character: "One of the kindest and most amiable members of the profession has gone to his rest. He leaves a happy memory behind him. He did his work well, always with thoroughness and a nice sense of honour. Sensitive by nature, he remained guileless, and even under provocation was gentle. He spoke ill of no man and always followed the things that made for peace. He was the best of friends and companions, sympathetic and true, a capital sportsman, and endowed with a saving grace of humour. How he enjoyed to hear and relate a good story! His influence was always for good, and he advocated, as he always took, the highest line of procedure in practice. We shall long miss our genial and wise friend. The blank his departure must make in his own and many other circles is too sad to contemplate. Let us be thankful we have had him. We can never forget him."

Sir William Priestley was apparently in his usual health till the middle of last December, when jaundice suddenly supervened. This was attributed to a severe chill experienced when out shooting and it was unaccompanied by any pain. The jaundice deepened and there was progressive wasting and loss of strength. He was moved from his country house in Sussex to London towards the end of January and he never went out again. The absence of obvious signs of gross organic disease inspired him with the hope that his ailment, though rebellious to treatment, was of a simple character. His medical attendants, however, from an early period had fears that it was significant of obstruction of a grave nature. He bore his increasing weakness and weariness with the grace and equanimity which always characterised him. The propriety of surgical interference was at one time carefully considered and the opinions of Mr. Godlee and of Mr. Mayo Robson was taken with respect to this. No operative measures were, however, deemed advisable. Latterly Sir William Priestley suffered from abdominal pain and his powers failed rather rapidly. He was attended throughout his illness by Sir Dyce Duckworth, Dr. Kingston Fowler, and Dr. Barlow, and was frequently visited by his attached friend Lord Lister. Dr. Robert Priestley, the elder son of Sir William Priestley, was also assiduously in attendance. A necropsy revealed the existence of a new growth in the pancreas. This was never detectable, though not unsuspected, during life.

The funeral took place on Saturday last, April 14th, and was numerously attended. The first part of the service was held at Christ Church (Down-street), Mayfair, and subsequently the interment took place at St. Margaret's, Warnham, Sussex. At the funeral Dr. Church represented the Royal College of Physicians of London, and Sir Dyce Duckworth the University of Edinburgh, while Dr. R. C. Priestley and Mr. J. C. Priestley, the sons, were also present. Lady Priestley received a kind message of sympathy from the Queen and a letter of condolence from the Princess Christian of Schleswig-Holstein.

JOSEPH CAVE SPICER JENNINGS, F.R.C.S.ENG., L.S.A.

MR. JENNINGS died at his residence, Abbey House, Malmesbury, Wiltshire, on April 8th, in his eighty-third year. He was the son of the Rev. W. Jennings, of Baydon, Wiltshire, and received his medical education at King's College and Middlesex Hospitals. He took the qualifications of L.S.A. in 1839 and M.R.C.S. Eng. in 1841, and in 1876 he was admitted F.R.C.S. Eng. In 1841 he commenced



SIR WILLIAM OVEREND PRIESTLEY, M.D. EDIN., F.R.C.P. LOND.,

MEMBER OF PARLIAMENT FOR THE UNIVERSITIES OF EDINBURGH AND ST. ANDREWS AND CONSULTING PHYSICIAN (LATE OBSTETRIC PHYSICIAN) TO KING'S COLLEGE HOSPITAL.

practice in Lacock, Wiltshire, where he remained for 10 years and then removed to Malmesbury. Mr. Jennings was the principal promoter of the Malmesbury Waterworks Company, and chairman of the directors. The springs and the well from which the water-supply comes were found on [illegible], a prominent member of the [illegible] he has many times entertained [illegible] visiting the town. It was a great pleasure to him to take a party over the Abbey, and also to show them the fine old Elizabethan building in which he had resided for a great many years. The poor of Malmesbury have lost in him a kind friend.

JOHN UNDERWOOD, M.D. EDIN., M.R.C.S. ENG., L.S.A.

A VERY familiar figure has been removed from medical circles in Hastings by the death of Dr. John Underwood, which occurred at his residence in Wellington-square on April 10th. Dr. Underwood, who was the oldest member of the profession in the district, had lived in retirement for several years and had been ailing since last September. He was born in November, 1816, at Pitsford, Northamptonshire, in which county his family had been long established, some of his ancestors having lent horses to the Royalist forces at the battle of Naseby. Dr. Underwood received his medical education at Edinburgh and graduated there as M.D. in 1841; he also took the diploma of L.S.A. in the same year and that of M.R.C.S. Eng. in 1842. He commenced practice at Battle in 1842 and removed in 1855 to Hastings, where he spent the remainder of his life, retiring from professional work about 1893. Dr. Underwood was quite one of the old school. He never took any part in public affairs nor did he ever court popularity in any shape or form. Devoted to the care of his patients, he was much esteemed and respected by them, and ever ready at the call of duty, he spared no pains in behalf of those who sought his advice. He was a great lover of nature and as long as his health and strength permitted he enjoyed angling and following the hounds. The funeral, which took place at the Borough Cemetery on April 14th, was attended by a large number of medical practitioners, a wreath being sent by the East Sussex Medico Chirurgical Society, of which deceased was the oldest member in the district. Dr. Underwood was a widower and has left two daughters.

WALTER CLEGG, M.R.C.S. ENG., L.S.A.

THE death is announced of Mr. Walter Clegg, which occurred on April 16th, in his eightieth year. Having studied at Guy's Hospital he obtained the qualification of M.R.C.S. in 1843 and that of L.S.A. in the following year. Journalism as well as medicine had some attractions for him, and almost immediately after becoming qualified he founded the *Boston Guardian*, the oldest penny paper in Lincolnshire. Subsequently he went as a surgeon to the Crimea, where he was attached to the 2nd Battalion Rifle Brigade. His journalistic experience enabled him to obtain while there the post of correspondent to the *Illustrated London News*. When he returned to England he took an active part in the municipal affairs of Boston, and was made a justice of the peace in 1867, afterwards occupying the mayoral chair for two successive years. Among the other offices which he held were those of medical officer of the borough, a post which he relinquished only three years ago, and of coroner for the Boston District of Lincolnshire; he discharged the duties attached to the latter appointment with zeal for some 40 years. His death will be felt by a wide circle of friends.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Friedrich Aub of Munich, President of the German Medical Association. For many years he was a member of the Bavarian Parliament and was a very effective speaker.—Dr. H. Sæterph, formerly Professor of Clinical Surgery in Copenhagen.—Dr. A. Murillo, Dean of the Medical Faculty of the University of Santiago, Chili.—Dr. John A. Murphy, formerly Professor of Medicine in the Miami Medical College, Cincinnati.—Dr. Johann Heitzmann, Extraordinary Professor of Surgery in the University of Vienna.

THE WAR IN SOUTH AFRICA.

WE have to add our hearty congratulations to those which have crowded in upon Sir George White, from Her Majesty downwards, on his safe arrival in this country. Sir George White has, as anybody knows, passed through a remarkably trying experience since he left these shores for South Africa of which he probably had not even the faintest idea when he started. We are rejoiced to learn that his health has been vastly improved by the voyage and promises to become thoroughly re-established. That the privations, responsibilities, and anxieties which he underwent during the long and trying siege will have left no mark behind them is scarcely to be expected, for these things are not easily effaced. The sponge of time cannot obliterate them from the mind although it may blot out all physical traces of them from the body. In a brief, soldier-like, and modest speech, thanking the authorities at Southampton for the reception which they had accorded him, the late defender of Ladysmith principally dwelt upon the spirit exhibited by the garrison which he had commanded. The occupation of Ladysmith at the beginning of the war was an unfortunate but unavoidable "entanglement" under the then existing circumstances, in that it frustrated for the time being the British plan of military operations against the Boers. Mr. Treves was a fellow passenger with Sir George White on board the *Dunvegan Castle* and also received a cordial welcome on the part of the bystanders, in which we heartily join.

The Boer plan at the present time is really a guerilla system of warfare with its rapid movements, ambushes, raids, and surprises—at all of which tactics they have shown themselves very skilful. We have already passed through many acts of the South African war drama and are now about to enter upon what may possibly be the final one. At the time we write orders have been issued by the military authorities temporarily prohibiting the transmission of any messages respecting the movements of the British. This is significant and has been hitherto indicative of the fact that such movements are not only impending but will shortly come off. There will probably be, in the first place, an attempt to intercept, surround, and capture the Boer force, which has pushed far to the south on the Basutoland border in order to besiege Wepener. The Boers have, however, shown themselves such adepts in getting out of "tight" places that it does not always do to calculate upon what, strategically speaking, seems pretty certain. The question as to the immediate advance of General Buller's column will probably depend upon whether the Boers in its front are relinquishing their hold of their position or not by retiring over the Biggarsberg. As to Mafeking all we really know is that it is very hard pressed by attacks from without and deficiency of food supplies within, but it seems highly probable, as the relief of Mafeking was stated some time ago by Lord Roberts to be engaging his serious attention, that a force may be secretly advancing to its succour. We have now in the aggregate an immense force in South Africa at the Commander-in-Chief's disposal. The troops are well supplied with everything necessary for an advance; they are, as a whole, in excellent health and spirits, and as their confidence in the success of what they are about to undertake seems unbounded we may safely be partakers in the feelings and belief which animate them. A multitude of brave soldiers have, unhappily, found their burial place in South African battlefields which have also proved the graveyard of some military reputations. Although it must be admitted that there have been some regrettable mistakes and blunders it may be safely said that there has never been a war in which our regimental officers and men have shown to greater advantage or displayed greater courage, chivalrous devotion to duty, and mutual trust and confidence in one another, whilst in no campaign has there been exhibited less vindictiveness or more consideration to their foes. The conduct and spirit of the British troops—colonial, regular, and volunteers—have been admirable and irreproachable. We have often said that, after all, we do not believe that the army of any other Power would have done better, if as well,

[illegible] hospital and difficult nature. The theatre of war covers an immense area. Bloemfontein is some 300 miles from Pretoria and 700 miles from Cape Town, and it is essential to the security of an advancing force that the lines of rail and communication should be safeguarded. This is now believed to have been done.

In any chronicle of the war the losses which we have sustained are well worthy of being recorded from time to time.

A revised official statement of casualties reported since the beginning of the war, up to, and including, April 7th, shows these results:—

Officers killed	211	
Officers died from wounds	48	
Officers died from disease	47	
Officers died from accidents	3	
Non-commissioned officers and men killed ...	1,960	
Non-commissioned officers and men died from wounds	465	
Non-commissioned officers and men died from disease...	1,485	
Non-commissioned officers and men died from accidents	34	
Total deaths		4,253
Officers wounded	627	
Non-commissioned officers and men wounded	9,883	
Total wounded		10,510
Officers missing and prisoners	168	
Non-commissioned officers and men missing and prisoners...	3,722	
		3,890
Grand total...		18,653

To these, however, must be added 29 officers and 1828 men who have been invalided home sick (as distinct from wounded). The proportion of deaths from disease again shows an increase. It amounted to a fraction over 36 per cent. last week, as against 33·8 the preceding week. The proportion of deaths from wounds has also gone up slightly, being now 5·1 per cent. of the total injured.

Since our last report H.M.S. *Powerful* has returned to Portsmouth from the seat of war. From this vessel there were employed in the defence of Ladysmith 292 officers and men and about 50 marines on the Modder river under Lord Methuen. Of the total force sent to Ladysmith 37 were either killed or have died, and of the 34 who were left behind at the Cape some have died since the *Powerful* left the station, so that 221 of the Ladysmith force came home in the ship.

We have no reliable lists of the casualties among the Boers, but the total number of these from all causes must be heavy. It is lamentable to reflect upon all the sacrifices and suffering which this war has entailed upon a brave but misguided people in furtherance of an unwise and ambitious policy on the part of their rulers.

The war is not over and there may yet be a good deal of severe fighting before it is finished. It is only necessary to glance at the official lists of the losses from enteric fever, dysentery, and other diseases incidental to field service to see, too, the price which we have already had to pay and to realise that Sir Alfred Milner struck the true note when he said recently to a deputation at Cape Town: "The longer the struggle lasts, the greater the sacrifices which it involves, and the stronger must be the determination of us all to achieve a settlement rendering a repetition of this terrible scourge impossible." To agree to any compromise that would have any ambiguity about the future rule of South Africa "would not be magnanimity, but ingratitude to the heroic dead and cruelty to unborn generations." Our readers will be glad as well as proud to have noticed the eulogistic terms in which the German medical attachés, Dr. Schmidt and Dr. Krummacher, on their return to Germany, spoke of the work done by the Royal Army Medical Corps and how they recognised the efficient organisation of the war hospitals and medical service generally, as well as the heroism, cheerfulness, and good humour of the British soldier in war.

The numerous societies in this country that have been organised for the support and aid of the wounded and sick soldiers and their wives and families and for affording assistance to the officers as well as the men taking part in this war are working with an enthusiasm which is quite remarkable and inspiriting.

The War Office has recently [illegible] a memorandum of the arrangements made for dealing with the sick and wounded arriving at home from South Africa. It states that on arrival at the port of disembarkation sick and wounded will be sent direct to one or other of the larger hospitals in accordance with instructions which will be supplied. The hospitals which are likely to be so utilised and which for the purpose will be [illegible] al hospitals are the Royal Victoria Hospit[illegible] rbert Hospital, Woolwich; the Cambridge [illegible] station hospital[illegible] The memorandum gives instru[illegible] with men transferred to station hospitals and convalescent homes, the method of sick transport, the treatment of sick and wounded officers, and the mo[illegible]

The war which M[illegible] ntry will, apart from its im[illegible] ng about some great changes [illegible] f the consolidation, organisation, and strengthening of our Imperial forces as a whole which will, we venture to think, be productive of a vast amount of good.

We may, in conclusion, here make a passing allusion to the series of letters which have been appearing in the *Times* from a special correspondent under the heading of "Our Wars and our Wounded." These communications deal *in extenso* wi[illegible] and arrangements of the army medical [illegible] and require to be more deliberately considered and dealt with than comes within the scope of an article like the present.

(NOTES FROM SIR WILLIAM MAC CORMAC.)

(*Continued from p. 961.*)

VISIT TO KIMBERLEY.

On Feb. 21st I arrived at Kimberley, having travelled from Modder river on one of the military railway trains which had only started running the day before. As we neared Kimberley our train was greeted by much cheering from the windows and gardens of the suburban houses, the inhabitants being still under the influence of the excitement following the relief of five days before. The railway station presented the appearance of a place which had been locked up for some time. Porters and ticket collectors were absent—probably still employed as soldiers in one of the various local corps. No supplies had yet arrived for the town except those from the Red Cross Society, which were pushed through at once upon the completion of the repairs of the railway.

We walked from the station to the Club House through several streets, and beyond the marked fewness of inhabitants walking about there was nothing particularly noticeable about the town which would lead one to suppose that the place had been [illegible] four months. Here and there a shell [illegible] in a garden wall, or a galvanised iron [illegible] shrapnel bullets met the eye, and many cottages were barricaded in front with sandbags as a protection against the shells, but the traces of damage done were not very apparent and were far between.

A few more weeks would undoubtedly have caused much suffering among the inhabitants from the scarcity of food, but the relief came before the food question had really become acute. It is true that horseflesh was freely used towards the end of the siege, but this was made into very good soup with vegetables. Soup was also supplied by the De Beers Company every day at a certain time (and on a large scale). The appearance of the people one met was not unhealthy or suggestive of suffering in any way, with the exception that on closer acquaintance it was seen that many people had become much shaken and nervous—anxiety as regards their families, shortness of money, and the uncertainty of the future having all aided to upset the nervous organisation in those having a neurotic tendency.

I was informed that only ten civilians were killed by shells during the siege and one of these, unfortunately, was the clever American employé of the De Beers Company, Mr. Labram, who had made that wonderful breech-loading gun, known as "Long Cecil," which threw 28 lb. shells with deadly accuracy amongst the besiegers. This gun was commenced and completed in the exceedingly short period of three weeks. It was a shapely weapon and its workmanship would have done credit to any Government workshop.

The number of wounded in Kimberley at the time of my visit was comparatively small. Most of the patients in the

[illegible] wounded the largest number had only been in hospital for a few days, their wounds having been incurred during the engagements at the time of the relief (Feb. 15th). General French came into the town in the evening quite unexpectedly, left his wounded behind, and was off at daybreak the next morning. The enemy had beaten a most precipitate retreat from Magersfontein and Spytfontein, but they managed to carry their guns with them. The medical arrangements in Kimberley on my arrival were as follows, and I investigated them carefully, being consulted on my several visits to the various hospitals concerning all the [illegible] he sole military [illegible] began, as there was only a small detachment of 500 regular troops there when the war broke out. The medical arrangements for so small a body of men consist [illegible] ut an improvised military hosp [illegible] h the kindness of the Roman [illegible] , who occupy a pleasantly sit[illegible] [illegible] building ("Nazareth House"), which was placed at the disposal of Lieutenant O'Gorman. It was soon equipped by the military authorities with everything requisite for a hospital; the beds, utensils, and, in fact, nearly all the articles required were bought locally, and the services of the Sisters themselves were gratefully accepted for the nursing duties. This house provided four excellent wards, beautifully clean and comfortable, and the patients appeared to have everything desirable for their welfare. The total number of beds was 45, nearly all occupied. Many of these patients, however, were convalescent and some of the other cases were not serious. I append a note of the only interesting case concerning which I was consulted in this hospital. On the stairway of this house stand the fragments of a burst shell which fell into the convent garden during the siege, the only present evidence of what this kind Sisterhood had passed through.

1. *Wound of the femoral artery.*—Private —— was wounded on Oct. 21th, 1899, by a Mauser bullet. The entrance wound was at the junction of the middle and lower thirds of the right thigh anteriorly, and that of exit was at the same level as the entrance wound. Entering from the postero internal aspect of the thigh the bullet traversed the thigh without injuring the femur, the artery being bruised on the antero-internal side in Hunter's canal; 13 days after the receipt of the injury the arterial wall gave way and the extravasation which ensued, the external wound having healed, produced a pulsating tumour. A fortnight later (four weeks from the date of the injury) the sac was cut down upon, laid open, and the artery ligatured above and below the seat of injury near the termination of Hunter's canal. The vein having been also found to have been injured was doubly ligatured as well. The collateral circulation has now (Feb. 21st) been fully established and the man is doing quite well.

Immediately opposite to Nazareth House stands the Kimberley High School. This has been converted into the second half of the military hospital and can accommodate 39 patients. The rooms are large and commodious, well ventilated, and clean. The nursing is provided for by the employment of local nurses. The total number of sick and wounded in the whole hospital on the day of my visit was 75, the total strength of beds being 84. The cooking for both houses is done by the Royal Army Medical Corps. The staff consists of Lieutenant O'Gorman, one sergeant, one corporal, and two men. Now that Kimberley is open a larger staff of officers and men will immediately be despatched thither and before I left arrangements were already in progress to forward field hospitals from Modder river in order to provide for the wounded who were expected to arrive from Lord Roberts's front at Paardeberg.

My visit to the hospital was on the afternoon of my arrival, and on satisfying myself with the military medical arrangements I proceeded to the large civil hospital which contains many wounded soldiers and has been intimately connected with the military element since the war began. This hospital is considered to be the Great Hospital of South Africa. It is built on modern lines and supplied with all modern hospital conveniences. Griffiths, a former and fast rising house surgeon of many recently dead here while being an resident medical officer, [illegible] the wounded in all [illegible] during the siege, [illegible] the Royal Field Artillery [illegible] [illegible] Lancers, the wounded of these corps have been brought as a natural consequence to their own hospital. I also found, in addition to these wounded, a few of our own cavalrymen who had been brought in from General French's column. The total number of beds in this hospital is 270, and about 100 of the cases were those of wounds. I was consulted concerning many of these cases by the civilian surgeons in charge and particularly visited all our wounded officers and men. I append a few of the more interesting cases found in this hospital; and also that of a child, wounded by a shell during the siege, under the able charge of Dr. A. H. Watkins who gave me the notes. Dr. Russell, the resident surgeon, proposes to furnish later full details of all the cases.

2. *Wound of the knee joint.*—The patient, Lieutenant ——, of the Scots Greys, was wounded on Feb. 15th at a range of 400 yards at Kimberley by a Mauser bullet. The entrance wound was found to be situated anteriorly on a level with the upper border of the left patella, in a line corresponding to its inner margin—i.e., about a quarter of an inch from the upper inner border of the bone. The wound of exit was in the median line at the inferior angle of the popliteal lozenge, thus traversing the joint from before backwards. The joint is moderately distended with fluid (Feb. 22nd). The anterior wound is closed. There is slight bloody discharge from the exit wound. The temperature is normal. The inner condyle of the femur must have been perforated, but there is no evidence of complete fracture of the femur. This officer is doing quite well and I assured him that he would, in my opinion, have a moveable joint and be able to ride.

3. *Wound of the neck.*—Lieutenant ——, of the Scot Greys, was wounded on Feb. 16th at Kimberley by a Mauser bullet. The entrance wound was at the anterior margin of the right sterno-mastoid muscle on a level with the upper border of the thyroid cartilage. The wound of exit was at the level and two inches to the right of the second dorsal spine through the trapezius muscle. Both wounds healed and the patient is convalescent and will out symptoms.

4. *Wound of the lung.*—The patient, Bombardier ——, of the Royal Horse Artillery, was wounded on Feb. 16th at Kimberley by a shrapnel bullet over the third rib on the left side one inch from the sternum. The bullet emerged at the tenth intercostal space on the left side, two inches from the spine. At the present time (Feb. 21st) there are no pleurisy, dyspnœa, and cough. The temperature is 103°F. Pneumothorax and pneumonia are present. It is wonderful how the bullet escaped the heart and great vessels. The condition of this patient is serious but lately he has improved.

5. *Wound of the leg.*—Gunner ——, of the Royal Horse Artillery, was wounded on Feb. 15th by a shrapnel bullet which entered over the sixth rib in the anterior axillary line on the right side and which was cut out on the next day from a point over the ninth costal cartilage, on the same side, an inch from the middle line of the body posteriorly. There are no symptoms. The wounds have healed and the patient is convalescent.

6. *Wound of the lung.*—The patient, Trooper ——, of the Kimberley Light Horse, was wounded by a Mauser bullet which entered at the sixth right intercostal space, in the posterior axillary line, and emerged through the lower costal cartilage in the left nipple line. Some effusion of blood in the left pleural cavity was present on his admission. Nearly 30 ounces of fluid blood were extracted by aspiration shortly after admission and some expectoration of the same quantity of bloody sputum was with [illegible]. The patient recovered from about six weeks in hospital during which time the temperature was never high, but there was a persistent cough [illegible] possibly due to a [illegible] which complicated the [illegible] history. The patient was subsequently invalided home and has rejoined his troop.

7. *Wound of the [illegible]*—Lieutenant —, of the Imperial Light Horse, was [illegible] Field Hospital, Kimberley, suffering from a wound which had been caused by a Martini Henry bullet. The bullet [illegible] the [illegible] and the lower costal [illegible] through which a finger could easily be passed from [illegible] The entrance wound [illegible] left [illegible] large [illegible] [illegible] were extensively [illegible] [illegible] of the [illegible] [illegible] appeared to be [illegible] [illegible] After [illegible] [illegible] and [illegible]

died on the fifth day. The post-mortem examination disclosed the fact that the peritoneum had not been contused by the bullet nor was the cavity opened by the injury, and the peritonitis was due to a perforation caused by a dysenteric ulcer in the descending colon; several partially healed ulcers were present in the vicinity. The patient had evidently been suffering from an untreated attack of dysentery when he was wounded.

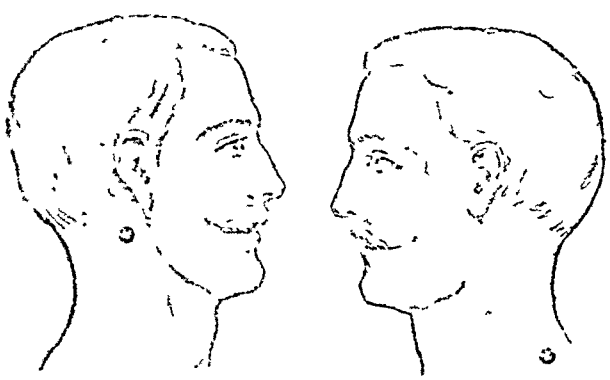
8. *Shell injury.*—I saw in one of the wards under Dr. A. H. Watkins's care a poor little child, four years of age, who had been wounded by a splinter of shell during the Kimberley siege. The right elbow joint had been completely shattered, the forearm being left attached by the soft parts to the arm upon the flexor aspect by only about one-third of its circumference. There were likewise a lacerated wound of the neck and two lacerated wounds of the abdominal wall, neither penetrating the abdominal cavity. There was also a ragged wound of the upper part of the right thigh, with a compound, comminuted fracture of the upper part of the femur. This wound was situated about an inch below Poupart's ligament and to the outer side, well outside the line of the femoral vessels. The wonder is that the child did not die from shock or from exhaustion. Subsequently Dr. Watkins operated in the following manner. The blood-supply in the forearm being but little impaired, about two inches of the lower end of the shattered humerus, together with the articular surfaces of the radius and ulna, were removed. The elbow was then treated as after a formal excision. This wound is now healed four and a half weeks after the receipt of the injury, and there is every prospect of the child having a useful moveable joint with considerable shortening of the upper limb. There is already control over the movements and no apparent risk of flail joint, which is satisfactory after such free removal of bone. The fractured thigh was treated upon a double inclined plane. Some suppuration took place, necessitating a counter opening at the posterior part of the thigh, when some bone fragments were removed, but no shortening has occurred.

9. *Shell injury.*—A brother of the child mentioned in the preceding case, who was some years older than the former patient, was also wounded by fragments of the same shell. The left arm was nearly torn off, necessitating amputation at the shoulder joint. There was also extensive injury to the head and face and the poor boy died on the same day.

10. *Shell injury.*—The mother of the two children whose cases have been given was struck by the same shell, her right fibula being fractured, accompanied by a very severe lacerated wound of the leg. The limb was amputated above the knee two days after the receipt of the injury. The woman is now convalescent.

11. *Wound of the neck.*—Major —— was wounded at Modder river on Nov. 28th, 1899, by a Mauser bullet which entered through the anterior margin of the right sterno-mastoid muscle behind the angle of the jaw and a little above the level of the hyoid bone. The bullet emerged

FIG. 1. FIG. 2.



Wound of entrance. Wound of exit.

posteriorly on the left side of the neck at the level of the sixth cervical spine and two inches distant from the middle line. This officer had returned to duty when I saw him at Jacobsdal, his only complaint being a certain amount of numbness in the palm of the left hand. All the important structures of the neck appear to have escaped serious damage in a marvellous manner.

On Feb. 22nd I accompanied Lord Methuen round the hospitals upon the occasion of his official inspection. He expressed himself as being particularly well pleased with all that he saw and the wounded men unanimously expressed their high appreciation of the care and comfort which were lavished on them. In addition to these ordinary hospitals the De Beers Company have a special Kaffir hospital of their own with which they provide for their small army of native employés when they fall ill. These are about 12,000 in number.

There does not appear to be any endemic disease peculiar to the Kimberley district and the siege has not exercised any deleterious effect upon the mortality except amongst the children.

There is a large establishment at Kimberley known as the "Sanatorium." It was built and is now kept up (at a loss) by the De Beers Company as a convalescent home, more especially for the treatment of cases of phthisis, and where invalids may take up their quarters on payment in most cheerful and pleasant surroundings. During the siege Mr. Cecil Rhodes made this building his headquarters and from its roof he spied out the positions of the enemy. The latter continually attempted to shell the building, but could never get the range and failed to do it any damage. Two or three wounded officers were living there as guests of Mr. Rhodes and I was consulted upon my arrival concerning an old-standing wound of one of them.

NOS. 1, 2, AND 3 GENERAL HOSPITALS.

We left Kimberley on Feb. 24th and after a long, tedious journey by train reached Cape Town on the 26th.

On Feb. 27th I visited Nos. 1 and 2 General Hospitals at Wynberg, this being my third visit to these places. I found everything working in a most satisfactory manner and I consider that the large number of sick and wounded who have passed through these hospitals during the last four months have been cared for in a very efficient and satisfactory way. I was unable to obtain the actual figures recording the number of wounded treated in No. 2. General Hospital in time for this letter, but the work in this hospital as well as in No. 3 General Hospital at Rondebosch has been pretty much upon the same lines as that conducted in No. 1 General Hospital, and the report I here append of the amount of work done in No. 1 General Hospital may be taken to apply to the work in No. 2 and No. 3.

No. 1 General Hospital.—Total admissions from Nov. 1st, 1899, to Feb. 27th, 1900, 2199. Officers: wounded, 110; sick, 128; number of deaths, 7. Men: wounded, 944; sick, 1017; number of deaths, 27. Deaths from wounds: officers, 4; men, 18. Deaths from disease: officers, 3; men, 9. The following cases at present under treatment in No. 1. General Hospital may be of interest:—

12. *Wound of the lungs.*—Lieutenant —— was wounded on Feb. 7th by a Mauser bullet at Koodoosberg Drift at a range of 500 yards. The bullet entered two inches beneath the inferior angle of the right scapula, passed across both lungs, and made its exit at the upper part of the anterior fold of the left axilla. There was hæmoptysis for a fortnight. There is also a hæmothorax on the left side, which is undergoing a process of steady absorption. The condition of the patient is satisfactory.

13. *Wound of the lungs.*—The patient, Lieutenant ——, was wounded at Paardeberg Drift on Feb. 18th by a Mauser bullet at a range of 500 yards. The wound of entrance was situated one and a quarter inches below and slightly internal to the right nipple. The bullet had first gone through a silver cigarette case. It found egress through the eighth rib on the left side in the mid-axillary line. There were mild dyspnœa and pain over the lower end of the sternum, with profound collapse for a few hours at first, from which the patient rallied under suitable treatment. This officer is perfectly fit and well at present.

14. *Wound of the lung.*—This patient, Lieutenant ——, was wounded at Paardeberg Drift on Feb. 18th at a range of 800 yards by a Mauser bullet which entered at a point an inch below the centre of the right clavicle and emerged through the right scapula near its inferior angle. There were some dyspnœa and slight hæmoptysis with a limited degree of hæmothorax. The patient is now perfectly convalescent.

After my visit to Wynberg we proceeded at once to Rondebosch, where I re-visited No. 3 General Hospital and the Portland Hospital, and I consider that the condition in which I found these two hospitals reflects the greatest credit

upon the medical officers in charge. Any further description of these hospitals would be superfluous, as they are in much the same condition as when I visited and described them in January last. I append notes of a few cases concerning which I was consulted during my visit.

15. *Wound of the thorax.*—The patient, Private ——, was wounded by a Mauser bullet at Hobkirk's Farm at a range of 150 yards. The entrance wound was in the third interspace two inches vertically above the left nipple, and the wound of exit was in the eighth interspace on the left side in the posterior axillary line. There was slight hæmoptysis for a few days but absolutely no other symptom, and the man is now convalescent. How did the heart and great vessels escape, I wonder?

16. *Wound traversing both thighs and the femur.*—Private ——, of the Victoria Infantry, was wounded on Feb. 12th at a range of 300 yards. The bullet entered at the level of the tip of the left great trochanter and an inch behind it and its point of departure was just below the tip of the right great trochanter; it caused a comminuted fracture of the right femur, high up. A large amount of swelling and extravasation in the perineum took place at first, but there was no evidence of any injury to the urethra or the rectum. The man is rapidly improving and the repair of the fracture is proceeding satisfactorily.

17. *Wound of the neck.*—Private ——, of the 1st Essex Regiment, was wounded on Feb 18th at Paardeberg Drift by a Mauser bullet which went through the right sterno-mastoid muscle two inches above the clavicle and came out just below the level of the greater cornu of the hyoid bone on the [illegible] median line. A certain [illegible] is now rapidly improving. [illegible] the man is well.

18. *Wound of the chest.*—The patient, Private ——, was wounded at Paardeberg by a Mauser bullet on Feb. 18th. The entrance wound was just below and slightly external to the left coracoid process, and the wound of exit was about half an inch to the right of the fourth dorsal spine. There were irregular paralysis and loss of sensation in the left arm. It is difficult to say what nerves are implicated. In other respects the man has quite recovered without symptoms.

19. *Wound of the lung.*—Private —— was wounded at Klipedrift by a Mauser bullet, the entrance wound from which was situated in the second intercostal space, three inches to the left of the sternum. The exit wound was in the fifth space, in the posterior axillary line on the left side. At present the symptoms are hæmothorax on the left side, with dyspnœa and hæmoptysis. The temperature is 101° F.; the wounds have healed. The condition of the patient is apparently free from all urgency.

20. *Wound of the pelvis.*—Private —— was wounded by a Mauser bullet at Ronsberg on Feb. 12th. The entrance wound was at the centre of the right buttock and the wound of exit was half an inch vertically above the right pubic spine. There is extreme hyperæsthesia of the right lower limb, but no motor paralysis, and there is no evidence of any visceral injury whatever. The man is quite convalescent.

21. *Wound of the lung.*—Private —— was wounded by a Mauser bullet at Slingersfontein on Feb. 12th at the close range of 100 yards. The entrance wound was behind, three-quarters of an inch below the left acromio-clavicular articulation, while the wound of exit was near the left costal margin three and a half inches vertically beneath the left nipple. Slight hæmoptysis and dyspnœa made their appearance at the time of the injury, and at present there is dulness of the thorax on the right side up to the level of the fourth rib. There are also 40 minor shell injuries on various parts of the body. The man is doing quite well.

VISIT TO LADYSMITH.

On March 3rd I and my secretary again set sail in the *s.s. Norman* for Natal with a view of visiting Ladysmith. As it is probable, however, that there will be no more fighting of any moment on the Natal side now that Ladysmith is relieved, the number of surgical cases requiring consultation or operation will of necessity be soon exhausted. The dearth of new cases also will undoubtedly relieve the great tension thrown upon the medical organization in Natal, and the rapidity with which the majority of the Mauser bullet wounds heal ought to enable the wounded in hospital in Natal to be greatly diminished by evacuation towards the base during the next few weeks. The uncertainty of the future military movements is obvious and the unexpected often happens; still, one may conjecture that no forward movement will be made towards Pretoria from Ladysmith, as the army would have to dispute the extremely strong positions in the vicinity of Laing's Nek and Majuba. It is proposed to form a large medical centre at Bloemfontein when this town is captured, and should the Natal army advance in the direction of Van Reenen's Pass (the only route, apparently, open to it) it is presumed that the wounded would be more likely to reach Bloemfontein than to be sent back across a trainless stretch of country to Natal.

On March 7th we arrived at Durban where I learnt that it would be possible for us to visit Ladysmith and return to Durban in sufficient time to catch the German mail-steamer leaving for Aden on the 10th. The distance from Durban to Ladysmith is 196 miles. We left in the evening at 5 40 o'clock and reached Colenso about 6 A.M. This village, which resisted our advance for so long a time, afforded many points of interest to those who, like myself, had worked within sight of it during the action of Dec. 15th, 1899. The houses have been destroyed in a wanton manner and show evidence of the unsavoury occupation of the Boers. There are many graves of dead horses and several of these mounds, collected together near the river, indicate the spot where we lost the guns under Colonel Long of the Royal Artillery on Dec 15th. This village on my visit, however, was merely used as a wayside station and beyond the regulation medical arrangements provided for the few troops quartered there presented no features of surgical interest.

The iron railway bridge which was blown up by the enemy is in rapid process of reconstruction, but as yet one can only cross the Tugela by a foot plank bridge. The rush of water is very strong and rapid in the river and it does not require any excessive exercise of imagination to convince one of the difficulties experienced by our men in crossing the stream under heavy musketry fire. Having passed the river we were taken aboard another train which conveyed us some 16 miles to Ladysmith. The country in the near neighbourhood of the river is of a very rugged and precipitous character. We passed many dead horses, and here and there a British grave and cross marked the last resting place of some of our men. In one grave we heard that 23 were buried, but we saw none of the evidences of dead Boers which have been reported to line the road to Ladysmith. The various points of interest which have been made historic by reason of the siege came into view one by one as we proceeded. Umbulwana Hill, which the big Boer gun had occupied for so long, was passed on our right, and Wagon Hill and Caesar's Camp on the left, where the furious fighting of Jan. 6th took place. The kopje where Sir Archibald Hunter in a brilliant night march destroyed one of the big Boer guns (Lombard Kop) was also pointed out, and the mighty mountain range of the Drakensberg loomed in the distance, and then we reached Intombi railway station. This is a recently erected little platform where the trains from Ladysmith deposited their sick and wounded for the hospital there, the ground in this vicinity having been declared neutral by arrangement between General Sir George White and General Joubert. This camp is situated about five miles from the town and consists of a hospital and tents erected as shelter for women and children. A large assemblage of tents of many patterns occupies one side of the railway—this is the hospital. On the other side of the line are situated the picturesque but rather uncomfortable tarpaulin shelters among which are intermingled a sprinkling of white tents; here the Indian dhooli-bearers, camp-followers, and women and children live.

The history of this large hospital is unique in the annals of war and no one can fail to be at once impressed with the difficulties and trials undergone by the patients and by the Royal Army Medical Corps since it was first decided to obtain protection in this way for the sick and wounded and for the helpless women and children from the shell fire in the town.

As I have already said, a convention was made between General Sir George White and General Joubert that the above-mentioned piece of ground, called "Intombi," which lay quite near Ladysmith, should be regarded as neutral, and orders were received by the principal medical officer of Ladysmith (Colonel Kilner, R.A.M.C.) on Nov. 4th, 1899, at 10 P.M., that the sick and wounded, women, children, and children of the town should be moved at once to the place selected, and 24 hours were allowed as the period in which the exodus must be accomplished. The first train started at 8 A.M. on Nov. 5th. An ox managed to get in the path of the engine and killed the

line to such an extent that a delay of three and a half hours was caused to the train, and only at 12 o'clock did this train reach its destination. The remainder of the people were got through within the stipulated time.

Intombi is a level plain of grassland, bounded by Intombi spruit and the Klip river on one side and on the other enclosed by a range of horseshoe hills from 500 to 1000 feet high, of which Umbulwana, 2000 yards away, was the nearest.

The following hospital equipment and *personnel* were at once established:—1. Tents for the accommodation of 300 beds, with the *personnel* of No. 12 Field Hospital under Major Love, R.A.M.C. 2. Half section of No. 26 British Indian Field Hospital, 50 beds under Major Kerin, R.A.M.C., assisted by one other officer, four assistant surgeons I.S.M.D., and 83 natives (including 56 coolies). 3. Headquarters No. 1 Stationary Field Hospital, Natal Field Force, 280 beds, under Major Bruce, R.A.M.C., assisted by two other officers of the Royal Army Medical Corps, six civilian surgeons, and 52 non commissioned officers and men. 4. Natal Volunteer Field Force Hospital, 70 beds, under Captain Currie, Natal Carabineers, assisted by three volunteer medical officers and 18 non-commissioned officers and men. In addition to the above there were brought on that occasion three days' supplies of food, in charge of a sergeant of the Indian Commissariat, six tanks of water, and one truck-load of firewood. Before unloading the train a parade of the dhoolie-bearers was held when it was found that in the accident to the train on the way out 34 of these men had been injured and rendered unfit for work. Four camps were immediately worked out and tents were erected so that by 6 P.M. when the first train-load of patients arrived 100 beds were ready to receive them and a plentiful supply of hot beef-tea was waiting to cheer them. It must be noted in connexion with this work of erecting this large camp that the working staff was very small indeed, and that they had to work for 24 hours without any proper sleep, rest, or food. The Indian section had only just arrived from Dundee with a party of wounded and had obtained no regular rest or food for three days previously; it became therefore almost impossible for a time to get any more work out of them. The last party of wounded from the town arrived at 10 P.M. and were comfortably arranged for in the train itself, which was left standing until sufficient tents could be erected on the next morning. In addition to the wounded, 1200 civilians—European and native—arrived under the command of the resident magistrate. These erected their own camp on the further side of the railway line. On the completion of the hospital camps the provision of a water-supply and questions of sanitation had at once to be considered.

Drinking-water.—At first the purity of the drinking-water was arranged for by precipitation with alum, followed by boiling and filtration. Later, when affairs became more organised, a more elaborate system of water-supply was provided, under the management of Sergeant-Major Bruce, R.A.M.C. Barrels were sunk in the shallow river-bed and a plentiful supply of clear water was pumped up from them by a fire-engine into nine cisterns on the bank, having a total capacity of 5000 gallons. Three-quarters of a gallon per head was drawn from this supply and passed through Pasteur-Chamberland filters for distribution for drinking, and one gallon per head was distributed direct from the tanks for cooking purposes.

Disposal of dry refuse.—As the locations of the various tents could not be changed to any great extent owing to their small number compared to the number of patients and the over-work of the staff, the disposal of the nightsoil of the large number of infectious cases was deemed to be of vital importance with regard to the purity of the atmosphere. Gangs of coolies were organised to go round the camp every two hours from 6 A.M. to 7 P.M. and to fill in the latrine trenches with lime and earth, and pits were dug so as to form a smaller surface for distribution and consequent diffusion of odours by wind.

On Nov. 11th, 1899, two cases of enteric fever were admitted to hospital from Ladysmith, and this was but the beginning of an epidemic which was the cause of 1000 cases of enteric fever out of a total garrison strength of 12,000. In addition to the enteric cases, 400 cases of dysentery and fever made their appearance. Then, upon the heels of the enteric, a very natural result came about—viz., that enteric broke out amongst the Royal Army Medical Corps staff, officers and men. This caused a great increase of duties among those of the corps remaining well. Something had of necessity to be devised in order to relieve the strain. The general officer commanding issued an order that civilians from the town must volunteer to act as nurses and workers in the hospital. These civilians would not come forward, although they duly drew their daily supply of rations. At last the order was issued: "No work, no rations." This had the effect of driving some of the loafers over to the Boer lines, but it had also the desired effect of supplying the necessary help for the hospital. This help was, however, of a very unsatisfactory nature. Petty thefts and attempts at shamming sick hampered the over-worked and half-starved officers and increased rather than diminished their troubles. On account of economising the time necessarily spent in nursing one helpless enteric case these were distributed equally over the hospital and in three weeks a hospital of 300 beds expanded to 1900. In connexion with the rapid increase of the hospital establishment I append a table indicating a comparison between the available medical staff at Intombi Hospital and the numbers laid down for the same number of beds by the regulations according to war scale.

Staff at Intombi for 1900 beds.		Regulation war scale for 1900 beds.
Officers of the Royal Army Medical Corps	11	
Civilian surgeons	9	
Volunteer surgeons	2—22	81
Non commissioned officers of the Royal Army Medical Corps	21	
Civilian assistants and non commissioned officers	17—38	112
Men of the Royal Army Medical Corps	69	
Volunteer Medical Staff	163	
Civilians (pressed)	120—350	503
Army nursing sisters	5	
Civilian nurses	27—32	36
Dhoolie-bearers	56	
Indian coolies	31—67	—
Ladysmith native labourers	379	—

At first there was no officer of the Army Service Corps or Ordnance Corps available for duty, so that the commissariat and ordnance responsibilities of the camp devolved upon the principal medical officer and his secretary. On Dec. 31st, 1899, depôts for the above corps were formed so that the officers of the Royal Army Medical Corps were relieved of those duties. Among the large number of patients in hospital only 350 were suffering from wounds. Of these, 200 cases were examined by the x-ray apparatus and very many interesting photographs have been preserved. Of course, the greater portion of the responsibility of this large establishment fell upon the shoulders of the Royal Army Medical Corps, the civilians being apportioned off to the various units under the command of the former. At one time out of a strength of 69 men of the Royal Army Medical Corps 17 were in hospital, and in one section where there were only 12 officers and men of that corps seven were laid up in hospital at one time, four of these with enteric fever and two with dysentery.

On Dec. 15th, 1899, after the battle of Colenso, the question of the food-supply began to give rise to serious anxiety, and when it became certain that General Buller had failed in his relief expedition arrangements had to be immediately made with reference to the holding out of the supplies until a second attempt might perhaps prove successful. On Dec. 19th a limit of two pints of milk per diem for each fever patient was fixed. On Jan. 28th—after the unsuccessful attempt of the relieving column at Spion Kop—the quantity for each fever patient was cut down to 12 ounces twice a day. On that date there were 900 cases of fever in hospital. In addition to the milk there was available for those patients for whom such diet was considered necessary the special hospital diet arranged for—viz., two ounces of stimulants, two ounces of cereals, half an ounce of bovril, one and a quarter pounds of beef (for beef tea in lieu of bovril), five ounces of sugar, and tea and bread if they could be taken. The ordinary patients were provided with one pound of beef.

would not hold out, a stock fluid was devised, nine gallons of which were made each morning and evening according to the following receipt:—

Oat, rice, or barley flour, three pounds; water, nine gallons; boil for an hour and strain. Baked flour, three pounds; water, half a gallon; boil for ten minutes. Add these two fluids together and mix with them three-quarters of an ounce of sugar for each person. 12 ounces of this mixture were doled out to each fever patient twice daily. The other patients were put upon short ordinary rations.

Nominal roll of officers (Intombi).—Lieutenant-Colonel R. W. Mapleton, R.A.M.C., principal medical officer; Major Westcott, R.A.M.C., secretary to the principal medical officer. In charge of x-ray work: Lieutenant Weld, R.A.M.C., from Oct. 12th to Nov. 20th, 1899; Major Westcott, R.A.M.C., from Nov. 21st to Feb. 23th, 1900 of Major Westcott, and Captain Currie,

On leaving Intombi we proceeded at once to Ladysmith town. The railway station was crowded upon our arrival with representative officers of all the corps in Ladysmith *à revoir* to General Sir George Pietermaritzburg. A glance at the crowd showed one at once what privations our people must have undergone during the last few weeks of the siege. Even the best of them were very thin, and when we had time to inquire into the history of those last few weeks as regards the food-supply and illness we were not surprised at what we had seen. General White, who looked ill, left very shortly after by the train in which I arrived.

I met General Sir Archibald Hunter (an old friend) at the station, who took me under his charge to the house which had been the headquarters of General Sir George White. I there met the principal medical officer, Colonel Esham, R.A.M.C., from whom I learned many interesting medical details of the siege. The most serious difficulties which had to be met connected with the safety shell-fire. In this respect r they might be, always seemed to be the very hottest corners. A very suitable and commodious hospital had been organised in the town-hall before Intombi Hospital was started. A visit at present, however, to this building speaks for itself as to why it was deserted by us. The tower of the building is ruined from the effects of shell-fire, and the room which had been fitted up with much trouble in this building as an operating room is now filled with a mass of débris and presents many marks of shell-fire. The ordinary field hospitals were of necessity kept in the town in touch with their brigades so that they might be ready for any march or sudden manœuvre of our army. These were quite separate from the Intombi Stationary Hospital. Only the serious cases of wounds and illness were transferred to Intombi by train, the ordinary slighter c provided for in the field hosp these hospitals showed much formed much labour in their safety for the sick under their care. At last they found a safe place in the shape of a deep ditch or nullah—the bed of a small stream—in the near vicinity of the headquarter house. By digging a series of gutters the Royal Army Medical Corps formed this location into a well-drained and comparatively healthy site. The heavy rains in the ordinary course of events had filled up this ditch whenever a storm arose, but the drainage which I have mentioned provided for this emergency. It was found, also, that the spot was perfectly safe from the shell-fire. On the relief of the town these hospitals were at once transferred to the galvanised iron hospital buildings about a mile outside the town to the north. These form very suitable hospital quarters, consisting of a series of buildings like barracks, but the many evidences of shell-fire in their vicinity and the very numerous perforations in the galvanised iron walls and roofs caused by shrapnel bullets afford sufficient explanation as to why these buildings could not be used as a hospital during the bombardment. These buildings were to fall use on the day of my visit and in huts close by lived the medical officers and the assistant surgeons of the Indian Medical Subordinate Service. The officers had arranged themselves by painting various names upon the doors of their dwellings, such as adorn suburban villas in England, but these were mostly of an amusing or national character, such as "Auld Reekie," "The Nursery," &c. They had occupied these buildings before the place had become so dangerous and many are the tales recorded of hairbreadth escapes from shells. A combined stable of their horses had been arranged in a small enclosure behind these huts in which all the horses were accommodated, but unfortunately a shell came one day and killed the whole lot. Many picturesque groups of Indian dhoolie-bearers with their dhoolies lay about between the hospital buildings, and Red Cross wagons were drawn up in rows at convenient sites. A dhoolie is a large stretcher covered with a canvas roof and curtains, carried upon the shoulders of the bearers by means of a long bamboo pole from which the stretcher is suspended.

Fortunately for the welfare of the hospitals not only had a large supply of surgical dressings and medicines been received at Ladysmith by the principal medical officer immediately before the siege began, but he assured himself also that the druggists' shops in the town were well supplied. In spite of this large supply, however, the drug supply became very short indeed before the end and the town had to be foraged for the purpose of finding drugs. These, many of them in a crude state, were made up into the usual compounds required for fevers and dysentery—notably Dover's powder and salicylate of soda.

22. *Pelvic wound.*—At the Intombi Hospital Major Westcott, R.A.M.C., told me of a remarkable case. Major ——, was wounded at Ladysmith by a bullet which entered the abdomen one inch above the pubes and slightly to the left of the middle line. Thence it passed downwards and backwards and through the left ischio-rectal space to emerge close to the left margin of the anus. There was no hæmaturia, no blood passed by the rectum; and there were no symptoms of any kind whatever. This officer in a very short time was enabled to return to duty.

23. *Wound of the spleen.*—In another case related to me by Major Westcott this issue was not so fortunate. The bullet entered below the margin of the seventh costal cartilage on the left side and emerged in the posterior axillary line through the ninth space on the same side. The man showed every symptom of severe internal hæmorrhage. An exploratory operation was performed to discover the source of the bleeding. It was then found that the abdomen was full of blood and that the spleen had been traversed by the bullet. The abdomen was cleared of blood and the wound in the spleen was plugged with gauze, but the man succumbed four hours later, chiefly from the previous loss of blood.

In addition to the troops in garrison the surrounding hills were, of course, constantly occupied by detachments of soldiers. These detachments relieved each other at intervals, but each position required the constant attention of an officer of the Royal Army Medical Corps who remained at the post. This arrangement, although absolutely necessary, very much weakened the strength of the available officers in the hospitals. In short, the whole medical staff was desperately undermanned and overworked, and this condition of affairs became yet more serious when the food supply ran short and the officers themselves became ill from short and unwholesome rations. Towards the end things came to such a pass that only a biscuit and a half a day were served out to each officer and man in addition to a small supply of horse and mule meat. An officer related to me an incident which will serve to illustrate the length to which things had gone as regards food. A shell fell into the mule lines one afternoon killing one mule. In spite of other shells following the first in rapid succession as to make occupation of the spot very dangerous, the men in their hurry made a rush at the mule like so many ravenous creatures, cutting the flesh off with like so many ravenous creatures, cutting the flesh off with their clasp-knives in great chunks. They then in rather quarters built fires, roasted the meat, and swallowed it at once. To make this more palatable they had found their biscuits in the nick-nacks provided for the occasion. The want of fatty foods and vegetables was greatly felt. In spite of all their hardships and only one instance of mutiny in the garrison and General Buller's relief column—in spite of the fact that they carry their riders six miles—in spite of the fatigue and the arduous work that only 12 hours before the whole campaign had to do it.

The whole of the Royal Army Medical Corps was in high fearfully pulled down and tired out at the end of the siege. But all will

get that change and rest which they so well deserve and so much need. The sick and wounded are being evacuated steadily and as rapidly as possible to a more healthy environment.

We left Ladysmith on the evening of March 9th, reaching Durban on the morning of the 10th in time to board the ship for the East African Coast and England.

WILLIAM MAC-CORMAC.

HOSPITAL ARRANGEMENTS IN THE SOUTH AFRICAN WAR.

BY S. OSBORN, F.R.C.S. ENG.,
CHIEF SURGEON, METROPOLITAN CORPS OF THE ST. JOHN AMBULANCE BRIGADE.

This war has upset many of our former ideas as to military surgery. Many seriously wounded men, suffering from injuries which would, ordinarily speaking, have demanded operative measures, recover without surgical interference, whilst others beyond such interference necessarily die. Whether the former result is due to the excellent antiseptic dressings adopted as first field dressing or to the nature of the projectile is doubtful, but I incline to the idea that it is due to the antiseptic precautions which have been resorted to. Compared with the Crimean struggle, which brought Miss Florence Nightingale to the front, the ambulance and nursing organisations of the present day sustain the same relationship as the delicate mechanism of a modern watch holds to the rude ploughshare, whilst it is infinitely in advance, in point of comprehensiveness and efficiency, of anything which has been seen before even in so recent a campaign as that in the Soudan. Neither in the Franco-German war, nor in the war between Russia and Turkey, not to speak of the late Turco Greek war, in which I was engaged, was the attempt to save the lives and limbs of the wounded made on anything like the scale which we see in South Africa to-day.

The care of the wounded falls naturally into two divisions—their rescue and their treatment, in which latter category I place that most essential of all kinds of treatment, their nursing.

As regards the rescue of the wounded, it is impossible to admire too much the devotion which has been shown by the ambulance section of the army or the completeness of the machinery by which the efforts of these men have been seconded. Every engagement has witnessed scenes of heroism in which the officers of the Royal Army Medical Corps and their civilian and medical bearer helpers have themselves suffered death or wounds in the discharge of their humane and noble duties. The wounded from the front suffered severely from their conveyance in buck wagons which, not being under the rules of the Geneva Convention, exposed their occupants to great risk, whereas if the bearer organisation which was in existence at the beginning of the campaign but which was broken up owing to the lack of transport animals had still existed the suffering and danger to which the wounded were exposed during the transit from the field would have been non-existent. The transport of the Royal Army Medical Corps should, as in the case of the Australians, belong solely to that corps, and be in this case also under their sole control.

The hospitals at Rondebosch and Wynberg and the Portland Hospital are models of all that hospitals should be in point of position, equipment, and the skill of their surgical and nursing staffs. The ambulance trains for conveying the wounded to the coast as soon as they are able to travel are beautifully arranged. No. 2 train, which I inspected, was perfect in every detail; it was only 10 days being fitted out. The Red Cross Society supply to every wounded man travelling in these trains a linen bag containing a suit of pyjamas, a pair of socks, a flannel shirt, a sponge, some soap, and a toothbrush. Nor is this all. The present war has brought into being that most useful adjunct of warfare, the hospital, or Red Cross, ship, the permanent commission of which I advocated some short time back in a letter to the *Times*. No one who has had the privilege of inspecting one of these ships can have failed to be struck with their beauty and spotless cleanliness and their wonderful equipment. In addition to these I visited the private yacht *Rhouma*, the property of Mr. Bullough, who has also fitted up a yacht as a convalescent hospital for patients from the Portland Hospital. Indeed, cases are on record in which visitors have been heard to express some envy of the poor fellows who have qualified by means of the bullet, the shell, or the sword for the temporary occupation of a bed on one of these beautiful floating convalescent homes.

The vast majority of the nurses who are employed in ambulance work are an honour to their profession and to womanhood. Amongst the trained nurses the work is everything it should be; but there are trained nurses and untrained nuisances, and how the latter have managed to squeeze themselves into the vocation is surprising considering the precaution adopted so wisely by the Central British Red Cross Committee in London of employing only those having three years' training. I must not omit to mention the excellent work done by the trained male orderlies who constitute the rank and file of the Royal Army Medical Corps and their co-helpers from the St. John Ambulance Association who act under the orders of the lady nurses. They possess not only the physical strength for the lifting and carrying inseparable from the nursing of wounded men, but their touch is all but as gentle as a woman's and they possess scarcely less tenderness of heart. It is also quite possible that the wounded soldier, were he given the choice, would as soon be tended by one of his trained comrades as by the lady nurse. I have now had the pleasure of visiting a large number of the military hospitals and of seeing the excellent arrangements made for the care of the sick and wounded of our soldiers in the present campaign and I am quite certain of this, that in no former campaign have the sick and wounded been better or so well looked after. The courtesy and kindness of the officers of the Royal Army Medical Corps to their civilian *confrères* has been one of the most pleasing features of the operations. The kindness which I personally received at the Cape from Surgeon-General Wilson, R.A.M.C., the principal medical officer, and his secretary, Major W. G. A. Bedford, R.A.M.C., I shall never forget, and here, again, in Kimberley I have experienced the same treatment from Colonel E. Townsend, R.A.M.C., and his secretary, Major C. H. Burtchaell, R.A.M.C. The latter officer has had a remarkable experience in having had the misfortune to be taken prisoner by the Boers, and his account of this event is of the most interesting character. I have been given some surgical work whilst waiting here to join Lord Roberts at the front and in that work I have had the able assistance of Mr. N. Mummery of University College Hospital, who is acting as my dresser.

The following shows the distribution of the 722 patients in the buildings which have been transformed into hospitals at Kimberley and are under military control. At the Masonic Hall, under Major R. G. Hanley, R.A.M.C., and Lieutenant G. M. Fell, R.A.M.C., there are 60 cases, all of enteric fever. At the Public Schools, under Captain Lawson, R.A.M.C., and Lieutenant Newman, of the Victorian Medical Staff, there are 68 cases, 13 of which are of enteric fever. At the Drill Hall, under Captain A. F. Heaton, R.A.M.C., and Civil Surgeon Thomas, there are 60 cases, all of enteric fever. At the Christian Brothers' School, under Lieutenant H. D. Packer, R.A.M.C., there are 39 cases, all of enteric fever. At the Nazareth House, under Lieutenant H. D. Packer, R.A.M.C., there are 42 cases, none of enteric fever. At St. Mary's Hall, under Major C. Raymond, R.A.M.C., there are eight cases, of which four are of enteric fever. At the Presbyterian School, under Civil Surgeon Roberts, there are 41 cases, all of enteric fever. At Main-street Hospital, under Civil Surgeon Roberts, there are 26 cases. At the Rink Hospital, under Civil Surgeon Suffield, there are 117 wounded Boers. At the 9th Brigade Field Hospital (in camp), under Major H. J. Peard, R.A.M.C., there are 225 cases, none of enteric fever. At the Divisional Troop Field Hospital (in camp), under Major G. Coates, R.A.M.C., there are 36 cases, all of which are of enteric fever. In addition there are at the Kimberley Civil Hospital, under Dr. Russell, 160 military patients, of whom 85 are suffering from enteric fever.

The extraordinary number of cases of enteric fever is one of the saddest features of this campaign. The results of immunity by inoculation are imperfect, and no statistics on the subject are to hand as yet. At Modder river six per 1000 of those who were inoculated and nine per 1000 of the uninoculated suffered from the disease. Several men were inoculated previously to coming or on the way out, and the effect was in some cases so severe that many refused to have it done. One soldier here on being given a hypodermic injection of morphia asked if it was that anti-typhoid stuff, because if so he "wasn't going to have it." Of surgical cases the following are those of most interest. In the Rink Hospital amongst the Boer prisoners are four or five interesting cases of gunshot wounds of the knee, all of which are progressing favourably without operation. With the patella fractured and the joint involved these cases are getting well

with movement in the joint. Another case of gunshot wound of the left femur splintering the great trochanter is going on well; pieces of splintered bone are coming away and there *is no trouble to the hip-joint. A serious case is one of compound* comminuted fracture of the right end of the frontal bone. Many splinters of bone have come away and there is much suppuration from the drainage-tubes placed in the wounds. There is, however, no paralysis, no loss of consciousness, and no elevation of temperature. At the Kimberley civil hospital are the following very interesting cases, for the details of which I am indebted to Dr. Russell who kindly conducted me through the wards. I should mention that Dr. Russell and several nurses working with him are the same persons as those who did such excellent work at Maidstone during the epidemic of typhoid fever in that town.

CASE 1.—A boy, aged 11 years, was out on the veldt when the relief column was approaching Kimberley. There was some sniping between the local forces and the Boers who were retreating from Alexandersfontein (six miles from Kimberley) and the lad was struck by a Mauser bullet which passed diagonally across the vertex of his skull for six inches from right to left. Meningeal symptoms supervened and then followed paralysis of the right arm and leg and partial paralysis of the left arm. The meningeal symptoms gradually abated, the paralysis of the left arm rapidly improved, and then gradually that of the right arm, and now only the right leg is affected.

CASE 2.—A Mauser bullet passed through the nape of the neck of a corporal, one and a half inches from the middle line on the right side. It cut through the soft palate and the right tonsil, grazing the superior maxillary, dislodging the first right molar tooth, and carrying away an artificial plate of upper teeth, and finally passed out at the mouth.

CASE 3.—A guardsman was sitting upright on horseback, riding away from the firing line, when he was struck by a Mauser bullet at about the level of the fifth cervical vertebra and one and three quarter inches to the left of the medial line. The bullet passed through the upper part of the left tonsil, then traversed under the surface, and emerged close to the tip of the tongue, dislodging two teeth—the left upper and the left lower incisors.

CASE 4.—An artilleryman was laying his gun when a shrapnel shell burst over his head and one of the bullets entered between the second and third rib one and a quarter inches from the sternal margin on the left side, forming an entrance wound of about the size of a threepenny piece. This healed well. The exit wound was between the seventh and eighth ribs behind, two inches from the spinal column, on the left side, forming a much larger everted wound. This has not healed owing to the damage to the ribs. On admission there was marked pericardial friction; hæmothorax and pleurisy developed, and there are now occasional syncopal attacks. Otherwise the patient seems to be progressing favourably.

Kimberley, South Africa, March 17th.

INAUGURATION OF THE PARIS UNIVERSAL EXHIBITION.

(FROM OUR SPECIAL CORRESPONDENT.)

THE greatest and the most magnificent Universal Exhibition ever held in Europe was solemnly inaugurated on April 14th. The two short but eloquent speeches delivered on that occasion very clearly emphasise the main characteristics of this gigantic enterprise. As personally responsible for the Exhibition it was M. MILLERAND, Minister of Commerce, who spoke first. He rendered homage to the general manager, M. Alfred Picard, to the engineers, architects, builders, and exhibitors who had helped, but he did not omit "the innumerable legion of anonymous workmen whose hands had raised these palaces." Though the speech was remarkably brief M. Millerand nevertheless found time for one passage that might almost be considered as especially addressed to the medical profession. Speaking of the triumph of man in controlling and utilising the forces of nature he said:—

"While the power of life infinitely increases in its intensity, death itself recoils before the victorious march of the human mind. The genius of that great benefactor of humanity, Pasteur, whose glory is not saddened by the slightest shadow, has increased a hundred-fold the possibilities of surgery and medicine. Disease, seized at its origin and *isolated, yields*; and now there appears on a near horizon the happy epoch when the epidemics which ravaged our cities and decimated the populations will be but terrible memories and legends of the past. Thus science multiplies with admirable prodigality the means placed at the disposal of man to control the exterior forces or to protect himself against their hostile effects. But it renders a still greater service by delivering up the secret of the material and moral greatness of society which is expressed in the one word, solidarity. We are the inheritors of the faults as of the merits of our fathers and we are already writing the history of our children. The solidarity which unites us to our ancestors also unites us to our contemporaries. It is not merely a question of physical contagion. The dwellings of the poor do not shelter only the pathogenic germs of disease but also uncultivated brains where superstition and hatred ferment and constitute perils which by an intelligent forethought we may conquer and dispel. To triumph over ignorance, to conquer misery, such is the highest and most pressing social duty."

M. LOUBET, President of the Republic, replied, approving these sentiments, and pointed out that by the Exhibition France strove to bring about concord between all peoples. "France is conscious of labouring for the welfare of the world, and if at the close of this noble century its victory over error and hatred is, alas, incomplete, it bequeaths to us an ever-living faith in progress. Thus, all institutions dealing with social economy here occupy a very large space. By making known the efforts of each individual State to *perfect the art of living in social concord there exhibits* give a special character to the present Exhibition, which will have an immense and illuminating effect and constitute a school of mutual enlightenment."

Higher far than material achievements that can be numbered and tabulated in a catalogue is the invisible moral effort by which so many intelligences are grouped together for the one purpose by a common "sentiment of solidarity." M. Loubet added: "I have the pleasure of proclaiming that all the Governments render homage to this superior law. It will not be the least of the results of this great concourse of willing helpers if, as is the case, we are able to state that in spite of the ardent industrial, commercial, and economical struggle fought out between the peoples of the world, they nevertheless place in the first rank the study of the means of relieving the sufferings of humanity, of assisting the poor, of spreading education, of moralising labour, and of providing resources for the aged."

Goodness and justice to be brought about by the spirit of solidarity was the moral which both speakers strove to attach to the Exhibition. And this moral, which applies to all human endeavour, which is thus so eloquently proclaimed at the opening of the greatest of European exhibitions, is precisely what is now moving the medical profession in most countries to come together as one body, so as to find, in the principle of solidarity, the solution of these problems, those grievances and abuses, that are tending to demoralise and degrade a noble calling. To the despondent, to those who believe that the formation of medical unions is not practical, that the profession is too much divided against itself, a visit to the Paris Exhibition would help to dispel such doubts. Whatever may be the divisions and rivalries among medical men they cannot compare with the wars and rumours of wars, the armaments, antagonism, rare prejudices, clashing commercial interests, and the many other causes that still divide and distract the nations of the world. Yet, in spite of all this, it is not now possible to doubt that the Exhibition will be a great moral and material success. It will soften asperities, unite interests, spread knowledge, engender mutual respect, and lead towards the realisation of those ideals to which the President of the Republic and the Minister of Commerce eloquently alluded.

But in speaking of the Exhibition, and in spite of the official inauguration, I am still compelled to speak in the future tense. There is no disguising the fact that the Exhibition is not ready. All the larger buildings, all that takes the most time and is most difficult to construct, is now quite terminated; but if the framework is there the details are still absent, or at best are only represented by [illegible] and cases. It may at once be said, and [illegible] [illegible] Parisians [illegible] the

son must postpone this visit for some weeks. For those who are on the spot or who are certain of being able to return later there is more than enough to see even in the present stage of unpreparedness. But this consists in the main of the outside view of the vast and varied architectural specimens and palaces. The exhibits within the pavilion of the city of Paris are, it is true, nearly all in their proper places and they are of great technical interest; but this is an almost solitary exception, at least so far as the great nations are concerned. Some of the smaller countries, on the other hand, are quite in advance. The exhibits from Bosnia and Herzegovina, which occupy a special building, are all in order, well displayed, and very beautiful. The immense Siberian building is nearly ready both inside and outside and is well worth seeing. Servia is also to the fore and the Transvaal exhibits are almost all in their proper place. The British section is altogether behindhand. This remark applies equally to the other Great Powers, and yet it would take some days to see and admire in detail merely the outside of the innumerable buildings and palaces that crowd on the vast plain of Mars, on the slopes of the Trocadéro, on both banks of the Seine, in the great square of the Invalides, and in the gardens of the Champs Elysées. Strange reproductions of the dwellings and decorations of far-off countries constitute object lessons in geography, and then what marvels of art greet the eye on all sides. Gothic arches, minarets of true oriental style, parapets and battlements, domes and towers, strange, fantastic wooden structures of Scandinavia, Indian mystic ornamentations and placid Buddhas, beautiful Corinthian and Greek pillars supporting vast palaces built with cream-white stone; such a confusion of colour here, whiteness there, and every freak and phantasy manifesting themselves to the bewildered gaze. The Exhibition is not ready—it is far from ready—and yet there is so much to be seen. The roads and paths are not even made, excepting a few of the main thoroughfares. It is impossible to walk about without stumbling over mounds of rubbish, striking against planks or empty cases, hurting the feet by treading on sharp stones or slipping into some puddle or mire, and yet all these risks and inconvenience are cheerfully endured just so as to be able to see how beautiful it all will be—by-and-by.

THE INTERNATIONAL CONGRESSES.

During the course of the exhibition there are to be, in all, 127 official international congresses and a considerable number of unofficial congresses. The latter are not patronised by the Government, but are organized by private initiative and at the cost of the promoters. The official congresses, on the contrary, receive some assistance from the Government. Some of the circulars are printed at the cost of the State and delivered gratuitously by the post. Also public buildings are available rent free for the holding of these official congresses, and the members will in many instances be invited to State receptions. Among these 127 international congresses a considerable number are of interest to the medical profession and to sanitary and social reformers; the following list is given in chronological order:—

The International Congress "de la Mutualité" comprises all benefit or provident societies, and the greater part of these friendly societies have a medical aid service for their members. This congress will be held from June 7th to 10th. M. Lourties, 12, rue Notre-Dame-des-Champs, is the president, and M. Arboux, 73, rue Bonaparte, the general secretary.

The Congress—it is not necessary to repeat that these are all international congresses—on the Patronage of Young Workers and Apprentices, a question involving serious social, economic, moral and health problems, especially in so far as the work of young girls is concerned, will be held from June 11th to 13th. M. Mézières, 57, Boulevard St. Michel, is the president; and M. Griffaton, 5, rue Cortambert, is the secretary.

The Congress on Agricultural Colonies or Stations. The practice of sending town-bred, poor, or abandoned children back to the land so that they may become agriculturists and colonists is a very important practical method of dealing with the poverty and ill-health prevailing in great centres. This congress will meet from June 18th to 20th. M. Casimir Perier, 23, rue Nitot, former President of the French Republic, will preside, and M. Grandeau, 5, Avenue de l'Opéra, is the secretary.

The Congress on Habitations à Bon Marché, practically on all the dwellings and the housing of the poor, will take place from June 18th to 21st. M. Jules Siegfried, formerly Cabinet Minister, residing at 226, Boulevard St. Germain, will preside and M. Challamel, 7, rue Rougemont-de-Lisle, is the secretary.

The Congress of Feminine Institutions and Organisations (*Œuvres et Institutions Féminines*) will doubtless deal with many social [illegible] and will meet from June 18th to [illegible] Mme. Monod, 95, rue de Reuilly, will preside and Madame Pégard, 24, rue Drouot, is the secretary.

The Congress on Accidents to Workers, involving the liability of employers, insurance against accidents, surgical aid, &c., is fixed for June 25th to 30th. The president is M. Linder, 38, rue du Luxembourg, and the secretary is M. Grüner, 20, rue Louis le Grand. Connected with the question of accidents there is a special Congress on the Surveillance of Machinery, especially steam-engines, which will take place from July 16th to 18th. M. Linder is also the president of this congress and M. Compère, 66, rue de Rome, is the secretary.

Then there is the Life Saving Congress (*Sauvetage*) from July 17th to 23rd, dealing not only with the question of life-boats, but with every other means of help in moments of danger. M. Boucher-Cadart, 19, rue de Presbourg, will preside and M. Cocheris, 13, rue de Savoie, is the secretary.

The Congress of Medical Ethics or Deontology has been described at great length in these columns. It will be the first international congress of the sort ever held and will deal exclusiv[illegible] and ethical questions affecting the [illegible] meet from July 23rd to 28th. Dr. [illegible] Lille, is the president and Dr. Jules Glover, 37, rue du Faubourg Poissonnière, is the secretary.

The Congress of Applied Chemistry will also meet from July 23rd to 28th, M. [illegible] lin, will preside and M. Dupont, 52, ru[illegible] secretary.

The Congress on [illegible] of Workers or Labour Legislation involves the Factory Acts, laws limiting the hours of labour, unwholesome or dangerous industries, &c., and is important from the sanitary and social reform point of view. It meets from July 25th to 29th. M. Canwès, 16, Avenue de Sceaux, Versailles, is president and M. Jay, 16, Rond-point de la Porte Maillot, Neuilly, is the secretary.

The Congress of the Medical Press will assemble from July 27th to 29th for the purpose of bringing together the proprietors, editors, and contributors of the medical journals of all countries so that they may become mutually acquainted with each other and concert as to the best means of defending their copyright interests and other practical questions. Dr. Cornil, 19, rue Saint-Guillaume, is the president and Dr. Blondel, 8, rue de Castellane, is the secretary.

The Congress of Medical Electrology and Radiology is convoked for July 27th to August 1st. Dr. Weiss, 20, Avenue Jules Janin, is the president and M. Doumer, 57, rue Nicolas-Leblanc, Lille, is the secretary.

The Congress "d'Assistance Publique et de Bienfaisance Privée" comprises all questions of poor relief whether by the State, by local authorities, or by private charity. It will hold its sittings from July 30th to August 5th. M. Casimir-Perier, 23, rue Nitot, will preside over this congress and Dr. Thulié, 168, rue de Grenelle, is the secretary.

The Pharmaceutical Congress will assemble from August 2nd to 8th. M. Planchon, 4, Avenue de l'Observatoire, is the president and M. Crinon, 45, rue de Turenne, is the secretary.

Then the great International Congress of Medicine, which is the most important of all the congresses so far as the profession is concerned, will be held from August 2nd to 9th. Many thousand members are expected to attend. Dr. Lannelongue, 3, rue François-1er, will preside and Dr. Chauffard, 21, rue de l'École de Médecine, is the secretary.

Simultaneously, but commencing one day sooner—namely, from August 1st to the 9th—the Congress of Dermatology and Syphilography will be held under the presidency of Dr. Besnier, 59, Boulevard Malesherbes, and Dr. Thibierge, 7, rue de Surène, is the secretary.

The Congress to Ameliorate the Condition of the Blind will meet on August 5th. M. Dussouchet, 12, rue de Tournon, will preside and M. de la Sizaranne, 31, Avenue de Breteuil, is the secretary.

The Deaf and Dumb Congress will be held from August 6th to 8th. Dr. Ladreit de la Charrière, 3, Quai Malaquais, presides and Dr. Martha, 3A, rue Fortuny, is the secretary.

[illegible] meet from August 6th to 11th. [illegible] is the president and M. Ber[illegible], is the secretary.

The Congress on Physical Sciences will also meet from August 6th to 11th. M. A. Cornu, 9, rue de Grenelle, is the president and M. Le Poincaré, 105 bis, Boulevard Haspall, is the secretary.

[illegible] held from August 8th to 14th, [illegible]ussmann, is the president and [illegible] Petersbourg, is the secretary.

[illegible] of all these congresses is un[illegible] Congress of Hygiene and more [illegible] general secretary, and this congress is convoked for August 10th to 17th.

The Congress on Hypnotism will meet from August 12th to 15th. Dr. J. Voisin, 23, rue Saint Lazare, will preside and Dr. Bérillon, 14, rue Taitbout, is the secretary.

The Congress "des Œuvres d'Assistance en Temps de Guerre" or the Red Cross Congress will be held from August 20th to 25th. M. A. Mézieres, 57, Boulevard Saint-Michel, is the president and M. de Gesselin, 120, Faubourg St. Honoré, is the secretary.

Some medical men may be interested in the Congress against the Abuse of Tobacco which will assemble from August 20th to 25th. M. Decroix, 52, rue Bonaparte, is the president and Dr. G. Petit, 51, rue du Rocher, is the secretary.

The Psychological Congress will meet from August 22nd to 25th. M. Ribot, 25, rue des Ecoles, is the president and Dr. Janet, 21, ru[illegible]

The Congress [illegible] August 30th to [illegible] Palatino, is the president and M. Demôny, 95, Avenue de Versailles, is the secretary.

Then there is to be a Congress on Pharmaceutical Specialities from Sept. 3rd to 4th. M. Victor Fumouze, 78, rue du Faubourg Saint-Denis, is the president and Dr. Leprince, 24, rue Singer, is the secretary.

Finally, there will be a Meteorological Congress from Sept. 10th to 16th. M. Mascart, 176, rue de l'Université, is the president and M. Angot, 12, Avenue de l'Alma, is the secretary.

This makes altogether 30 international congresses out of the 127 official congresses that may interest medical visitors. As the dates at which these congresses will take place and the names and addresses of the presidents and the general secretaries have now been given, it only remains for those who desire to become members of any particular congress or congresses to write to the secretaries and full details, [illegible] response to any such applica[illegible] will be greatly facilitated if [illegible] made as soon as possible. It is not fair to the secretaries to postpone such matters to the last moment, and those who are thus negligent cannot complain if they fail to obtain prompt replies. It is at once more courteous and more prudent to take time by the forelock and to make all necessary arrangements well in advance of the dates fixed for the congresses which the applicant desires to attend.

Paris, April 16th.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

ELECTION OF PRESIDENT.

AN extraordinary meeting of the Conclave was held on April 9th, Dr. W. S. CHURCH, President, being in the chair.

Dr. W. H. ALLCHIN acted as clerk for the Registrar (Dr. Liveing) who was unavoidably prevented from being present.

The PRESIDENT announced that at a recent meeting of the Queen's Board the following telegram was sent to H.R.H. the Prince of Wales: "The President on behalf of the Royal College of Physicians desires to convey to their Royal Highnesses the Prince and Princess of Wales the congratulations which the College heard of the birth of the Prince's little and the thankfulness of the College that no ill effects have followed."

A report was received from the Council on the following reference from the College of Jan. 25th:—

That it be referred to the Council to consider and report to the College in what way the two representatives of the College on the Council of the reconstituted University of London should be elected.

The SENIOR CENSOR (Dr. Pye-Smith) proposed, and the TREASURER (Sir Dyce Duckworth) seconded, that the report should be received and adopted.

Dr. SIMCOX expressed his approval of the report, which was adopted.

The ACTING REGISTRAR then proposed that the following by laws should be enacted for the first time and then submitted for the approval of the Council:—

BY-LAW LXV. B.

The two persons appointed by the Royal College of Physicians of London to be Members of the Senate of the University of London, pursuant to the statutes made by the Commissioners appointed under the University of London Act of 1898, shall always be Fellows of the College.

BY-LAW LXVI. B.

[illegible] of the University of London [illegible] elected at a general meeting of the College in [illegible] shall nominate a Fellow of the College [illegible] office, and the nomination shall appear on the summons to the College meeting at which the election is to take place.

At the time of the election the names of any other Fellows may be proposed by any present and if duly seconded these shall be added to the name or names recommended by the Council, and from this list to be formed each Fellow present when voting shall write on a slip of paper [illegible] Fellow for each vacancy to be [illegible] there are two vacancies he votes [illegible] Fellows who shall be four to a [illegible] voters shall be declared elected [illegible] according to votes the two who have received the next highest number of votes shall be declared fellows. In the case of an equality of votes among two or more Fellows a second ballot shall be taken to decide between them, and this shall be taken by the President shall have a casting vote.

A letter was received from the Home Office enclosing a letter from the President of a Congress on the Prevention of Tuberculosis to be held in Naples from April 25th to the 28th and inviting observations from the College.

The PRESIDENT said that he thought that England should be represented at the Congress and that if the Home Office should ask him to nominate a representative he asked the permission of the College to name Dr. T. R. Charles of Rome.

A resolution to the above effect was proposed by the SENIOR CENSOR, seconded by Sir WILLIAM BROADBENT, and carried.

The PRESIDENT then delivered his address. He referred to the distinctions which had been conferred on Fellows during the year and to the awards which had been given by the College to distinguished members of the profession. He also alluded to various gifts made to the College, namely £1000 by Dr. C. Theodore Williams, £1000 by the executors of the late Dr. C. J. Hare, and £100 by Dr. Frank. He also gave a summary of the business transacted by the College during the year, and the various appointments that had been made. He read obituary notices of 13 Fellows whose deaths had taken place during the past 12 months. The names of these were as follows: Dr. Heinrich Frit, Dr. William Squire, Sir William Roberts, Dr. Thomas [illegible], Sir Alexander Armstrong, Dr. W. B. C. Barwell, the Rev. Dr. John W. Hill, Dr. J. T. Arthur, Dr. Reginald Dyster, Dr. Edward [illegible], Dr. F. Clifford Taylor, Dr. Thomas [illegible], and Dr. William Marcet.

Dr. PAVY [illegible] a vote of thanks to the President for his address, [illegible] request that it should be printed. This was seconded and the PRESIDENT having [illegible] the chair. The ACTING REGISTRAR then read the list of candidates for the election of Fellows [illegible] the following result: [illegible] William Broadbent [illegible] votes; Dr. Pavy [illegible] Dr. W. H. [illegible] The charge was [illegible] Park Honour [illegible]

The President [illegible] closing [illegible] Hamilton [illegible] Dr. Norman Moore [illegible] report [illegible] in Public Health [illegible]

Cardiff, should be recognised as fulfilling the requirements of the regulations for Part I. of the examination for the Diploma in Public Health. Also, that the course of lectures in Pharmacology and Therapeutics at the University College of South Wales, Cardiff, should be recognised as fulfilling the requirements of Clause V., Paragraph II., Section I. of the regulations of the Examining Board in England.

A communication was received from the Metropolitan Asylums Board asking the guidance of the College in a question which has arisen with regard to certain cases of scarlet fever and diphtheria alleged to prove sources of infection on returning home. After a discussion in which the PRESIDENT, Sir DYCE DUCKWORTH, Dr. G. A. HERON, and Dr. W. J. R. SIMPSON took part, Dr. J. H. BRIDGES proposed and Dr. NORMAN MOORE seconded a motion to the effect that a committee should be appointed to inquire into the subject, with the power, if necessary, to cause clinical and laboratory work to be undertaken. This was carried. The PRESIDENT nominated the following gentlemen as members of the committee: Dr. Bridges, Dr. Simpson, Dr. Sidney Phillips, and the Senior Censor.

A communication was received from the President of the Thirteenth International Congress on Medicine, to be held in Paris from August 2nd to 9th, inviting the College to send a representative. Acting on a suggestion from the PRESIDENT, the SENIOR CENSOR proposed and Dr. FRANK seconded a motion that Dr. Pavy should be asked to represent the College. This was carried. After some other formal business the President dissolved the committee.

INDUSTRIAL LEAD POISONING: ACTION OF THE HOME OFFICE.

THE following Memorandum has been published above the signature of Dr. Arthur Whitelegge, the Chief Inspector of Factories, by the Factory Department of the Home Office, supplementing the memorandum of December, 1898, which dealt with the circumstances in which (1) cases of lead poisoning occurring in house painters and plumbers and (2) recurring attacks of lead poisoning in the same person should be notified:—

1. The object of the notification of lead poisoning is, of course, to obtain a clue to dangerous conditions over which the inspectors can exercise control, and hence the requirement under S. 29 1895, is limited to cases which appear to have been contracted in a factory or workshop. Beyond these limits the Home Office has no power to interfere, and plumbism otherwise acquired—e.g., from lead in drinking-water or even from industrial occupation outside the Factory Acts—could not be dealt with by the Factory Department. Moreover, any reports of the kind, being non-statutory, would be incomplete and could have but little statistical value.

The opinion to be notified is not merely that the patient is suffering from lead poisoning, nor even that he is suffering from industrial lead poisoning, but that he is the subject of lead poisoning which the practitioner believes to have been contracted in a factory or workshop.

There are, however, doubtful cases, and perhaps the most typical instance is that of house painters, who, as such, are altogether outside the province of the Factory Acts, so that no duty of notification arises and nothing can be done by the factory inspectors to amend the conditions which cause the risk of lead poisoning, and further, there is no power to pay a fee for a notification which is not in accordance with the terms of the section.

If, however, a house painter spends some portion of his time in a factory or workshop occupied by his employer, in processes such as grinding lead pigments or mixing lead paints, the question may legitimately arise whether his case does not become reportable, seeing that risk though in minor degree is incurred there as well as in his usual outdoor work. In several instances attacks of plumbism in painters or plumbers have been notified in which after investigation by the inspectors and sometimes by the certifying surgeons also, no ground could be discovered for attaching [illegible] at a factory or workshop and consequently no [illegible] action could be taken.

In order to avoid unnecessary trouble on the part of all concerned, the practice now adopted at the Home Office is to accept the certificate on the assumption (1) that the practitioner is in a position to say that the patient is employed in connexion with a given factory or workshop in which from the nature of the work carried on risk of lead poisoning may reasonably be anticipated; and (2) that no case will be notified in which this is not so. The particular workshop or factory should be stated in the notification certificate.

The reported cases of plumbism among plumbers and house painters are referred to the district inspector and by him to the certifying surgeon where necessary. These cases are classed apart from the rest in the published returns.

2. Doubt has been felt by some practitioners as to the circumstances in which recurring attacks of lead poisoning in the same person require re-notification. There can be no question that if the affected person continues to work in lead, successive attacks, especially when distinct from those preceding, should each be notified. Only in this way can knowledge of the progress of the case be gained, and in industries under special rules where a periodical examination of the persons employed is required repeated attacks in the same person may point to need for more stringent use of the power of suspension from work on the part of the certifying surgeon or appointed surgeon.

The case of persons affected with chronic lead poisoning who have ceased to work at any lead process stands on a somewhat different footing seeing that the later phases are not attributable to any new exposure to harmful factory or workshop conditions. Such cases have presumably been reported on previous occasions, and it is hardly necessary for a medical practitioner to re-notify the continuance or even recurrence of plumbism of long standing after employment in dangerous processes has come to an end.

THE ETHICS OF DIRECT REPRESENTATION.

UNDER the above heading Dr. Glover forwards to us the following correspondence with a request for publication.

The Infirmary, 232, High-street, Lewisham, S.E.,
April 9th, 1900.

DEAR DR. GLOVER,—I enclose a copy of notice and agenda for a meeting. In doing so I must mention that whilst your presence to support our efforts to avert the imminent repeal of the Medical Acts would afford us the greatest gratification this occasion is not one for discussing whether the registration of midwives is desirable but for organising resistance to it.

Whatever your personal views we claim that you know the mind of your constituency and occupy your seat on the G. M. C. for the purpose of representing not your own views but those of your constituents.

I am, dear Sir, yours faithfully,
F. S. TOOGOOD.

Dr. J. Grey Glover, Highbury-place, N.

25, Highbury-place, N., April 18th, 1900.

DEAR DR TOOGOOD,—I telegraphed, as you will know, to Mr. Brown that I could not attend the meeting summoned by the Emergency Committee at the Charing Cross Hotel.

Referring to your personal letter, accompanying the printed circular of the "Emergency Committee of Public Safety against Midwives Registration," let me say that I do not agree with you as to the "imminent repeal of the Medical Acts" being involved in the passing of the Midwives Bill. But I do not propose to argue this point here. You clearly intimate to me that my duty is not to argue but to obey. I may take another opportunity of arguing with more reasonable opponents. My immediate object in writing you is to enter an emphatic protest against the doctrine expressed in the closing paragraph of your letter to me which runs as follows:—

> Whatever your personal views we claim that you know the mind of your constituency and occupy your seat on the General Medical Council for the purpose of representing not your own views but those of your constituents.

I demur entirely to the truth of this paragraph either as regards the mind of my constituency or my duty. I was sent to the Council by those who well knew my views to vote not mechanically but after grave deliberation with 29 other gentlemen representing, though too indirectly, the profession and the medical authorities—as well as the State. I

maintain that no real and intelligent friend of Direct Representation inspired this paragraph of your letter. The doctrine involved in it would reduce Direct Representatives to mere voting machines, to receive the last mandate of any clique of the profession that thought itself a saviour of society and gave its orders to its slaves.

I have a higher conception of Direct Representation. I did not receive my office on such terms or by the help of the group of men—well known and defined—who are at your back with such degrading and disastrous views of the principle of Direct Representation which is struggling for extension, not to say for existence. On the contrary, I received it after the honest expression of my views as in the following extract from my address before the election of 1898:—

[illegible] scussion. All are [illegible] st from the coarse [illegible] While I feel this [illegible] f maintaining the [illegible] he three branches [illegible] t qualified in the [illegible] f the medical pro- [illegible] y legislation with [illegible] this principle.

Such are the principles which I have always held, which I held when asking the votes of the profession, on which I was elected, and which I have done my best to have asserted or involved in the Midwives Bill. I should despise myself if, to gain a little temporary praise, I accepted the dictation of gentlemen who, no doubt, honestly differ from me on the midwives question, but who entirely fail to understand the morality and the strength of Direct Representation. I resent such dictation, as a great man did in a larger electoral sphere. He said:—

[illegible] is bound [illegible] ugh con- [illegible] nce, these [illegible] hich arise [illegible] r of our [illegible]

I abstain here from all discussion of the merits of the Midwives Bill. But in the interest of Direct Representation more than in my own I am compelled, though very reluctantly, to write this letter.

Believe me, yours very truly,

Dr. F. S. Toogood, Lewisham. J. G. GLOVER

PS.—I am sending copies of this correspondence to THE LANCET and the *British Medical Journal*.

A JOINT COMMITTEE TO OPPOSE MIDWIVES' REGISTRATION.

THIS committee, which was constituted by resolution of the meeting to protest against the Midwives Bill held on April 4th at the Cannon-street Hotel, and reported in our issue of April 7th, held a meeting at the Charing-cross Hotel on April 12th, when Mr. GEORGE BROWN took the chair.

A "whip" was read, signed by certain Members of Parliament, to convene a conference at the House of Commons to receive a deputation of the Joint Committee; and a draft address was approved, subject to modification by the executive of the committee, for signature by constituents in boroughs or divisions. This address invited the personal opposition of Members of Parliament to the Midwives Bill, 1900, now before Parliament (1) by signing the "whip"; (2) by joining the committee, (3) by promoting deputations to lay before the Lord President of the Privy Council and the leader of the House of Commons; and (4) by opposing in Parliament the adoption of the report upon, and the third reading of, the Bill unless amended into the form of useful and proper provision for the training and registration of midwifery nurses not authorised to act in any case as practitioners of the art and science of midwifery without medical education and registration.

On the motion of Dr HUGH WOODS, seconded by Dr. LOUIMER HART, the following resolution was unanimously adopted:—

That the executive be [illegible] to take steps with a view to the [illegible] of a special general meeting of the British Medical Asso[illegible] [illegible] of [illegible] to [illegible] opposition to the [illegible] Bill.

The question of [illegible] was referred to the executive with instructions to invite THE LANCET and the *British Medical Journal* to open [illegible].

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6602 births and 5120 deaths were registered during the week ending April 7th. The annual rate of mortality in these towns, which had been 21·6 and 21·4 per 1000 in the two preceding weeks, further rose during the week to 23·0. In London the rate was 22·0 per 1000, while it averaged 23·7 in the 32 provincial towns. The lowest death-rates in these towns were 15·0 in Derby, 16·5 in Birkenhead, 17·2 in Gateshead, and 17·3 in Sunderland; the highest rates were 31·0 in Manchester, 31·6 in Liverpool, 32·9 in Preston, and 33·2 in Wolverhampton. The 5120 deaths in these towns included 500 which were referred to the principal zymotic diseases, against 422, 471, and 497 in the three preceding weeks; of these 177 resulted from measles, 146 from whooping-cough, 78 from diphtheria, 39 from "fever" (principally enteric), 30 from scarlet fever, 28 from diarrhœa, and two from small-pox. No fatal case of any of these diseases occurred in Gateshead; in the other towns they caused the lowest death rates in Croydon, Swansea, Derby, and Newcastle; and the highest rates in Cardiff, Wolverhampton, Salford, Blackburn, and Preston. The greatest mortality from measles occurred in Plymouth, Cardiff, Wolverhampton, Oldham, Huddersfield, and Halifax; from scarlet fever in Nottingham; and from whooping-cough in Wolverhampton, Norwich, Manchester, and Salford. The mortality from "fever" showed no marked excess in any of the 33 large towns. The 78 deaths from diphtheria included 32 in London, 13 in Sheffield, five in Portsmouth, five in Leeds, and four in Blackburn. Two fatal cases of small-pox were registered in Liverpool during the week under notice, but not one in any other of the 33 towns. There were two small-pox patients under treatment in the Metropolitan Asylums Hospitals on Saturday, April 7th, against numbers declining from 11 to three at the end of the six preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 1713, against numbers decreasing from 3578 to 1696 on the 20 preceding Saturdays; 185 new cases were admitted during the week, against 131, 170, and 172 in the three preceding weeks. Influenza was certified as the primary cause of 41 deaths in London. The deaths referred to diseases of the respiratory organs in London, which had increased from 378 to 463 in the four preceding weeks, further rose to 499, and were 111 above the corrected average. The causes of 75, or 1·5 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Cardiff, Bolton, Leeds, and in 10 other smaller towns; the largest proportions of uncertified deaths were registered in Portsmouth, Liverpool, Preston, Halifax, and Sheffield.

In 33 of the largest English towns 5338 births and 4993 deaths were registered during the week ending April 14th. The annual rate of mortality in these towns, which had been 21·4 and 23·0 per 1000 in the two preceding weeks, declined again last week to 22·4. In London the rate was 21·0 per 1000, while it averaged 23·4 in the 32 provincial towns. The lowest death-rates in these towns were 15·6 in Burnley, 15·8 in West Ham, 16·6 in Sunderland, and 18·2 in Portsmouth; the highest rates were 33·5 in Liverpool, 33·0 in Salford, 30·3 in Wolverhampton, and 30·5 in Manchester. The 4993 deaths in these towns included 477 which were referred to the principal zymotic diseases, against numbers increasing from 432 to 500 in the four preceding weeks, of the 477 resulted from measles, 144 from whooping-cough, 81 from diphtheria, 33 from "fever" (principally enteric), 31 from diarrhœa, 27 from scarlet fever, and two from small-pox. The lowest death-rates from these diseases occurred last week in Brighton, Birkenhead, Burnley, and Newcastle; and the highest rates in Cardiff, Wolverhampton, Preston, and Blackburn. The greatest mortality from measles occurred in Plymouth, Bristol, Cardiff, and [illegible] fever in Oldham; from whooping-cough in [illegible] Norwich, Leicester, and [illegible] "fever" in Wolverhampton, [illegible] 32·5 [illegible] 19·5 in London, [illegible] Birmingham. [illegible] per 1000 [illegible] the 33 [illegible]

three cases of small-pox under treatment in the Metropolitan Asylums Hospitals on Saturday last, April 14th, again numbers decreasing from 11 to two at the end of the seven preceding weeks; one new case was admitted during the week, against none in any of the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 1694, against 1693 and 1713 on the two preceding Saturdays; 189 new cases were admitted during the week, against 170, 172, and 185 in the three preceding weeks. Influenza was certified as the primary cause of 42 deaths in London. The deaths referred to diseases of the respiratory organs in London, which had increased from 378 to 499 in the five preceding weeks, further rose last week to 501, and were 125 above the corrected average. The causes of 64, or 1·3 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Cardiff, Nottingham, Oldham, Bolton, Hull, and seven other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Blackburn, Preston, Huddersfield, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns which had been 22 2 and 22 8 per 1000 in the two preceding weeks, declined again to 21 7 during the week ending April 7th, and was 1·3 per 1000 less than the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 16 4 in Dundee and 16 6 in Leith to 24 3 in Glasgow and 25 8 in Greenock. The 672 deaths in these towns included 19 which were referred to diarrhœa, 15 to whooping-cough, 14 to measles, six to diphtheria, five to "fever," and four to scarlet fever. In all 63 deaths resulted from these principal zymotic diseases, against 63, 68, and 75 in the three preceding weeks. These 63 deaths were equal to an annual rate of 2·0 per 1000, which was 0·2 per 1000 below the mean rate of the week from the same diseases in the 33 large English towns. The deaths from diarrhœa, which had declined from 25 to 14 in the four preceding weeks, rose again to 19, of which eight occurred in Glasgow, three in Edinburgh, three in Leith, and two in Aberdeen. The fatal cases of whooping-cough, which had increased from 15 to 24, in the three preceding weeks, declined again to 15, and included 10 in Glasgow and three in Aberdeen. The deaths from measles, which had been 19 and 14 in the two preceding weeks, were again 14 in the week under notice, nine being registered in Glasgow and three in Dundee. The fatal cases of diphtheria, which had been six and 14 in the two preceding weeks, declined again to six, of which three occurred in Glasgow. The deaths referred to different forms of "fever," which had been four and five in the two preceding weeks, were again five, and included three in Glasgow. The four fatal cases of scarlet fever corresponded with the number in each of the two preceding weeks, and were all registered in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 170 and 172 in the two preceding weeks, declined again to 156, but were slightly above the number in the corresponding period of last year. The causes of 30, or more than 4 per cent., of the deaths in these eight towns during the week were not certified.

The annual rate of mortality in the eight Scotch towns, which had been 22 3 and 21 7 per 1000 in the two preceding weeks, declined again to 21 3 during the week ending April 14th, and was 1 1 per 1000 less than the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 16 6 in Leith and 19 3 in Aberdeen to 23 3 in Paisley and 40 5 in Perth. The deaths in these towns included 19 which were referred to zymotic diseases, 19 to diarrhœa, 17 to whooping-cough, [illegible] to "fever," and three to diphtheria. In all 63 deaths resulted from these principal zymotic diseases, against 75 and 63 in the two preceding weeks. These 63 deaths were equal to an annual rate of 1·9 per 1000, which corresponded with the mean rate from the same diseases in the 33 large [illegible]. The deaths from whooping-cough, which had been 11 and [illegible] in the two preceding weeks, increased to 12, [illegible] in Glasgow and two in Dundee. The fatal cases of diarrhœa, which had been 14 and 19 in the two preceding weeks, were again 19 last week, and included six in Glasgow, six in Dundee, five in Aberdeen, and two in Edinburgh. The deaths from whooping-cough, which had been 24 and 15 in the two preceding weeks, rose again last week to 17, of which eight were registered in Glasgow, three in Aberdeen, two in Edinburgh, and two in Leith. The four fatal cases of scarlet fever corresponded with the number in each of the three preceding weeks, and included three in Glasgow. The deaths referred to different forms of "fever," which had been five in each of the two preceding weeks, declined last week to four, of which three were [illegible]. The deaths referred to diseases of the [illegible] in these towns, which had been 172 and 156 in the two preceding weeks, further declined to 134 last week, and were slightly below the number in the corresponding period of last year. The causes of 23, or more than 3 per cent., of deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 31·2, 35·2, and 36 4 per 1000 in the three preceding weeks, declined again to 28·9 during the week ending April 7th. During the past four weeks the death-rate in the city has averaged 32 9 per 1000, the rate during the same period being 20 4 in London and 22·6 in Edinburgh. The 194 deaths registered in the city during the week under notice were 50 less than the number in the preceding week, and included nine which were referred to the principal zymotic diseases, against numbers declining from 12 to two in the five preceding weeks; of these three resulted from measles, three from whooping-cough, three from "fever," and not one either from small-pox, scarlet fever, diphtheria, or diarrhœa. These nine deaths were equal to an annual rate of 1·3 per 1000, the zymotic [illegible], the same period being 2 0 in London and [illegible]. The fatal cases of measles rose during the week to three, none having been registered in either of the two preceding weeks. The deaths referred to whooping-cough increased [illegible] one death from this disease in the six [illegible] three fatal cases of "fever" showed an excess of two over the number in the preceding week. The 194 deaths in Dublin included 23 of infants under one year of age and 64 of persons aged 60 years and upwards; the deaths of infants and of elderly persons showed a decline from the numbers recorded in the preceding week. Four inquest cases and two deaths from violence were registered, and 65, or one-third, of the deaths occurred in public institutions. The causes of 14, or more than 7 per cent., of the deaths in the city during the week were not certified.

The death-rate in Dublin, which had been 36 4 and 28 9 per 1000 in the two preceding weeks, rose again to 34 3 during the week ending April 14th. During the past four weeks the death-rate in the city has averaged 33 7 per 1000, the rate during the same period being 21 0 in London and 23 0 in Edinburgh. The 230 deaths registered in Dublin during the week under notice were 36 in excess of the number in the preceding week, and included six which were referred to the principal zymotic diseases, against two and nine in the two preceding weeks; of these, two resulted from measles, two from "fever," one from whooping-cough, one from diarrhœa, and not one either from small-pox, from scarlet fever, or from diphtheria. These six deaths were equal to an annual rate of 0 9 per 1000, the zymotic death-rate during the same period being 1 8 in London and 1 0 in Edinburgh. The two deaths referred to measles showed a decline of 1 from the number in the preceding week. The fatal cases of "fever," which had been one and three in the two preceding weeks, declined again last week to two. The mortality from whooping-cough was also less than it had been in the previous week. The 230 deaths in Dublin last week included 34 of infants under one year of age and 63 of persons aged upwards of 60 years; the deaths of infants exceeded the number in the preceding week, while those of elderly persons showed a slight decline. Nine inquest cases and nine deaths from violence were registered, and 82, or more than a third, of the deaths occurred in public institutions. The causes of 18, or nearly 8 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE

[illegible] J. BROWN is placed on the [illegible] Deputy Inspector-General of [illegible]

[illegible] are notified.—Surgeons: J. C. Wood to Jamaica Hospital, P. V. Jackson to the *Britannia*, A. Maclean to the Royal Marines, Portsmouth; J. Chambers to the Royal Marines, Plymouth; and G. T. Bishop to the *Pyramus*.

ROYAL ARMY MEDICAL CORPS.

Major R. J. Windle, in charge of the Station Hospital at Mount Abu, is appointed to the civil medical charge of the station in addition to his own duties. Major J. G. Harwood is transferred from the Punjab to the Bombay command. Major J. W. Cockerill has embarked at Southampton in the s.s. *Canada* for Cape Town.

HONOURABLE ARTILLERY COMPANY OF LONDON.

Surgeon-Lieutenant E. H. Myddelton Galey to be Surgeon-Captain.

VOLUNTEER CORPS.

Artillery: 2nd Devonshire (Western Division) Royal Garrison Artillery): Henry Woolmington Webber to be J. C. G. Macnab is borne as supernumerary whilst serving with the Royal Army Medical Corps in South Africa. *Rifle*: Surgeon-Lieutenant 1st [illegible] 2nd Volunteer Battalion [illegible] Captain Macleod resigns [illegible] Battalion the Cheshire [illegible] C. A. K. Renshaw to be [illegible] Battalion the Queen's Own (Royal West Kent Regiment): John Herbert Crangle Fegan to be Surgeon-Lieutenant. 2nd (South) Middlesex: Surgeon-Captain S. H. Moore to be Surgeon-Major. 4th Volunteer Battalion the Durham Light Infantry: Surgeon-Captain H. A. Collinson resigns his commission; Selby-Wetherell Plummer to be Surgeon-Lieutenant.

THE QUEEN'S BIRTHDAY.

Notice is given in the *London Gazette* that the Queen's birthday will be celebrated in London alone on Wednesday, May 23rd, and at all other stations, naval and military, on Thursday, May 24th.

TRANSVAAL WAR NOTES

General Sir William Butler, K.C.B., commanding the Western District, recently inspected the sick and wounded from South Africa who have recently arrived at the Stoke Hospital, Devonport. He spent a considerable time in the institution and made inquiries into the history and nature of each case. On leaving Sir William Butler expressed to the [illegible] nel J. R. Rabilly, [illegible] arrangements for [illegible]

The steamship *Clare* arrived at Southampton on April 16th. She carried 318 invalids for the Royal Victoria Hospital, many of whom were housed in the huts in the rear of the building. On the following day the steamship *Cheshire* arrived at Southampton from the Cape; she brought 188 sick and wounded to Netley, making a total of 506 patients admitted into the Royal Victoria Hospital during the week.

Major F. A. Harris, R.A.M.C., is among the wounded on board the *Orotava*, which left South Africa for England on March 31st. Major Barralde, R.A.M.C., is in medical charge of the vessel.

The Welsh Hospital, in charge of Major Cockerill, R.A.M.C., left England on April 14th. A considerable number of friends attended at Waterloo station, including Sir John Williams, chairman of the committee, and Lady Williams, Sir David Evans, treasurer, and Lady Evans, Mr. Wynne, Lord Lieutenant of Merioneth, Professor Frederick Roberts, and Professor Alfred Hughes, the organising secretary. They embarked on the s.s. *Canada*. Sir John L. Langman has just received from Lord Roberts at Bloemfontein a telegram which shows how highly the efforts of the medical staff at the front are appreciated by the authorities. It runs as follows: "I congratulate you on the good work done yesterday and congratulate you heartily on the efficient state in which I found it. Its value to our R.A.M.C. and [illegible] —ROBERTS."

Our [illegible] Thomas Jones and Surg[illegible] for London, en route for South Africa. A large number of friends and sympathisers were on the platform and "Auld Lang Syne" and the "Men of Harlech" were vigorously sung.

The *Kieler Zeitung* of April 14th publishes a long extract from the *Manchester Medical Week in brief*, consisting of a letter received by Professor Esmarch from his late assistant Stabsarzt Dr. Hildebrandt, who went with the first Red Cross expedition to the Transvaal. The letter, which was dated "Jacobsdal, Jan. 21st," was of exception at interest because it was one of the first medical reports from the Boer army. Dr. Hildebrandt's account of the local medical men was not very favourable. He said that the Free State surgeons [illegible] ted to have had but [illegible] se Vorbildung in der [illegible] and [illegible] either capable of judging of the condition of a wound nor of undertaking the necessary operations. They used to sit on the backs of the wounded, speak [illegible] and give them internal medicine, [illegible] The majority of the wounds [illegible] ly under the dressings; in some instances bandages too tightly applied had caused bedsores, in others the cases which the German surgeons undertook—for the most part gunshot wounds of the brain—were affected with complications (cerebral abscess) which would have indicated the performance of an operation, but the favourable period for that was already past. The Germans had much trouble in putting things into better order, in addition to which there was at first great distrust of them on the part of the wounded, brought about by the efforts of the medical men of pro-British proclivities, who had preceded the Germans [illegible] e Bemühungen der englischen war, die uns wichen). Dr. [illegible] length the easy and prompt healing of the wounds caused by the small bore bullets.

Lord Iveagh has received a telegram announcing that the Irish Field Hospital has arrived at Bloemfontein, all well.

TRANSVAAL WAR CASUALTIES.

It is officially announced that Surgeon Captain Temple, Cape Volunteer Staff, reported wounded at Rietfontein on April 3rd, is not wounded.

DEATHS IN THE SERVICE.

Lieutenant-Colonel John Alexander Scott (retired list), Royal Army Medical Corps, at Nahan, Simla, Punjab, on April 4th. He joined the Army in 1859, and retired in 1890. He served in the New Zealand War of 1861-62 and also in the South African War of 1881.

Fleet-Surgeon Joshua Lasley Courtenay, R.N. (retired), on April 8th. He was appointed surgeon in 1860, fleet-surgeon in 1872, and fleet-surgeon 10 years later. He retired in 1890.

LITERARY INTELLIGENCE.—Messrs. Rebman, Limited, in the April issue of their catalogue announce two forthcoming volumes of the English edition of "Lehmann's Medicinische Handbücher," a work which has already appeared in 13 different languages. The first, an "Atlas and Epitome of Diseases caused by Accidents," by Dr. R. Goldschwski of Berlin, will be ready shortly. It will contain 43 coloured plates, 200 text illustrations, and about 400 pages of text. The second, an "Atlas and Epitome of General Surgery," edited by Dr. Marwedel with the co-operation of Professor Dr. Czerny, is in preparation. This will contain 200 coloured illustrations. The spring list of new books and new editions issued by Messrs. A. and C. Black, the publishers of the recently issued useful little book "Doctors Who at the War," has as its forthcoming publications of [illegible] "Telegram" Part II., by Dr. G. Cantlie. This volume, which will deal with smallpox and [illegible] physiological [illegible] of [illegible] Medical [illegible] characters, by [illegible] ret, contains [illegible] tion; and [illegible] Professor [illegible]

Correspondence.

"Audi alteram partem."

THE MIDWIVES BILL.

To the Editors of THE LANCET.

SIRS,—I have no desire or intention of engaging in newspaper controversy, but a perusal of the leading article on the Midwives Bill in your issue of April 7th leads me to believe that a few words from one of its promoters may remove misconceptions and may assist those who are sincerely desirous of understanding its true scope and intent.

You rightly call attention to the expressed views of the General Medical Council, and in summarising them you ask how far they are safeguarded by the Bill as it now stands. Following the order of your summary I reply:—1. That the unlicensed practice of midwifery for gain as well as the false use of titles is made illegal by Clause 2 (2). 2. That the functions of the Midwives Board include the passing of regulations for the conduct and practice of midwives, and there is nothing to prevent their restricting such practice to normal cases if they are able to discover any infallible means of ascertaining in advance whether a case will be normal or not (Clause 4, I. (*d*)). 3. That the rules of the Midwives Board will be subject to the approval of the General Medical Council (Clause 4, I.). 4. That provision will be made in the Bill for re-imbursing the General Medical Council for any expenditure which they may incur in performing their duties under the Act. The Government have given notice of the necessary resolution (which cannot be moved by a private Member) upon which a clause to this effect will be introduced on the report stage. 5. The conditions under which licences (certificates) will be granted to midwives will be such as the Board may determine—Clause 4, I. (*a*)—and will, I should imagine, as they are subject to the approval of the General Medical Council, include such evidence of training experience and character as the Council may consider desirable. And these same rules might very well provide, and I think would rightly provide, that in cases of abnormality the midwife should seek qualified medical assistance.

Let me here point out that this and similar matters are better dealt with by rules, settled at leisure by a limited number of experienced and responsible men, and capable of being from time to time altered, enlarged, or restricted, as experience may suggest, than by words in a statute, suggested perhaps without consideration, accepted without reflection and settled irrevocably without possibility of amendment or improvement. The tendency of all recent legislation is to leave details to be settled by rules, and the Midwives Board with its preponderance of medical men may surely be relied upon to frame rules which will command the confidence of the profession, stamped as they will be with the approval of the General Medical Council. So much for the main points insisted upon by the General Medical Council who must, I think, allow that due "deference" has been paid to their views, when they come to consider the Bill as it stands now. The only difference between us, if difference there is, is whether every detail shall be settled by Parliament, which sometimes makes mistakes (virtually irrevocable), or by the Board, subject to the approval of the Council; and I cannot but think that for the reasons I have given the procedure by rule will commend itself to them.

I have said that these rules may provide for calling in medical assistance when necessary and they may also provide, if the Council think desirable, for the after-care of mother and child, but it is another thing altogether to impose upon a woman who may be unable to leave her patient and who, in the country at least, may have no available messenger at her command, a statutory liability to send for a doctor and to penalise her if she does not. If there is a common law liability upon her or upon anyone else in the house at the time—husband or other relative—the Bill does not abrogate it, and if there is not why impose one now and on one person alone? There would never be a conviction under such a clause. These and kindred matters are merely regulations of practice and hardly require the extraordinary rigidity of express statutory enactment. With regard to evidence of character being required for a licence (certificate), rules again will provide for this, except in the case of those at present holding the certificates of the R.C.P. Ireland or of the L.O.S., and as evidence of character is required before certificates are granted by those bodies I cannot cast upon them the slur of requiring fresh or further evidence without some proof that persons holding their certificate have proved unworthy in the past, and of this I have no suggestion. In any case local supervision would shortly weed out any indifferent characters, and ideal perfection is perhaps hardly to be obtained at the outset.

The only remaining point referred to in your article is with regard to the definition of midwife in the amended Bill which was introduced by me in all honesty and simplicity to meet an objection—very properly taken—that otherwise the monthly nurse, who in popular phrase does "habitually and for gain attend women in childbirth," would come within the Bill. The definition seems to me to draw the needful distinction between the monthly nurse who attends where a doctor is engaged and with whom we do not seek to interfere, and the midwife who attends without medical assistance, whose training we seek to improve and whose practice we wish to regulate. This is the simple explanation of the change which appears to have aroused such strange and inexplicable misgivings, a change which commended itself to the draftsman of the Bill, to the Solicitor-General, who represented the Government during its passage through Grand Committee, and to Lord Thring, the greatest living authority on drafting, and who at once realised, as I had always suspected, that the old definition, "a woman who undertakes for gain and in accordance with the provisions of this Act to attend women in childbirth," was really nonsense and would render the Act a voluntary one, a woman who did not undertake to attend "in accordance" with its provisions not being affected by it. The definition you quote as that of the General Medical Council is not much better, as the rider "who is not registered under the Medical Acts" is unnecessary in view of Clause 16; and if the Bill is only to apply to women who undertake to attend cases of natural labour a most dangerous, and in some cases criminal, class of practitioner would not come within it. This, of course, is hardly what the Council desire, but it would be the direct effect of their suggested definition. The explanation of the position of the definition clause, at the end of the Bill and not at the beginning, is equally simple. As drafted it was at the beginning. The Privy Council Office told us to put it at the end and that is why it is there now.

In conclusion, Sirs, allow me to say that the General Medical Council and other representative bodies in the profession have so often expressed their conviction that legislation upon this question is necessary and desirable that now it is possible I can hardly believe they will hinder where they might help and ignore the traditions of an honourable profession by delaying a reform the need of which they recognise, because every line, every word, every comma does not fulfil their ideal of draftsmanship. In substance their views are accepted and adopted.

I am, Sirs, yours faithfully,

April 16th, 1900. J. H. JOHNSTONE.

To the Editors of THE LANCET.

SIRS,—Had Dr. Glover been present at the crowded and enthusiastic meeting at Cannon-street Hotel which unanimously adopted the resolutions against the principle of the Midwives Bill and the views of those who like him support such registration I cannot doubt he would have taken a different attitude to that indicated by his letter published in THE LANCET of April 14th. A prolonged meeting especially consisting of busy medical practitioners is one calculated to become "attenuated," but those present at the meeting never numbered fewer than 30 at any stage of the proceedings and represented South-East London only. His refusal to coöperate with a large majority of his constituents (as proved by THE LANCET plébiscite) having been read to the meeting at his own request those present had no alternative but to reply in the form of a resolution. The meeting was unanimous in adopting the rejoinder which Dr. Glover has received.

But passing from this to the merits of the question, the Cannon-street Hotel meeting expressed what are the views held by an overwhelming majority of the profession. We are opposed to the principle of a Midwives Bill whereby women who have acquired a superficial training of a few months will be licensed as proficient in the practice of midwifery as

independent practitioners. This, we hold, would be opposed to the spirit and would be a reversal of the Medical Acts which were instituted for the guidance and safety of the public. It would further be seriously detrimental to the advance of the science of midwifery. On the other hand, Dr. Glover and [illegible] orting the principle of [illegible] with this Bill with the [illegible] are beginning to see that [illegible] we are awakening to the [illegible] presentative councils may [illegible] they have by inertia and [illegible] s of science and the life of our nation in the future.

The Bill as now before the country does not provide for the midwife calling in medical aid in cases of danger; it certainly does not provide for punishing her should she fail to do so, and if it passes no Midwives Board could limit the powers given to her by Act of Parliament. But assuming it will acquire this authority we are also asked to assume that it will extend in some miraculous manner to the midwife (be she "trained" or untrained as many thousands will be on the passing of the Bill) a power of diagnosis and a tactile sensibility, the acquisition of which frequently taxes the best of us.

Take the attitude of the Council of the British Medical Association as typical of the compromising view. They are not quite satisfied with the present Bill and propose to perfect it by adding among other suggestions for a "Midwives Bill as amended" a schedule A, which was published in the *British Medical Journal* of March 24th and to which I refer your readers. The following are some of the cases in which the midwife (for I suppose the words "midwifery nurse" occurring in this schedule is a printer's error) is required to demand medical assistance:—(*a*) In the case of a pregnant woman having a narrow pelvis or in hæmorrhage or when the patient dies suddenly. (*b*) In the case of a woman during labour: in abnormal positions of the child, in smallness of the pelvis, or largeness of the child's head; in excessive pains followed by exhaustion, in hæmorrhage, presenting placenta, ruptured perineum, threatened danger, or death; in the apparently dead new-born child, and so on.

To my mind it seems preposterous for any body of medical men to suggest legislation which assumes that it is in the power of a woman after so many months' superficial training to diagnose, and that at the earliest stages, abnormalities which are of frequent occurrence, or even to assume that her place is other than extra-vaginal. This attempt to cobble up a retrogressive Bill suggests the two blacks which make a white and should indicate to the normal conscience and intellect that there is a vital flaw in the nature of the material, a rottenness at the root of such a growth.

I am, Sirs, yours faithfully,

Sydenham, April 16th, 1900. F. LORIMER HART.

*** This letter contains a contradiction on a matter of fact of our report. It is well that our readers should know that the report was accurate.—ED. L.

"THE STATISTICS OF THE ANTITOXIN TREATMENT OF DIPHTHERIA."

To the Editors of THE LANCET.

SIRS,—I have read with interest Dr. Hewlett's criticisms of my review of Mr. Paget's book on experiments on animals. I ought certainly to have spoken of omissions "from" and not "in" Mr. Paget's book, and I accept the correction in a chastened spirit, making no excuse! This, however, is the only admission of error I can make.

Dr. Hewlett suggests that "by cleverly choosing my years" I made the Somerset House figures support me. I desire to point out, however, that had I taken intervals of four years instead of five and concluded my table thus:—

Death rate per 1,000,000 living from diphtheria	1892 ...	222
" " " " " "	1896 ...	224

I could have made the Registrar General still more strongly support my contention that the introduction of antitoxin in 1894 had synchronised with an increase of the death rate. Dr. Hewlett correctly observes at the end of his letter that it is inconceivable that these figures were not before me when I compiled my tables, and as I deliberately did not select those that would have most strongly supported my argument the fair inference to draw is the very opposite to the one he suggests. It is always dangerous to impute unworthy tactics to an adversary who can have no motive for entering the arena of discussion but the elucidation of truth. However, I willingly take Dr. Hewlett's own figures. He says, "if the figures for the years between 1892 and 1897 be inserted they show the very reverse of what Mr. Coleridge would have people believe." The figures he gives for these years are:

Year.	Diphtheria.	Croup.	Diphtheria and croup.
1892	222	76	298
1893	313	71	[illegible]
1894	292	53	345
1895	260	54	314
1896	292	51	343
1897	246	35	281

Now if we take the death-rate for diphtheria per 1,000,000 persons living to mean what it does mean and not something else, these figures show that it has risen from 222 in 1892 to 246 in 1897. The figures in the intervening years fluctuate up and down. But Dr. Hewlett desires to include the death-rate from croup, and by so doing he certainly produces a fall in the combined figures from 298 to 281. But Dr. Hewlett has forgotten that the cases dealt with in the croup column were certainly not *treated* with antitoxin, for as yet there is fortunately no anti-croup serum on the market, and the fall in the death-rate from croup, which disease has had the advantage of being opposed by a treatment unvitiated by any quack nostrum, shows in a very striking manner the superiority of ordinary clinical methods.

The death-rate from diphtheria proper being higher in 1897 than it was in 1892 before the introduction of the antitoxin treatment Dr. Hewlett attempts to counteract it by adding in the death-rate from croup which has both fallen heavily and escaped that treatment, and he then points to the combined figures in the vain hope of assuring the public of the efficacy of antitoxin. This impossible enterprise shows that, in common with Mr. Paget, Dr. Hewlett's prejudices are stronger than his arithmetic.

I am, Sirs, yours faithfully,

STEPHEN COLERIDGE.

Victoria street, London, S.W., April 17th, 1900.

To the Editors of THE LANCET.

SIRS,—I am obliged to you for letting me see Mr. Coleridge's letter.

The point at issue between Mr. Coleridge and myself may be stated as follows. Mr. Coleridge contends that antitoxin is of no value and adduces certain figures from the records of Somerset House which, he says, support his contention. I, on the other hand, assert that the figures of Somerset House if taken in their entirety, which is the only fair method, so far from supporting Mr. Coleridge, prove, *if they prove anything*, as I stated (please note the limitations), the very reverse. Mr. Coleridge speaks of "Dr. Hewlett's own figures." They are not my own figures, every one, with the exception of those of case mortality which are London County Council figures, belongs to Somerset House and the table which I quoted, so far from being compiled by myself, is printed *in extenso* in the Registrar-General's Report for 1897 (p. xxiii).

With regard to the identity of croup and diphtheria Mr. Coleridge will have none of it. Yet I still assert that the majority of cases of croup are cases of laryngeal diphtheria, in this I am supported by the general opinion of the medical profession, *and also by Somerset House*. If croup has nothing to do with diphtheria, why does Somerset House go to the trouble of misleading the public by adding (rather the death rates from diphtheria and croup and printing a separate column of the combined death rate from croup and diphtheria)? My view of the identity of croup and diphtheria, which is not my own view alone, is absolutely supported by Somerset House, on which Mr. Coleridge relies, as the quotation from the Registrar General's report for 1898, given in my first letter, proves.

However, I am quite willing to omit all reference to croup and to take the diphtheria figures only. With regard to "choosing his years" (the whole sentence was "cleverly

choosing his years and ignoring the admitted identity of croup and diphtheria") I again assert that Mr. Coleridge, *consciously or unconsciously, has* chosen his years. Mr. Coleridge says that if he had taken the four-yearly period, 1892 and 1896, the figures would still have supported him. Quite so. But if Mr. Coleridge had taken the years 1893 and 1897, *and the chances are the same that he might have done so*, would they have supported him? No; they would have done the very reverse. By picking out figures for certain years, instead of giving *all* the figures, Mr. Coleridge *is*, I am quite ready to admit unconsciously, choosing his years. By giving the figures for *all* the years I show that the diphtheria death-rate was steadily rising up to the time when antitoxin was introduced. Since that time the diphtheria death-rate has been falling. Why should Mr. Coleridge choose 1892 and 1897 and say that because the diphtheria death-rate has risen from 222 to 246, therefore antitoxin is of no value? Have I not an equal right to take the years 1893 and 1897, and, because the diphtheria death-rate has fallen from 318 to 246, to argue that therefore antitoxin is of great value? My argument is just as valid as Mr. Coleridge's, 1892 and 1893 being both pre-antitoxin years. The fact is, that in each case the argument is based on *selected* figures, and being so is invalid and is mere statistical juggling.

Mr. Coleridge says I have forgotten that the cases of croup were not treated with antitoxin and that the decline in the death-rate from croup "shows in a very striking manner the superiority of ordinary clinical methods." I assert that the decline in the croup death-rate is due to a change in nomenclature. But admitting the validity of and following Mr. Coleridge's line of argument places Mr. Coleridge in the following dilemma. The steady rise in the death-rate from diphtheria up to the very time when antitoxin was introduced shows "in a very striking manner" the inferiority of ordinary clinical methods, while the decline in the death-rate from diphtheria since the introduction of antitoxin demonstrates in an equally striking manner the superiority of antitoxin treatment! The fact is, "death-rate" is absolutely worthless as an estimate of the value of a special line of treatment; case mortality is the only true test. In an infectious or contagious disease, whether it be diphtheria or scarlet fever or any other, the cure of a larger proportion of cases of the disease sets at liberty an increased number of individuals who may bear the infective particles and spread the disease, so that the *incidence* of the disease might not be lessened although the case mortality were greatly diminished by improved treatment. This fact is practically applied in dealing with outbreaks of infective diseases among our domestic animals; we do not attempt to save their lives but we stamp out the disease with the pole-axe or knife. Finally, Mr. Coleridge says that I have attempted to assure the public of the efficacy of antitoxin treatment. I have done nothing of the kind, I have asserted and still assert that the figures of Somerset House so far from supporting Mr. Coleridge, prove, *if they prove anything*, the very reverse. Whatever my own arithmetic may be the arithmetic I have quoted is that of Somerset House.

I am, Sirs, yours faithfully,

RICHARD T. HEWLETT.

[illegible] Preventive Medicine, S.W.,
April [illegible], 1900.

*** We sent Mr. Coleridge's letter to Dr. Hewlett for reply.—ED. L.

To the Editors of THE LANCET.

SIRS,—In reference to some remarks that have lately appeared in your columns the following figures may be of interest. An epidemic of diphtheria made its appearance [illegible] during the months of February and March, 1900. In all 40 cases were notified, the number of deaths [illegible] Of this number two were not treated [illegible] proved fatal; No. 3 was not injected until the fourth day, the result not being satisfactory. No. 4 [illegible] of a pregnant woman, was treated on the first day of the attack, the hæmorrhage being severe, with a fatal [illegible] No. 5 was injected until the third day, the result being [illegible] of the remaining 35 cases the whole rapidly [illegible] under the treatment, in each case the injection [illegible] within the first 24 hours.

I am, Sirs, yours faithfully,

A. CHAPLIN, M.D. Brux., D.P.H. Dub.,
[illegible] Medical Officer of Health, Hull.

*** [illegible] in not a rare case.—ED. L.

THE CONFERENCE AT MANCHESTER ON MEDICAL ORGANISATION.

To the Editors of THE LANCET.

SIRS,—I desire through the medium of THE LANCET to make known to the profession the arrangements that have been made in connexion with the forthcoming Conference on Medical Organisation, &c. It will be remembered that the Conference has been convened at the instance of the Medical Guild, Manchester, and that the decision as to where it should meet was taken by a vote amongst the various societies. The voting papers were issued last December to all known societies and to all the branches of the British Medical Association in England and Wales and had to be returned by March 1st. The places selected as most suitable were London and Manchester, and the result was by a small majority in favour of the latter city. The Memorial Hall in Albert-square has accordingly been engaged for the purpose. Up to date 35 societies and five branches of the British Medical Association have promised to send delegates, but the committee still hope to receive the names of a few more societies willing to coöperate. The expenses are to be defrayed by a contribution of 6*d.* per member from each society represented, and this should be sent to the honorary treasurer, Mr. S. Bagley, Clowes-street, West Gorton, Manchester, not later than April 25th. The meetings of the Conference will be open to all members of the profession who care to come, though n[illegible] allowed to speak or vote, and it [illegible] tioners in the neighbourhood of [illegible] avail themselves of the opportunity and show by their presence that they are in sympathy with the objects of the Conference.

All societies and delegates were invited to frame resolutions for discussion at the Conference and to send them to the secretary by March 1st. From these and the papers promised the agenda paper has been prepared and was distributed to delegates and the secretaries of all societies in the first week of April. In order to make the decisions of the Conference really representative of the opinions of the profession it is necessary that these motions should be carefully considered by all societies and their delegates instructed how to vote. The meetings will take place on May 1st, 2nd, and 3rd, with two sessions on each day, the morning session commencing at 10 and the afternoon session at 2. The formal opening of the Conference will be by Mr. Alderman Walmsley, J.P., the President of the Medical Guild, and the actual proceedings will be commenced by a paper by Mr. Victor Horsley on the Medical Acts, and subsequently motions on the same subject and on the General Medical Council will be submitted. At the afternoon session Mr. R. B. Anderson, F.R.C.S. Eng., will read a paper on Medical and Corporate Reform, the midwives question will be discussed, and thereafter the subject of medical education will be considered. On the second day the morning session will be opened by Mr. George Brown (London) with a paper on Medical Charities, their Relations to the Public and to the Profession, and motions bearing on the management and abuse of these will afterwards be discussed, while the remainder of the session will be devoted to the subject of death certification reform. The afternoon session will be opened by Dr. T. Whiteside Hime of Bradford with a paper on Professional Secrecy and our Relations with the Criminal Law. Thereafter a motion on the working of the Vaccination Act will be discussed, and then four papers and a motion on various aspects of Contract Practice will be considered. The papers are by Dr. A. Cox (Gateshead), Dr. Alex. Stewart (Manchester), Mr. Geo. Jackson, F.R.C.S. Eng. (Plymouth), and Mr. Murtaugh Houghton (Ilford).

The subject of Medical Organisation will be the burden of the third day, and the proceedings will be commenced by Dr. Glover with a paper on Some Debated Points in the Politics of the Profession, followed by Dr. Jepson with a paper on Medical Organisation. The two previous days will have demonstrated clearly the utility or otherwise to the profession of a conference on these lines, and at the morning session motions will be submitted with the object of eliciting the opinions of the profession as to the general character of future organisation and of coming to some decision on the subject. In the afternoon a statement of accounts will be rendered by the honorary treasurer and a paper will be read by Mr. Garrett Horder (Cardiff) on the

British Medical Association from a General Practitioner's Point of View. A motion asking the Conference to appoint a committee to carry out its decisions will then be considered and the discussion of a further motion instructing this committee what action to take to give effect to the decisions of the Conference on the question of organisation will bring the labours of the delegates to a close.

In conclusion, my committee venture to hope that this will prove to be the first of a series of annual conferences on similar lines, fully believing that such a result will be of the utmost benefit to our profession and calculated to add to its dignity and status.

I am, Sirs, yours faithfully,
S. CRAWSHAW, M.B. Vict.,
Honorary Secretary.

Ashton-under-Lyne, April 16th, 1900.

THE BACTERIOLOGY OF TYPHOID FEVER.

To the Editors of THE LANCET.

SIRS,—In his recent Goulstonian Lectures Dr. Horton-Smith professes to give an account of the history of serum-diagnosis, but makes no mention of either my name or my work. Since his lectures may possibly be taken as authoritative on the subject, and as Dr. Horton-Smith is not alone in either [illegible] of my share in the invention, I [illegible] to give publicity to the enclose[illegible]

I am, Sirs, yours faithfully,
ALBERT S. GRÜNBAUM.

April 14th, 1900.

[ENCLOSURE]

Die Unterzeichneten bestätigen gernadass Herr Dr. A. S. Grünbaum zu Anfang des Jahres 1896 an dem Krankenmaterial der I. medicinischen Klinik in Wien systematische Versuche über die Agglutination von Typhus- u. Cholera bacterien durch das Blutserum von Kranken u. Gesunden angestellt hat, und dass er im März, 1896, also lange vor der diesbezüglichen Publication des Herrn Widal, an zwei Typhusfällen der Klinik die Beobachtung gemacht hat, dass ihr Blutserum in bedeutender Verdünnung Typhus-

[illegible]

demnach die Agglutinationsreaction des Typhus-serums reliabel zuverlässig entdeckt und es ist sache der Gerechtigkeit dies anzuerkennen.

(Signed) { Prof. Dr. NOTHNAGEL.
Docent Dr. MANNABERG.

Wien, am 8. März, 1900.

[TRANSLATION.]

[illegible]

tion of typhoid and cholera bacteria by the serum of both sick and healthy persons, and that in March, 1896, therefore long before the publication of M. Widal on this subject, he had observed in two cases of typhoid in the ward, that their serum, in considerable dilution, agglutinated typhoid bacilli. Mr. Grünbaum was fully aware of the diagnostic utility of this observation, and he delayed publishing it only on account of regard to the necessity of confirming the reliability of the reaction on a larger number of cases of typhoid.

Dr. A. S. Grünbaum therefore discovered the agglutination reaction of typhoid serum independently and to acknowledge this is a matter of justice.

THE PREVENTION OF RHEUMATIC ENDOCARDITIS.

To the Editors of THE LANCET.

SIRS,—In the recent discussion on the Treatment of Rheumatism the most anxious consideration in the minds of the speakers was evidently and naturally a desire to secure the therapeutic measure best calculated to prevent the development of cardiac complications. The various suggestions and records of experience advanced in the discussion will, no doubt, be carefully studied by the profession, and in this way it is to be hoped the subject will be placed on a more practical basis. There is, however, one aspect of the question to which I do not explicitly reference, and I shall be glad if you will allow me through your columns to draw attention to it.

It is admitted that in a considerable proportion of cases valvular disease develops in children and adolescents without any serious degree of arthritis and often with but slight constitutional disturbance. The experience is only too common in which one finds an endocardial murmur with no more definite history than an attack of slight pains in the limbs, or an attack of sore-throat, or some other condition known to be one of the rheumatic manifestations common in early life, the event at the time having been considered a trifling affair demanding neither rest in bed nor medical advice. With a view to try to prevent these disastrous occurrences, what I venture to suggest is that those responsible for the education of the profession should include in their teaching the proposition that it is the duty of every practitioner who discovers in any family under his care the evidences of rheumatism to warn the parents that even an apparently slight illness in any one of their children may be a rheumatic incident carrying with it the risk of heart disease. It is only in this way that the early and complete rest universally allowed to be the best protection [illegible]d for these children, and [illegible]nat were such a measure [illegible] cases of heart disease [illegible] just referred to would be sensibly diminished. In any event the practitioner could at least console himself with the reflection that he had done his best to secure the prevention of this grave calamity. So far as I have seen the responsibility which it is here suggested rests upon the profession is not insisted on in the teaching of the day. Hence I venture to ask your assistance in emphasising it.

I am, Sirs, yours faithfully,
C. O. HAWTHORNE.

Weymouth street, W., April 14th, 1900.

"SMALL-POX AND VACCINATION."

To the Editors of THE LANCET.

SIRS,—It might have been well, for the sake of your readers, if I had given an extract from Jenner's treatise in my letter in THE LANCET of April 14th, which would save the trouble of referring to a work not always easy to obtain. It will be found on page 176.

In the early part of this inquiry I felt far more anxious respecting the inflammation of the inoculated arm than at present; yet that the extent than could be wished is a [illegible]jected. As this can be checked [illegible] simple means I see no reason why the [illegible]

A good deal of good could be done by providing those who are vaccinated with some ointment of precipitated sulphur or the dry powder and a piece of plaster, giving directions for applying this to the vesicle at the end of the week and covering with a piece of linen and then the plaster; or that the child should be seen for advice if there is any sign of severe inflammation.—I am, Sirs, yours faithfully,

HORACE J. LEE.

Gunterstone-road, West Kensington, April 14th, 1900.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The St. Ives Workhouse.

For a long time past the board of guardians of the Stockport Union have been face to face with the necessity for hospital extension. One proposal was to extend the present workhouse at Shaw Heath and an alternative has been to build a hospital at Stepping Hill. Endless discussion has taken place, but the question seems now to be approaching a settlement. On April 9th it was proposed and eventually carried, "That the board proceed to take steps to build hospitals at Stepping Hill and leave the existing workhouse as it is at present." The [illegible] of the resolution and it would cost [illegible] the £70,000 to make the extensions proposed at Shaw Heath and would be less costly in the end to build at Stepping Hill. In the estimate an additional sum of £11,000 was [illegible] for infectious wards, but this would [illegible] be required. A select committee of the board of [illegible] had reported in favour of transferring the care of labour to [illegible] and hence it was felt that if carry the [illegible] hospital for the district, had informed [illegible] of the board [illegible] that it was

certain that in a short time they would be taken out of the workhouses. "Another reason against providing any more workhouse accommodation at present was the recommendation that as far as possible the deserving poor, as distinguished from the undeserving, should be placed in cottage homes, where they might live very much as they had been accustomed." The evidences of more humane treatment of the poor are more and more numerous, and would have given a terrible shock to the workhouse authorities of Oliver Twist's time.

Earth-shocks at Pendleton.

Some short time ago very distinct "earth-shocks" disturbed a good number of the people at Pendleton, and there was a short discussion on the subject at a meeting of the Manchester Geological Society on April 10th. Mr. De Rance stated in a letter that "the earth-wave in Pendleton and Seedley, though fortunately exceedingly slight, doing no further damage, apparently, than bringing down a coping-stone of St. James's Church, Church-street, was remarkable for the amount of noise experienced both on the surface and underground at Pendleton Colliery, at a depth of 3500 feet. In this respect it corresponded with the earthquakes he had experienced at Preston and Stoke-upon-Trent" Mr. Stirrup said that it was probably due to fault-slipping or perhaps from a little sinking going on in those lately worked coal districts. Mr. Dickinson stated that on April 7th in the Pendleton district at 1.17 A.M. he both heard and felt the earth-shock. The sound was as if the mortar of the walls were being crushed and dribbles of lime came down his bedroom chimney. It awoke and alarmed his household. The general opinion was that the shock was due to some earth-slip. An immense bed of sand overlays the district and the draining of the water from this sand might have something to do with the Pendleton people having such unpleasant experiences as they had of these earth-shocks. All seemed, therefore, to attribute the occurrence to a purely local cause.

Preston and the Inebriates Act.

The Inebriates Act was enforced for the first time in Preston on April 10th, when Mary McManus, a notorious character, was committed for three years. She seems to be one of the victims to a propensity that has become irresistible, having been 97 times before the court. Most of last year she spent in prison through drink. It is said that she has often pleaded to be sent to a home for drunkards.

Unsound Meat?

Four hours were spent by the Rochdale borough magistrates on April 11th in inquiring into a charge preferred against a local butcher of exposing for sale seven pieces of beef said to be unfit for human food. The town clerk conducted the prosecution. The evidence was as conflicting as that of experts often is. On one side the nuisance inspector, the sub-inspector, Sergeant Standring, and Mr. Herbert, the veterinary surgeon, "found the beef to be dark, flabby, wet, devoid of fat, and totally unfit for human food." It was therefore seized, condemned by a magistrate, and destroyed. The defending solicitor, on the other hand, said that he had 15 witnesses to prove that the meat was perfectly sound, that the animal was bought from a farmer at Shaw for £18 and was in good condition. Half the carcass went to a shop which the butcher had at Littleborough and the other half to the Rochdale shop. Dr. Pickstone, the medical officer of health of Littleborough, and the nuisance inspector of the same place stated in evidence that the Littleborough beef was perfectly sound. Mr. H. Baker, veterinary surgeon, of Rochdale, said he examined the beef seized and found it sound, but it is not quite clear from the report which portion he refers to. The Littleborough beef was also pronounced "perfectly sound and healthy" by Mr. J. B. Wolstenholme, veterinary surgeon, of Manchester, and similar evidence was given by others. Beef that is dark, flabby, wet, and devoid of fat is not perfectly healthy, and one cannot help asking if the Littleborough and the Rochdale beef were from the same carcass. It to be hoped if possibly there might have been a substitution which would account for the discrepancy in the evidence and for what may have been a miscarriage of justice, for "the magistrates declared that owing to the conflicting expert evidence in the case the summons would be dismissed."

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Graduation Ceremonial of the Edinburgh University.

THE spring graduation ceremonial of the Edinburgh University took place on Saturday, April 14th, in the M'Ewan Hall. Among those gentlemen on whom the honorary degree of Doctor of Laws was conferred were two medical men—Mr. C. D. F. Phillips, M.D. Aberd., LL.D., and Mr. Anderson Stuart, M.D. Edin., Professor of Physiology in the University of Sydney. This degree was also conferred on, among others, His Excellency the Hon. Joseph Hodges Choate, Ambassador for the United States of America at St James's, and on Miss Eleanor A. Ormerod, F.R. Met. Soc., F.E.S. In presenting this lady to the Vice-Chancellor, the Dean drew attention to the fact that this was the first occasion on which an honorary degree had been conferred on a woman by the University of Edinburgh. Professor Seth, who occupies the chair of Moral Philosophy, delivered the usual address to the graduates. The service in St. Giles's Cathedral was conducted by the Rev. Professor Patrick, the Rev. A. R. Yeoman, and the Rev. J. B. Hastings.

The Laboratory of the Scottish Asylums.

The report of the pathologist of the Laboratory of the Scottish Asylums (Dr. W. Ford Robertson) for the year 1899 is an interesting account of the work done in the laboratory and the objects aimed at. During the year nine medical men received a laboratory course of instruction. Four of these were assistant medical officers of the associated asylums, two were from English asylums, and three were medical men not officially connected with such institutions. Dr. Robertson calls attention to the value of the library connected with the laboratory and points out that by means of this organisation the difficulty experienced by assistant medical officers of asylums in gaining access to neurological literature is now removed. All the important home and foreign neurological journals are to be had from the library, and these are purposely kept unbound, so that single numbers can be sent by post to those applying for a loan of them. Dr. Robertson expresses his regret that only seven reports had been issued during the year, and explains that delay in sending out reports has been due to the fact that throughout the year he had been very fully occupied with the Text-book of Pathology in Relation to Mental Diseases which he had undertaken to produce with the consent of the committee. The demonstration sets of microscopic preparations had been largely in request during the year. It has been provisionally arranged that the pathology of the acute insanities shall be made the subject of special investigation in the laboratory. If this purpose is carried out the inquiry will extend over a number of years, necessitating as it will researches of a histological, bacteriological, and chemical nature. Dr. Robertson then proceeds, in answer to a request which had been made to him, to explain in a manner comprehensible to non-medical persons the objects of the laboratory and the means used to further them. He shows in the most lucid manner the importance of scientific investigation in medicine, and of pathological work more especially, pointing out also the necessity of appointing men to give their whole energies to such work. Most important, however, are the statements which Dr. Robertson makes towards the end of his report. In considering the aims and methods of the laboratory he says that the question must be faced whether or not the efforts at present put forth are adequate for the attainment of the objects in view. There were two standards by which this might be judged: (1) the amount of work waiting to be done and (2) what was being done by people of other countries. The amount waiting to be done was limitless and recent discoveries had opened up vast fields of research. A specially important recent development had been in the department of chemical investigation and there were the strongest reasons for expecting most important results from this line of investigation. In the Scottish Laboratory, however, there was neither room nor equipment for such work although it was imperative that it should be taken up. As regarded the work done in other countries Scotland was, even proportionately, far behind England, the United States, Italy, Germany, and France as regarded the part she took in the work. In England the London County Council had built and equipped a laboratory for this work which was

carried on at a cost of £1000 a year, while in Lancashire and Yorkshire each of the large asylums had a pathologist who was almost exclusively engaged in research work. In the United States the greatest effort was being made in the State of New York. In 1895 the Legislature had authorised the establishment by the State Commission in Lunacy of "a department for the special study of mental pathology and allied subjects in connexion with the State hospitals, and primarily for their benefit." The Pathological Institute of the New York State of this. This institute was tained eight departments—y, Pathological Histology, Physiological Chemistry, [illegible], and Comparative Neurology. Each department was in charge of a specialist, the whole being under the supervision of a director. This laboratory cost over £7000 a year. In Italy practically every university and asylum had its institute or laboratory in which the work could be pursued. To remedy the present state of matters in Scotland Dr. Robertson is of opinion that chemical physiology and pathology must be taken up and assigned to a thoroughly trained chemical physiologist. At least two separate departments were needed in the laboratory—a histological or anatomical and a chemical. Each should be in charge of a specialist whose duty it should be to make original investigations in his own field and to encourage the prosecution of similar work by others, both in the laboratory and in the various asylums. Such a scheme would cost double the amount of money at present expended, but even that would not be out of proportion to the amount at present spent by the London County Council and the New York State Commission in Lunacy. The only other way in which the difficulty might be solved lay in the provision of an endowment. The work had claims to which the attention of wealthy philanthropists might justly be directed and it was easy to believe that those claims only needed to be clearly represented to ensure a ready response in some quarter or other. An appendix to the report gives a list of publications containing records of researches carried out in the laboratory or in association with it. The report of the General Board of the Royal Asylum speaks in the highest terms of the work done by Dr. Robertson. The board have decided to accept the offer of the Royal College of Surgeons, Edinburgh, to occupy its laboratory when the lease of their present premises expires in August. The board heartily concur in all that Dr. Robertson says in his report for 1899. The expenditure for the year amounted to £630 6s. 1d. The associated asylums had contributed £650 10s., so that there was a small balance on the right side. Dr. T. S. Clouston is to continue to act as secretary and treasurer, and Dr. Campbell Clark was appointed chairman of the executive committee for the year.

April 17th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Mater Misericordiæ Hospital, Dublin.

Her Royal Highness Princess Christian, accompanied by her Excellency Lady Cadogan, the Countess of Arran, and Lord Chelsea, paid a visit to the Mater Misericordiæ Hospital at noon on April 17th. The distinguished visitors were received by the Lady Superior, with Sir Francis Cruise, Sir Christopher Nixon, and the other members of the medical staff, by whom they were conducted through the spacious wards of this the largest of the Irish clinical hospitals.

The Royal Hospital.

Her Majesty the Queen, accompanied by the Duke of Connaught, paid a visit to the Royal Hospital, Kilmainham, on April 15th, and was presented with a bouquet by the oldest inmate of the institution.

The Irish Field Hospital.

Lord Iveagh has received a telegram announcing that the Irish Field Hospital has arrived at Bloemfontein—all well.

Death of Mr. Robert Glasgow Patterson.

Mr. R. Glasgow Patterson of Lower Baggot street, Dublin, died on April 11th after an illness of some duration. He was a distinguished graduate of the University of Dublin, a Fellow of the Royal College of Surgeons in Ireland, and recently a member of its Court of Examiners in Surgery. He was, moreover, for some years one of the surgeons to the Meath Hospital and County Dublin Infirmary, where his death leaves a vacancy in the staff of that important clinical institution—deficient just now on account of the absence of Sir William Stokes, who is at the seat of war in South Africa. Mr. Patterson was the author of many contributions to the literature of medicine, surgery, and dermatology, and was universally recognised here as a man of the highest promise. He was in delicate health for some months, but his untimely death at the age of 38 years has been a source of grief to his many friends. He died at his mother's residence near Dundalk, and was interred in the family burial-place there.

The Ulster Medical Society.

At the usual monthly meeting of the Ulster Medical Society held on April 5th Dr. Howard Sinclair showed a patient after six months' open-air treatment for acute pulmonary phthisis and Dr. J. S. Darling read (*a*) notes on a case of Intussusception treated by Inflation of the Bowel and notes on two cases of Intestinal Obstruction with Special Reference to Misleading Cessation of Acute Symptoms. In the discussion which followed Dr. W. Calwell, Dr. H. L. M'Kisack, Dr. A. Fullerton, Dr. A. B. Mitchell, Dr. John Campbell, Dr. J. Lynass, and Professor Byers took part. A resolution was unanimously passed expressing the sympathy of the members of the society with Dr. J. B. Moore in the recent vexatious trial through which he has been obliged to pass and congratulating him on the result of the legal proceedings.

The Infectious Diseases Hospital, Belfast.

At a meeting of the Belfast Asylum Committee held on April 9th the medical superintendent, Dr. W. Graham, presented a report giving statistics as to the views held by asylum authorities on the quantity of land required for such institutions. The General Board of Lunacy (Edinburgh) has steadily pressed the view that no district asylum should possess less than a quarter of an acre of land per patient accommodated, and the following tabular statement, embracing all the district asylums in Scotland and extracts from the report, shows the result of this recommendation:—

District Asylums of Scotland.	Acreage of land attached to the asylum, exclusive of land occupied by buildings.	Asylum at date of last official inspection.
Argyll	522	371
Ayr	104	358
Banff	140	129
Elgin	144	132
Fife...	94	411
Haddington	41	125
Inverness	178	503
Mid-Lothian	108	242
Perth	71	221
Roxburgh	33	211
Stirling ...	267	441
Glasgow city.. ...	347	554
Govan	171	444
Lanark	600	430

"It will be found that in Dublin the average number of patients per [illegible] Lunatic Asylum, one and a [illegible] Hospitals, three [illegible] recently erected asylum in [illegible] Glasgow has [illegible] 235 acres of land for 450 patients; the Middlesex Asylum Committee (Napsbury) has just purchased 141 acres to build an asylum for 1000 patients and the Leeds Asylum (Menston) has 329 acres for 500 patients." In conclusion the report of Dr. W. Graham contained the following:—"Extract from the State Commission in Lunacy (New York)—'We regard the existence of the agricultural experiment as one in entire harmony with modern methods of treatment and as a pleasant promise as a means of restoring the institutions of patients who no longer need the opprobrious accompaniments of a less refined century behind stone walls, grated windows, and locked doors.'"

Alderman J. Graham, M.D., F.R.C.S.I. (chairman of the Public Health Committee), said that it was proposed to allow for the 850 patients in Belfast double the land of any of the other asylums. If the medical superintendent wanted more land no one would support him more readily than he would. A special meeting of the corporation is to be called to receive a deputation from the asylum committee and to consider the whole subject. The questions at issue are really the following. The Public Health Committee of the corporation advocate the building of an infectious diseases hospital outside the city of Belfast, at Purdysburn,

and they propose to alienate from the asylum grounds there 65 acres of ground for this purpose. The asylum authorities, on the advice of their medical officer (Dr. W. Graham), say that if this is done it will be utterly impossible to carry on the modern out-door plan of the treatment of lunacy. If the infectious diseases hospital were built as suggested, Dr. W. Graham calculates that only 88 acres would be left for the asylum, and that under these circumstances it would be wiser to abandon Purdysburn altogether and to seek another asylum site. But there is a third view, and that is the one advocated by the deputation of medical men representing the great bulk of the profession who appeared before the City Council recently and advised against the Purdysburn district for the infectious hospital on the ground of its great distance from Belfast, and recommended the site at the old asylum in Grosvenor-street. It is also stated that there is another convenient site available at Old Park. The Public Health Committee ask for 65 acres at Purdysburn for the Infectious Diseases Hospital. Some advocate taking a much less area, and they say that at Birmingham the Infectious Diseases Hospital has an estate of only 27 acres (and that hospital is much larger than the one proposed for Belfast), and that if the Public Health Committee of Belfast would shrink their demands for the infectious hospital, room might be found at Purdysburn for both it and the asylum, as additional land can be rented or bought there. The difficulty about this solution is that the wisdom of having an infectious diseases hospital near an asylum is questionable, and it is said that the Board of Control of Asylums in Dublin may in the end be obliged, by the force of scientific alienist opinion, to interfere and to refuse to sanction the building of an infectious diseases hospital in the vicinity of the asylum, although at the outset they may have appeared to sanction it. The whole question of the treatment of lunacy is now in such a transition stage that they may see grounds for altering their original views which seemed to permit of the infectious hospital being located at Purdysburn.—At a meeting of the Belfast City Council in committee on April 12th, after hearing a deputation from the Asylums Board who urged upon the council the desirability of reconsidering the whole question, as in view of the large number of patients to be treated in the asylum and the methods adopted by modern practice every acre of the ground would be required for asylum purposes, it was decided, after a lively discussion, to refer the whole matter again to the Public Health Committee for reconsideration. This result was arrived at after a division in which the voting was equal, the Lord Mayor supporting the reconsideration policy by giving his casting vote in favour of it.

April 17th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Professional Ethics.

An unfortunate occurrence has just taken place in a country town, showing how much still remains to be done in France towards the attainment of a satisfactory standard of professional ethics, such a standard being seldom realised in actual fact, although often applauded as an ideal. A young woman eight and a half months pregnant, suffering from contracted pelvis and albuminuria with threatened eclampsia, had been attended by a medical man who, after consultation with another practitioner, resolved to induce premature labour. Notwithstanding their endeavours the two practitioners did not succeed in accomplishing this result, and they had to send the patient to the maternity hospital of the town with a view of craniotomy being performed by the *accoucheur en chef*. The latter, a young medical man, did not consider the operation to be urgent and he accordingly did nothing, the consequence being that the woman died at the end of two days. Some days afterwards the first medical man was summoned before a magistrate at the instance of the husband of the woman on a charge of homicide by imprudence, the charge being supported by a declaration made by the hospital accoucheur who laid all the blame for the disaster on the treatment adopted by the two practitioners. A necropsy which was decided to be made proved that death was due to [illegible] and brought about at the hospital of the two practitioners. The behaviour of the young accoucheur belonging to the hospital aroused such general indignation that the local medical society of which he was a member thereupon held a meeting and unanimously expelled him on the ground of his having committed a serious breach of professional ethics.

Professional Secrecy.

An imprudent remark made by a Paris gynæcologist has recently very nearly brought him into trouble. He had been sent for to Asnières by a local practitioner to see a young woman who was employed in a large dressmaking establishment in Paris and who was in a serious condition as the result of an abortion. With the aid of his colleague the medical man resorted to curettage; the immediate effects were excellent, but 18 days afterwards the patient, who seemed to be convalescent, was seized with phlebitis and died rather suddenly from embolism. After the death the gynæcologist had the imprudence to say to the young woman's mother that he was convinced that the abortion was the result of an illegal operation. She foolishly repeated the remark among her acquaintances and many persons soon concluded that there had been an illegal operation and that it had been performed by the gynæcologist himself. Information was given anonymously to a magistrate who summoned the two medical men to appear before him and ordered an examination of the body of the deceased. This necropsy, made by MM. Maygrier, Socquet, and Brouardel, easily proved the propriety of the curettage and at once exculpated the two medical men. The inquiry set on foot by the magistrate resulted in the discovery of a young man who was on terms of intimacy with a female acquaintance of the deceased in the dressmaking establishment. A search made at his place of abode brought to light instruments capable of creating suspicion, such as a speculum, a uterine sound, &c. It was impossible, however, to take proceedings against him, for no direct proof could be obtained of his having committed the act, and he declared that the instruments found with him had been the property of his father, now deceased, who was a medical man. No further steps were therefore taken against the two practitioners, and the gynæcologist has now the opportunity of reflecting at his leisure that professional secrecy is a protection rather than a hindrance to a medical man, and that both his interests and his duty impel him to observe it.

Typhoid Fever in the Army.

A soldier who becomes the subject of bodily incapacity while on service receives a pension of variable amount, which may be considerable in the event of his mishap having occurred whilst carrying out an order given to him by his superior officers. A smaller pension is given if the accident is of an everyday nature and not connected with the military duty of the soldier and it is possible that no pension at all may be given if the soldier has been the victim of an illness or an accident to which he might have been as liable in his own home as in the regiment. It is requisite to make this distinction in reference to the responsibility of the State on the one hand and the interests of disabled soldiers on the other. Some importance, therefore, attaches to the circumstance that the Conseil d'État has just declared that ill health consequent on typhoid fever contracted by a soldier in barracks implies the responsibility of the State and confers the right to a pension. This recent view of the case has much to recommend it, firstly, because it is in conformity with the ideas of modern science on the etiology of typhoid fever in barracks; and secondly, because it compels the State in its own interest to provide soldiers with water perfectly free from contamination with Eberth's bacillus.

Pasteur Institute in Madagascar.

A Pasteur Institute near Tananarive, Madagascar, established at the instance of General Galliéni when he was Governor-General of the island, has just been formally opened with much ceremony. General Pennequin presided, and Dr. Thiaux, director of the institute, made a speech in which he related the history of the enterprise and declared it to be a complete success.

Precautions to be observed by Pharmaceutical Chemists.

The Société Française d'Hygiène has been giving attention to the lack of cleanliness shown by many pharmaceutical chemists, and especially by their apprentices, in the dispensing of medicines. With many of them the dirty state of their clothing and beards has become proverbial. The hands of many of them are dirty, and when different

preparations are being made up the implements employed for the purpose are not always carefully cleaned after use. Even in the establishments of those who believe that they observe the rules of ordinary cleanliness it mixtures are nend it. The bottle should

possible some have now adopte addition to the ordinary label, a and which has to be broken To save time they content cork even with the neck of adhere to the glass with the is obviously at variance with aseptic principles. Others when putting up medicines in cachets close the latter by means of saliva. The Société d'Hygiène has expressed the opinion that pharmaceutical chemists should discontinue these practices which are both nasty and unwholesome.

April 16th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

On the Best Method of Sterilisation of Cocaine and Atropine Solutions.

DR. SIDLER, private assistant of Professor Haab in Zürich, has made a lengthened and thorough investigation on this important subject. Finding that anæsthesia of the cornea ensued after the use of three drops of a 3 per cent. cocaine solution (or one and a half grains to the ounce), and finding variations in the strength of the same and also in the best solution obtainable—viz., that of Merks, which has been used by Professor Haab for three years—he concludes that cocaine solutions lose their strength by sterilisation; four or five drops of the solution used by Dr. Sidler after sterilisation and even more after repeated sterilisation were necessary to obtain the same effect in the to sterilisation by exposing the for 20 minutes to steam, whereas ating the solution three times oes not affect the efficacy of the nportance of having absolutely out of 470 solutions examined cocci or bacteria were found in 24, proving beyond doubt that solutions even when properly sterilised at first can subsequently become re-infected. An examination of the antiseptic properties of different substances leads Dr. Sidler to exclude boric acid for want of efficacy and salicylic acid on account of its irritative properties, whereas a fresh sublimate solution of 1 to 10,000 and even an old carbolic solution of 1 to 100 were equal in their antiseptic properties. Dr. Sidler recommends alcoholic solutions as admirably adapted for the mother solutions, as they keep aseptic for years. He considers a solution of three to 20 grammes, or of five grains of cocaine, to two-thirds of an ounce of a 40 per cent. solution of pure alcohol in water the best, and urges its being kept in a glass bottle previously sterilised, and recommends a new drop-bottle easy of sterilisation for use whenever the solution is wanted. Thus every possible danger of infection can be avoided.

Swiss Mortality Statistics for 1899.

The Federal Statistical Department has published its report for 1899 with a death list of 53,052 for a population estimated at 3,144,741, or a mortality of 18·4 per 1000 inhabitants. The infantile mortality was high, representing 22·8 per cent. of the total, but there was a percentage of 20 deaths of people over 70 years of age. The deaths from infectious diseases numbered only 4 per cent., those from organic heart disease 4·4 per cent., and those from cerebral haemorrhage 3·9 per cent. Accidental deaths showed a rate of 5 per cent., a small fraction of these—only 163 in number—being suicides, or only three in 1000. Congenital debility accounted for 6·6 per cent. of the mortality and senile marasmus for 7·1 per cent., whilst phthisis, together with other tuberculous diseases, stood prominent with a percentage of 15·6, surpassed only by diseases of the respiratory organs, which were 17·6. Very few (41) fatal cases of influenza were reported. Only 2753, or less than 5 per cent., of the deaths were not medically certified. The surplus of births over deaths amounted to 34,619.

April 16th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

"Pro Montibus."

THE floods in Upper, Central, and Southern Italy, which for days past have been threatening the lines of railway, damaging and, in some quarters, totally destroying the crops and virtually prolonging the already severe and belated winter, have served to bring once again into the foreground that most pressing of Italian problems—the re-afforesting of the denuded hillsides. Associations bearing the above title are being formed throughout the kingdom with the object of stimulating Government to an attempt at least at the solution of the problem, while private initiative is already showing the State how it may reinforce provincial authority, municipal and commercial, on its way to the end in view. A beginning, it seems, is to be made near Florence, the climate of which, variable and even treacherous, particularly at transition periods from autumn to winter and from winter to spring, has suffered disastrously by the reckless tree-felling practised without compensatory re-planting within the last 50 years. The noble Monte Morello rising on the Fiesole side of the town, the "waving woods" of which have long disappeared mainly as fuel for the "forestieri," and are now represented by the most dwarfish undergrowth or "macchia," is to be the "corpus"—far from "vile"—on which the experiment is to be tried. Fortunately its fate has been less hard than that of its congeners far and near from whose sides the "binding soil" has been gradually washed away leaving only the bare rock on which re-planting is impossible. It still retains enough coating of humus on which trees of various kinds may strike deep root and attain sufficient height and growth of stem to develop branch and leaf and to restore to the locality its power to attract and detain moisture and to obviate torrential rainfall by the slow, steady absorption and exhalation which keep the water-courses from drought in summer and from flood in winter. Pasturage is to be prohibited from certain of its tracts and the small proprietors are to be compensated by rewards, taking the form of more or less substantial prizes for the trees, "sani e vitali," which they succeed in cultivating. The experiment will be watched with much interest, and its success may induce the Government to go a step further and to initiate effective reforms in its protection of wooded localities. At present there is a nominal "service" by which tree-felling is controlled, but, like every organisation of the kind in Italy, it is so wretchedly underpaid that its duties are more honoured in the breach than in the observance. The mounted police who patrol these localities in pairs and are supposed to keep an eye on every feller of a tree who cannot produce an authorisation get each of them 40 francs (£1 12s. 6d.) a month, out of which they have to maintain their horse. What wonder, then, if they often wink at the unauthorised felling of a tree and share the proceeds? And it is notorious that such "irregularities" are rife.

Oysters and Infective Disease.

The "harvest of the sea" is threatened in one of its most prolific fields—that of oyster breeding. In Italy, as in the British Isles, the propagation of infective disease by oysters is now a recognised danger, and at various points on her coasts—particularly where populous seaports discharge their sewage—the oyster-beds have become neither more nor less than fever preserves. At Naples, indeed, the recent sanitary works by which the effete matter of the city is now carried inland have reacted for good on the local oyster-beds and their produce, after a period of distrust and disuse, is now rehabilitated in gastronomic esteem. Not so, however, in quarters where sanitary reform is still backward. At Taranto the alarm aroused by the suspected propagation not only of typhoid fever but of diphtheria by its justly celebrated oysters has led to the appointment of a "Commissione Sanitaria" to inquire into the condition of the beds, and the report of the commission is awaited with much anxiety on the part of the public and still more on that of the breeders whose industry, partially suspended, is threatened with a "parentesi" more or less prolonged. The whole subject, indeed, is one of pressing importance for Italy generally, in which, like other parts of a peninsula, the coastline is in danger of being a partitable source of revenue by overworking it and by neglecting the conditions under which it can be properly maintained at a maximum level. Over fishing

has greatly reduced the area of her oyster-fields—as if her custom of consuming their produce all the year round without the intervention of "a close time" were not enough to diminish it in quantity and deteriorate it in quality.

April 9th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

The Tenement Houses of New York and Tuberculosis.

BILLS relating to tenement house legislation have been introduced into the New York Senate, vigorously backed by the organised charities, their object being to secure much-needed reforms in tenement houses. The Bills in question authorise the governor to appoint a tenement house Commission to inquire into the construction of tenements, rentals, effect of these buildings on the health and morals of their inmates, and other problems connected with the subject. The statement has quite recently been made that Governor Roosevelt has seen fit to appoint such a Commission so that a revision of the present tenement laws may shortly be looked for. Whatever may be the divergence of opinion among specialists on tuberculosis as to the degree of the contagiousness of the disease, on one point all are agreed—viz., that pure air and sanitary houses are the most important factors in controlling its spread. Probably the old-fashioned tenement houses as they exist in New York and in other large cities go further to promote the propagation of tuberculosis than any other cause. The Charity Organisation Society of New York have been for some time conducting a vigorous crusade against the municipality and owners of tenement houses of New York with the object of inducing them to institute reforms in the present methods of constructing these buildings as well as to demolish the ancient structures. In the beginning of April a tenement house exhibition was held in New York under the auspices of the above society, where models, plans, photographs, maps, charts, and tables of statistics were on view showing existing conditions in New York tenement houses and model tenements all over the world. It is stated that the present condition of the tenement houses of New York is so serious that the evils arising therefrom are a distinct menace to the welfare of the community. There are at present over 44,000 tenement houses in the old city of New York and new tenement houses are being erected at the rate of about 2000 per year. These are in many respects worse than the old buildings erected 30 years ago. They are badly constructed and so planned that many rooms depend for their light and air entirely upon long, narrow, dark "air-shafts" which, instead of giving light and air, are merely stagnant wells emitting foul odours and disease. In the opinion of the Charity Organisation Society of New York the solution of the tenement house problem lies along three distinct lines: (1) through the enactment of wise restrictive legislation; (2) through the building of model tenement houses as commercial enterprises; and (3) through the improvement and proper management of old tenement houses and the condemnation of buildings which are unfit for habitation. The efforts of the society are being ably backed both by medical and lay journals, the *New York Medical Record* in particular paying especial attention to the subject. It is now generally regarded as a fact that tuberculosis is to a very large extent a preventable, if not a curable, disease. The most effective means of checking its spread are properly-carried-out measures of prevention. Sanatoria and special hospitals are of course necessary, but the solution of the tuberculosis problem really lies in good sanitary laws, physical culture of the rising generation, and, above all, in the proper housing of the people and especially of the poor. It is certain that the plague of consumption will never be effectually stayed so long as the present class of tenement houses are allowed to exist.

An American Disinfecting Steamer for Havana.

The great use of a floating disinfecting plant has been amply demonstrated on many occasions. The successful and rapid disinfection of troops and troopships which had returned to the United States from Cuba in 1898 by means of the disinfecting barge *Protector* belonging to the United States Marine Hospital Service is a notable case in point. The new disinfecting vessel, which was designed under the supervision of the Bureau of United States Marine Hospital Service, is provided with all the latest disinfecting and fumigating machinery and is claimed to be the most complete disinfecting plant in the world. She will be stationed at Havana, where there will be undoubtedly found ample opportunity for putting her usefulness to the test. In addition to formaldehyde apparatus and sulphur furnaces the *Sanator* is supplied with bichloride of mercury apparatus, described as follows in *Marine Engineering*. "An 1800-gallon steel tank for the storing of bichloride of mercury solution is located in the hold amidships, on the starboard side. Above this in the deckhouse is a 40-gallon mixing tank with connexions for steam and water as well as a connexion to the large tank below. The proper quantity of the chemical is mixed in the small tank and allowed to flow into the large tank, into which has already been pumped a quantity of water sufficient to make the required solution. Near the large tank in the hold is a special horizontal duplex pump, having steam and water cylinders of four and a half and two and three quarter inches diameter respectively, and a stroke of four inches, its water cylinder, valve guards, and connexions being made of iron and the valves of rubber, it having been found that the bichloride solution acts less quickly on these materials than on brass. This pump has section connexions to the sea, the bilge and bichloride tank and delivers to the same tank, to the bichloride pipe system or overboard. Its principal purpose is to take solution from the tank and force it through the bichloride pipes to hose plugs located on the four corners of the deckhouse and to two hose plugs in the hold. By means of the two-inch hose and spray nozzles, the solution can be sprayed as a disinfectant in any part of the ship or in any part of a vessel alongside being disinfected." The bathing facilities provided on board the *Sanator* are extensive and the water-supply, both fresh and sea, is practically unlimited. The vessel is lighted by electricity and the ventilating plant is designed to renew the air entirely in all parts of the hold every five minutes. Taken altogether the *Sanator* represents the most advanced specimen of this type of ship that sanitary engineering science has as yet produced.

State Hospital for Consumptives of New York City.

After much discussion it seems now that the idea of building a large hospital in the country at a convenient distance from New York where its indigent consumptives may be treated bids fair to be realised. The project has received the earnest support of the majority of New York physicians, not only on account of the contagiousness of tuberculosis and for this reason that those infected may be the means of spreading the disease throughout the general hospitals which take in such cases, but also because it will relieve these institutions of the expense which is involved in the treatment and care of consumptive patients. The Bill introduced into the legislature of New York State by Assemblyman Henry for the establishment and endowment of a separate hospital for the treatment of pulmonary consumption in the city of New York has passed the assembly and will doubtless shortly become law. The *New York Herald* of April 1st, commenting on the matter, makes the following significant remarks: "On general principles it is eminently proper in the lights of precedent and guaranteed uniformity of methods to entrust the health boards with the construction and management of these institutions provided it can be understood that appointments on the medical staff are based on other than purely political qualifications. Such an institution should command the service of the best medical talent available."

Adulteration of Food in the United States.

The report of the Committee on manufactures of the United States has recently been published. One of the articles which is frequently adulterated is condensed milk. Sugar made in the United States by the Sugar Trust Factories is, according to the Committee's report, wholly free from adulteration. Glucose is used largely for the adulteration of syrup, especially maple syrup. Fruit extracts and vanilla are commonly adulterated, and alum is used generally in the manufacture of baking powder. Among the breweries inspected only two were found in which preservatives were mixed with the beer. The Committee saw no reason to object to the use of corn and rice and other cereals in the manufacture of beer, and held that the exclusive use of malt and barley should not be required. Salicylic acid was not considered dangerous. Oleomargarine was declared to be a wholesome and nutritious food. The report states that candy is adulterated to a very large extent and that large quantities

[illegible] the United [illegible] with carbonic acid [illegible] fermented in bottles is declared to excel the imported article in every particular. Pea-nut shells and cocoanut shells are used for the adulteration of cinnamon, ground pepper, mustard, ginger, and other condiments. Cream of tartar was found to be extensively adulterated with alum—in fact, so much was this the case that among all the samples of cream of tartar examined only one was pure. Finally, the report states that large amounts of goods of all kinds are imported and sold in this country which are adulterated and the sale of which would be prohibited in the countries where they are manufactured. This is especially in evidence as regards coffee and beer, and the *report proposes that a standard should be fixed for such* imported articles as a means of protection.

April 12th.

Medical News.

EXAMINING [illegible] E ROYAL COLLEGES OF [illegible] following gentlemen pas[illegible] the Board in the subjects indicated:—

Wednesday, April 4th:

[illegible] Bretton, St. Mary's Hospital; Kenneth Black, Charles Henry Dawe, Percy Alfred Peall, Bernard Harry Weild, and Edward James Gaffney, Guy's Hospital; Charles [illegible] Smith, University College, [illegible] Leigh Maule Day, Oxford [illegible] Rowe Edmonds and Herbert [illegible] London; William Brown [illegible] Lionel Lakin and Sidney [illegible] William Forsyth Jones, Charing Cross Hospital and Mr. Cooke's School of Anatomy and Physiology; Henry Howarth Bashford and Millais Culpin, London Hospital; David Asaur Henry Moses, St. Bartholomew's Hospital; Thomas Rose and John Warwick Hele, Middlesex Hospital; Edward William Dewey, St. George's Hospital; and John Sidney Pearson, Cambridge University and St. George's Hospital.

Anatomy only.—Frederick Field Lawrence How, University College, London.

10 gentlemen were referred in both subjects and one in physiology only.

Thursday, April 5th:

[illegible] Hospital; Ernestus Cyril Birt, Stephen Hugh Pitcairn, and John Courtney Follett Dudley Vaughan, St. Thomas's Hospital; Herbert Meer [illegible] Harold Whitmore Wallis, Reginald Robertson, Guy's Hospital; Owen [illegible] Hospital; Robert Leslie Ridge [illegible] London Hospital; Ernest Gregor Rollgrew, Cambridge University, William Bradshaw Day, Middlesex Hospital; and Willrid Garton, Westminster Hospital.

11 gentlemen were referred in both subjects and one in physiology only.

UNIVERSITY OF DURHAM.—At examinations for the degree of Bachelor in Medicine, held at the College of Medicine, Newcastle-upon-Tyne, in April, the following candidates satisfied the examiners:—

FIRST EXAMINATION.

(*Old Regulations.*)

1. *Chemistry, (B.) Chemical Physics.*—George Fowler, L.R.C.P. & S.E., D.P.H. Lond., Madras University, and Alexander Mister Wells, M.R.C.S. Eng., L.R.C.P. Lond., University College, London.
2. *Elementary Anatomy.*—Ernest James Muller, Middlesex Hospital and Cooke's School of Anatomy.

(*New Regulations.*)

1. *Elementary Anatomy and Biology, Chemistry, and Physics.—First-class Honours:* William Gibbons, College of Medicine, Newcastle-upon-Tyne. *Second-class Honours:* Fred Sticker, College of Medicine, Newcastle-upon-Tyne. *Pass List:* James Alexander Bennett, Walter Haward, H. [illegible] Charles Holder, Bernard Warner Lacey, and Lawrence Charlotte R[illegible], College of Medicine, Newcastle-upon-Tyne; Janet Arthur [illegible], London School of Medicine for Women; and Hermann Wolfe, College of Medicine, Newcastle-upon-Tyne.
2. *Chemistry and Physics.*—[illegible] Bateman, St. Bartholomew's Hospital; Cyril Prichard [illegible] L.R.C.P., Mason College, Birmingham, and St. Bartholomew's Hospital; Charles [illegible] M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; William Walter [illegible] Mason College; [illegible] St. Mary's Hospital; [illegible] Hospital; and William [illegible], College of Medicine, Newcastle-upon-Tyne.
3. *Elementary Anatomy and Biology.*—Frederick Durnford Atkins, St. Thomas's Hospital; Llewelyn Alfred Henry Bulkeley, College of Medicine, Newcastle-upon-Tyne; Fred Thomas Holloway Davies, Mason College, Birmingham; Harold Edgar Featherstone, Albert James Gilbertson, and John James Grant, College of Medicine, Newcastle-upon-Tyne; Alfred Herbert Heaton, Oxford University and College of Medicine, Newcastle-upon-Tyne; Lizzie Evelyn Kendal and Frederick William Kemp, College of Medicine, Newcastle-upon-Tyne; Raghunath Vithal Khedkar, Grant College, Bombay; George Errington Lloyd and Colin Francis Frederick McDowall, College of Medicine, Newcastle-upon-Tyne; Bertha Mary Mules, London School of Medicine for Women; William John Phillips, B.Sc., Mary Raw, and Charles Duncan Relton, College of Medicine, Newcastle-upon-Tyne; Olga Schiele, London School of Medicine for Women; Francis Rupert Snell, St. Thomas's Hospital; and Frederick James Strachan, William Hales Tindle, and Tys Visser, College of Medicine, Newcastle-upon-Tyne.
4. *Elementary Anatomy, Chemistry, and Physics.*—Alfred Held, Guy's Hospital.

SECOND EXAMINATION.

Anatomy, Physiology, and Materia Medica.—First-class Honours: Charles Harold Crase, College of Medicine, Newcastle-upon-Tyne. *Second-class Honours:* Hayden Glendinning, Guy's Hospital; Charles William Menelaus Hope, College of Medicine, Newcastle-upon-Tyne; Charles Fisher, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; Basil Edward Spurgin, College of Medicine, Newcastle-upon-Tyne, and Thomas Elwin Pemberton, Mason College, Birmingham. *Pass List:* Thomas Lingelbart Amyot, College of Medicine, Newcastle-upon-Tyne, Samuel Thomas Cochrane, Queen's College, Belfast; John Cooper, B.Sc., F.C.S., College of Medicine, Newcastle-upon-Tyne; Clement Harlow Cox, Mason College, Birmingham; *Martha Georgina Isabella Cadell, L.R.C.P. and S.Ed., L.F.P.S. Glasg.*, Edinburgh University; John Frederic Dover, College of Medicine, Newcastle-upon-Tyne; Wilfred Ralph Leycester Drawbridge, St. Bartholomew's Hospital; Evelyn John Evatt, Royal College of Surgeons, Ireland; George Brittan Gill and John Herbert [illegible] Newcastle-upon-Tyne; Flora [illegible] for Women; Francis O'Neill [illegible] Medicine, Newcastle-upon-Tyne; [illegible] Bartholomew's Hospital; Alfred Held, Guy's Hospital; Thomas Rowell, Briton Smallman Robson, and Andrew Smith, College of Medicine, Newcastle-upon-Tyne; Gaston Warwick Smith, Guy's Hospital; John Malcolm Shaw, College of Medicine, Newcastle-upon-Tyne; Charles Ravenscroft Stewart, St. George's Hospital, Harry Carlile Stanly, M.R.C.S., L.R.C.P., and Otho Boyle Travers, Guy's Hospital; and Robert Younger, College of Medicine, Newcastle-upon-Tyne.

UNIVERSITY OF GLASGOW.—The following have passed the first professional examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated (B., Botany; Z., Zoology; P., Physics; C., Chemistry):—

[illegible] Charles Burns (Z., C.), George Yuille Caldwell (Z., C.), Angus Campbell (B., C.), John Cairns Christie (B., P.), Alexander Erskine Clark (B.), Andrew Connal (P., C.), William Smith Craig (Z.), John Craig Crawford (B., P.), David Dickie (P.), Allan Campbell Douglas (Z., C.), Arthur Granville Hepburn Elder (B., P.), Hugh Harvey Fulton (Z., C.), William Harold Gillatt (B., Z.), David Livingstone Graham (Z., C.), Donald John Gollan Grant (Z., C.), George Munn Grave (Z., C.), Louis Leister Greig (Z., C.), Charles Francis Dyer Hammond (Z.), Alexander Robertson Forrest Hay (C.), Arthur Innes (Z., C.), James Rutherford Kerr (Z., C.), John Kerr (B., P.), George Norman Irlawood (B., P.), Robert Wright Leckie (Z.), William Main (B., Z.), William [illegible] Martin [illegible] Muir (B., C.), Arthur Alexander [illegible] Thomas Symington [illegible] (Z.), John Finlay [illegible] Tom Duncan M'Bean (Z., C.), Duncan Mackenzie (Z., C.), John Maclachlan (Z., C.), Robert Maclachlan (Z., C.), James Dalziel Macle (Z., P., C.), Alexander Stuart Murray Macrae (Z., C.), Robert Clark M'Guire (Z., C.), James M'Houl (Z., C.), Russell Macalmon (Z., P.), Norman Alexander Macleod (B., Z., C.), Roderick Macleod (B., Z.), Alexander Stewart M'Millan (B.), Andrew Brown M'Pherson (B., Z., P., C.), James Anderson Macrae (C.), George Clement Nelson (Z., C.), Thomas Orr (B.), Howard Henderson Patrick (Z., C.), John Pearson (Z., C.), Andrew Maclean Pollock (Z., C.), James Porter (Z., P., C.), William Murdoch Rae (Z., C.), Donald Ronald Reid (Z., C.), Daniel Stewart Robertson (B., Z.), James Walker Robertson (B., Z.), Robert Tait Craig Robertson (Z.), Frank Donald Smith (C.), Robert Louis Sugden (B.), James Charles Thomson Sutherland (Z., C.), Margaret [illegible] (B.), Mungo Wood [illegible] (Z., C.), Burgess Stewart (C.), William Stewart (B., P.), William Cross Stewart (B., Z., P.), Murray Lee Taylor (Z., C.), William Angus Taylor (Z., P.), James White Thomson (Z., C.), [illegible] Thomson Tomlier (B., Z.), Alexander M'Millan Watson (B.), [illegible] (B., Z., C.), [illegible] (Z., C.), George Wilson (Z., C.), Gordon John Wilkinson (B., Z., P., C.), George Wilson (B., C.), Robert M'Neill Wilson (B., C.), [illegible] (B., C.)

[illegible] (B., C.)

The following have passed the second professional

Examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated. (A., Anatomy; P., Physiology; M., Materia Medica and Therapeutics):—

Adolph Anderson (M.), William Kirkpatrick Anderson (P.), William Armitage (A., M.), Alexander Grey Banks (A., P.), Robert Bryson (A., M.), Ernest Cecil Burnett (P.), John Miller Hopkins Caldwell (M.), John James Young Campbell (A.), Daniel Lyall Carmichael (A., P., M.), Robert Peploe Cartwright (M.), Walter Bartlett Chapman (P.), Hugh William Crawford (A., P.), David William Davidson (M.), Andrew Robertson Dow (P., M.), William Elder (A., M.), James Ferguson (P., M.), John Ferguson, M.A. (A., M.*), Thomas Forsyth (M.), William Gemmill (A., P.), William White George (P., M.*), John Ritchie Gilmour (M.), John Miller Gordon (A., P.), John Guthrie (A., P.,* M.), John Andrew Hagerty (A., P.), Ronald Dingwall Hodge (A., M.*), John Brown Dalzell Hunter (A., P.), Neil M'Coll Hutchison (A.), Ernest David Jackson (A., P.), George Rutherford Jeffrey (A., P.), William Fletcher Kay (A., P.) James Thompson Kelly (M.), John Kennedy (A.), Andrew Miller Kerr (A., P.), William Henry Kirk (P.), Stanley Everard Lewis (P., M.), Alexander Linn (P.), Thomas Lovett (A., P.), Joseph Paterson Lusk (M.), Richard Makins (A., P., M.), Robert Menzies (A.), James Grant Millar (A.), William Alexander Milne (A.,* P., M.), Alexander John Mitchell (A.), Allan Dixon Mitchell (P.), John Morison (M.*), John Muir (P.), Daniel Douglas M'Dougall, M.A. (A., P.), Alexander Armstrong MacFarlane (A., P.), Alexander Macintyre (A., P.), David Duncan Fraser Macintyre (A.), Thomas M'Laren (A.), Hugh Archibald M'Lean (A., P.), John Maclean (A., P., M.), Dugald Henry Macphail (A., P., M.), James Stuart Nicolson (M.), John Dunn Nisbet (P., M.), Robert Orr (P.), Thomas Rankine (A., P.), John Mark Reid (A., P.), John Walker Renton (A.), Thomas Richmond (A., P.), David Riddell (A., P.), William Robertson Blackwood (A.), Norman Cumming Rogers (P.), Edward Henry Ross (A., P.), James Smith (A.), John Williamson Smith (A., P.), Robert Cassels S[illegible] Spence (P.), John Restell Thomas (P.), John [illegible] Wallace (A., M.), Thomas Irby Wallace (A.), [illegible] (P.), Alexander Brown Watt (A., P.), Peter Millar Waugh (P.), Archibald Simpson Wilson (M.), and James Wilson (A.).

Women.—Helen Stephen Baird, B.A. (M.), Gertrude Dorman Bostock (A., P.,* M.*), Margaret Edith Bryson (P., M.), Ethel MacLeod Lochhead (A., P.), Jessie Seath MacEwen (A., P., M.*), Jane Hamilton M'Ilroy, M.A. (P.), Martha Hunter Scott (A., P.), and Edith Christine Wallace (A.).

The following have passed the third professional examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated (P., Pathology; M., Medical Jurisprudence and Public Health):—

John Anderson (P.), Thomas A[illegible] M.), Robert Wellwood Auld [illegible] Macalister Brown (P.,* M.*), [illegible] Campbell (P.,* M.), Edward [illegible] Herbert Clark (P., M.), [illegible] Shedden Dale (P.), David [illegible] Davie (P.), Alexander [illegible] (P., M.*), George Balfour [illegible] Duncan Johnston Fletcher (M.), Archibald Gow (P., M.), Andrew Parlane Granger (P., M.), John Gregor (P., M.), George Pillans Harlan (P., M.), Francis Joseph Henry (P., M.*), James Macpherson Henry (M.), Charles Milburn Hope (M.), Douglas William Hunter (P.,* M.), Matthew Hunter (P.), Willia[illegible] Pierce Jones (P., M.), Daniel [illegible] M.A (P.), John Lamble (P. [illegible] Joseph Lochrane (P.), Edwar[illegible] [illegible]ander [illegible]ander [illegible] (P., M.), [illegible] William [illegible] George William[illegible] (P., M.), James M'Pherson, M.A. (P., M.); Robert Paterson (P., M.), John Paton (P., M.), James King Patrick (P., M.), Robert Ramsey (P.*), Andrew Reid (P., M.), Peter Mackenzie Reid (M.), William Robertson, Kilmarnock (P.); Thomas Ritchie Rodger (P.,* M.), William George Rodger [illegible] Taylor Ross (P., M.), Charles James Ross, B.A. [illegible] (P., M.*), John Stewart, M.A. (P., M.); James [illegible] Todd (P., M.), Joseph Goodwin Tomkinson (P.), John Wright Turner (P.), Robert Warden Valentine (P.,* M.), Albert Ernest Wainwright (M.), James Walker (P., M.*), George Smith Wallace (P., M.), Morgan Watkin Williams (P., M.), William Webster Watt Wilson (P., M.), and William Robertson Wylie (P., M.).

Women.—Janet Bisland Higgins (P., M.), Catherine Spence Howden (P., M.), Karen Margrethe Myhre (M.), Mary Janet Pirret (P., M.), Elizabeth Ness MacBean Ross (P., M.), Agnes Brymner Sinclair (P., M.), Elizabeth Helen Smith (P., M.), and Henrietta Fraser Young (P., M.*).

* Passed with distinction.

FOREIGN UNIVERSITY INTELLIGENCE.—*Athens:* Dr. Protopoulos has been appointed Professor of Dermatology and Syphilography.—*Berlin:* Dr. J. von Michel of Würzburg has been appointed to the chair of Ophthalmology in succession to Dr. Schweigger, resigned.—*Bologna:* Dr. Tommaso Secchi has been recognised as *privat-docent* of Dermatology and Syphilography and Dr. Alessandro Brucchettini and Dr. Floriano Brazzola as *privat-docenten* of Hygiene.—*Copenhagen:* Dr. H. C. J. Gram, Professor of Pharmacology, has been appointed to the chair of Medicine.—*Geneva:* Dr. Oltramare has been promoted to be Ordinary Professor of Clinical Dermatology.—*Graz:* Dr. F. Best has been recognised as *privat-docent* of Ophthalmology.—*Graz:* Dr. Friedrich Dimmer of Innsbruck has been appointed Professor of Ophthalmology in succession to Dr. Borysiekiewicz, deceased.—*Greifswald:* Dr. L. Krebl of Marburg has been appointed to the chair of Clinical Medicine in succession to Dr. Mosler, resigned. Dr. Paul Strübing has been promoted to be Ordinary Professor of Internal Medicine and Director of the Medical Polyclinic.—*Kieff:* Dr. Neieloff has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Lausanne:* Dr. A. Treyer of Freiburg (Switzerland) has been appointed Professor of Internal Medicine.—*Lyons:* Dr. J. A. Courmont has been promoted to the chair of Hygiene.—*Marburg:* Dr. Wendel has been recognised as *privat-docent* of Surgery.—*Moscow:* Dr. Polievtkoff has been recognised as *privat-docent* of Children's Diseases, Dr. Berestneff as *privat-docent* of Bacteriology, and Dr. V. Poliakoff as *privat-docent* of Diseases of the Respiratory Organs.—*Naples:* Dr. Luca Chinni has been recognised as *privat-docent* of Anatomy, Dr. Bartolomeo Baculo as *privat-docent* of Pædiatry, and Dr. Felice Piccinino as *privat-docent* of Electro-Therapeutics.—*Prague (German University):* Dr. Ewald Hering has been promoted to an extraordinary professorship of General and Experimental Pathology. (*Bohemian University*): Dr. Rudolf Kimla, *privat-docent* of Pathological Anatomy, has been granted the rank and title of Extraordinary Professor.—*Rome:* Dr. Gaetano Parlavecchio has been recognised as *privat-docent* of Surgical Pathology.—*Sienna:* Dr. Vittorio Martini has been recognised as *privat-docent* of Surgical Pathology and Dr. Luigi Simonetta as *privat-docent* of Experimental Hygiene.—*St. Petersburg (Military Medical Academy):* Dr. S. Yakovleff and Dr. Abramicheff have been recognised as *privat-docenten* of Dermatology and Syphilography and Dr. V. Hubert as *privat-docent* of Pædiatry.—*Turin:* Dr. Riccardo Galeazzi and Dr. Bartolo Nigrisoli have been recognised as *privat-docenten* of Surgery and Operative Medicine, Dr. Alberto Biagini and Dr. Enrico Mensi as *privat-docenten* of Children's Diseases, Dr. Francesco Abba and Dr. Carlo Mazza as *privat-docenten* of Hygiene, and Dr. Vitage Tirelli as *privat-docent* of Forensic Medicine.—*Utrecht:* Dr. Kohlbrugge has been recognised as *privat-docent* of Tropical Diseases.—*Vienna:* Dr. Julius Neumann has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Warsaw:* Dr. P. V. Nikolski of Kieff has been appointed Extraordinary Professor of Dermatology and Syphilography.—*Zürich:* Dr. Paul Ernst of Heidelberg has been unanimously elected to the chair of General Pathology and Pathological Anatomy vacant by the migration of Professor Ribbert to Marburg.

POISONING BY ARUM MACULATUM.—An inquest was held at Combe St. Nicholas, near Chard, on April 7th upon the body of a girl, aged three years, who had died suddenly after having eaten some plants in the garden. A post-mortem examination showed that death was due to poisoning with the leaves of the arum maculatum and a verdict of death from accidental poisoning was returned.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—A meeting of the College will be held on Tuesday, May 1st, to elect the following examiners: two examiners in anatomy, two in surgery, two in physiology and histology, one in biology, two in ophthalmology, one in pathology and bacteriology, one in pathology, one in midwifery and gynæcology, one in sanitary law and vital statistics, one in engineering and architecture, two in chemistry and physics, two in dental surgery and pathology, two in mechanical dentistry, one in languages, and one in mathematics, physics, dictation, and English essay.

A MEDICAL PLAINTIFF IN THE COUNTY COURT.—At the Cardiff County Court Dr. C. McCall recently sued a patient for £5 6*s.* for medical attendance upon his wife and child, upon the latter of whom he had performed tracheotomy for diphtheria. The solicitor for the defence was cross-examining Dr. McCall at some length as to the manner in which the operation was performed when His Honour Judge Owen stopped him, saying that as there was no counter claim for malpractice it was unfair and improper to make charges against a medical man. Later the same solicitor commenced to address the court again, but the judge said, "This is a case in which a medical man seeks to recover his fees for a difficult and dangerous operation. There is not the slightest reason for the unpleasant, improper, and mean insinuations that have been made in the case. A medical

man's reputation is more to him than to any solicitor.' These base, improper, and dishonest insinuations should not be made. I speak warmly about it because I feel warmly and I do not like these cowardly attacks.' Judgment was eventually given for the plaintiff with costs.

PLYMSTOCK WATERWORKS.—The Plymstock, Devon, Waterworks, which have been erected at a cost of £8300, were formally opened on April 7th.

AT a meeting of the West of England and South Wales Branch of the Incorporated Society of Medical Officers of Health, held at Newport on April 12th, under the presidency of Dr. W. H. Symons, the question of the gratuitous distribution of antitoxin to medical practitioners by sanitary authorities was discussed and a resolution in favour of such a measure was unanimously passed.

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL.—At the recent examinations held at the end of the Winter Session the following medals and prizes were awarded. The Mead Medal to Mr. R. B. Kinloch, the Cheselden Medal to Mr. T. H. Edwards, and a prize of £10 to each of the following: Mr. F. C. Eve (Medicine), Mr. W. H. O. Woods (Surgery), Mr. T. S. Taylor (Midwifery and Diseases of Women), Mr. J. E. H.
Mr. R. I
W. B. I
(£38 10s.) and a College Prize of £20 were divided between Mr. H. S. Bennett and Mr. F. W. W. Smith (second year) and the William Tite Scholarship (£27 10s.) was awarded to Mr. K. Takaki (first year).

ROYAL PORTSMOUTH HOSPITAL.—An important and representative meeting of the committee of the Royal Portsmouth Hospital was held on April 6th, under the presidency of Sir William King, for the election of three honorary assistant physicians and three honorary assistant surgeons. These appointments are newly created ones, it having been found necessary to increase the existing staff. There were 19 applicants for the vacancies and the following were the results of the voting, which was by ballot, 47 members of committee being present. Elected as honorary assistant physicians: Dr John Phillips, 39; Dr. C. C. Clarement, 29; and Dr. W. P. McEldowney, 29. Elected as honorary assistant surgeons. Mr. O. P. Childe, 41; and Mr. T. A. M. Forde, 24. The third on the list, Mr. A. B. Wright, secured only 22 votes, and as this was not a majority of those present (47) his name was proposed and seconded and he was declared duly elected.

BOOKS, ETC., RECEIVED.

APPLETON, D., AND CO., New York.
Outlines of the Comparative Physiology and Morphology of Animals. By Joseph Le Conte. 1900. Price 7s. 6d. net.

AT THE UNIVERSITY PRESS OF LIVERPOOL, AND PHILIP, G., AND SON, Fleet-street, London.
Liverpool School of Tropical Medicine. Memoir II. Report of the Malaria Expedition to West Africa, August, 1899. By R. Ross, F.R.S., R. E. Austen, Giles, M.B., ... illustrated with Maps. Price 10s. 6d. net.

BAILLIÈRE, J. B., ET FILS, Paris.
Le Rhumatisme Articulaire Aigu. Par H. Triboulet et A. Coyon. 1900.

BAILLIÈRE, TINDALL, AND COX, King William street, Strand, London.
... and ... 1900. By F. J. Gant, ...
... Women and Uterine Therapeutics. ... M.D., M.Ch. Eighth edition. Illustrated. 1900. Price 12s. net.

BALDWIN AND CO., Georgetown, Demerara.
The British Guiana Medical Annual. Edited by J. F. S. Fowler, M.B. 1899. Eleventh year of issue.

CARRÉ, GEORGES, ET C. NAUD, Paris.
L'Irritabilité dans la Série Animale. Par D. Courtade. 1900.

CHURCHILL, J. AND A., Great Marlborough-street, London.
The Diagnosis and Treatment of Syphilis. By Tom Robinson, M.D. Second edition. 1900. Price 3s. 6d.
Ulcer of the Stomach and Duodenum and its Consequences. By S. Fenwick, M.D., F.R.C.P., and W. S. Fenwick, M.D. Lond., M.R.C.P. 1900. Price 10s. 6d.
The Antiseptic Handbook of the Surgery of the Alimentary Canal. By A. Ernest Maylard, M.B., B.S. Lond. 1900. Price 3s. 6d.

CONTY'S GUIDES OFFICE, Paris.
Conty's Practical Pocket Guide to Paris. English edition. 2s. 6d. net.
De Paris à Marseille, Lyon, Nîmes, etc. Translation edition. 1900.

DOUGLAS, D., Castle-street, Edinburgh.
A Surgical Operating Table for the Horse. By J. A. W. Dollar, M.R.C.V.S. 1900. Price 2s. 6d. net.
... By JAS. N. HYDE, M.D. Fifth edition. Illustrated. 1900. Price 25s. net.

LIBRAIRIE MALOINE, Paris.
Annuaire des Eaux Minérales, Stations Climatériques et Sanatoria de la France et de l'Etranger. Par G. Morice. 1900.

LONG, JOHN, Chandos street, Strand, London.
The Experiment of Doctor Nevidt: A Novel. By Emerie Hunt. Beaman. 1900. Price 6s.

MACMILLAN AND CO., London.
Lessons ... Heal, LL.D., F.R.S.
Home ... the Care of the Sick.
Microscopy ... organisms. Translated by A. K. Miller, Ph.D., F.I.C., and A. B. Lennholm. Third edition. Illustrated. 1900. Price 10s.

NUTT, DAVID, Long Acre, London.
The Frog: an Introduction to Anatomy, Histology, and Embryology. By the late A. M. Marshall, M.D., D.Sc., M.A., edited by G. H. Fowler, D.A., Ph.D. Seventh edition. Illustrated. 1900. Price 4s.

SANGIOVANNI, E., Napoli.
La Chirurgia del Pericardio e del Cuore. Per Prof. Enrico Giordano. 1900.

SCIENTIFIC PRESS, Southampton-street, Strand, London.
Gynæcological Nursing. By G. A. Hawkins Ambler, F.R.C.S. 1900. Price 1s.

SKEFFINGTON AND SON, Piccadilly, London.
The Disenchantment of Nurse Dorothy: a Story of Hospital Life. By Florence Baxendale. 1900. Price 3s. 6d.

SMITH, ELDER, AND CO., Waterloo-place, London.
Dictionary of National Biography. Edited by Sidney Lee. Vol. lxii. Williamson—Wardem. 1900. Price 15s.
Occasional Lectures on the Practice of Medicine. By W. B. Cheadle, M.D., F.R.C.P. Illustrated. 1900. Price 7s. 6d.
Paralytic Deformities of the Lower Extremities. The Principles of their Surgical Treatment. By H. Noble Smith, F.R.C.S. Edin., L.R.C.P. Lond. Illustrated. 1900. Price 5s.

SOCIÉTÉ D'ÉDITIONS SCIENTIFIQUES, Paris.
La Scrofule et les Infections Adénoïdiennes. Par Dr. P. Gallois. 1900.

SPOTTISWOODE AND CO., Grasechurch street, London.
The Medical Register. 1900.

THE AMERICAN PEDIATRIC SOCIETY.
Transactions of the American Pediatric Society. Eleventh Session, June, 1899. With the Constitution. Edited by F. M. Crandall, M.D. Vol. xi. 1899. Reprint.

THE F. A. DAVIS COMPANY, Philadelphia.
Diseases of the Nose and Throat. By J. Price-Brown, M.B., L.R.C.P. Eng. Illustrated. 1900.
Injuries to the Eye in their Medico-Legal Aspect. By S. Bailey, M.D. Translated from the German by A. J. Ostheimer, A.M., M.D., and edited by C. A. Oliver, A.M., M.D. 1900.
The Anatomy of the Brain. By R. H. Whitehead, M.D. Illustrated. 1900.

THE MEDICAL PUBLISHING COMPANY, 22, Bartholomew-close, London.
Heart Disease in Childhood and Youth. By C. W. Chapman, M.D. Durh., M.R.C.P. Lond. With an Introduction by Sir S. Wilks, Bart., M.D. 1900.

VIGOT FRÈRES, Paris.
Traitement des Fièvres Paludéennes. Par Dr. Beal's M. Monnier. 1900.
L'Hypertrophie Simple de la Prostate. Par Dr. A. Gueniot. 1900.

WARWICK BROS. AND RUTTER, Toronto.
Report Births, Marriages, and Deaths, Ontario, 1899.

Magazines, &c., for April: Strand Magazine, Boy's Own Paper, Girl's Own Paper, Leisure Hour, Sunday at Home, Longman's Magazine, Westminster Review, Contemporary Review, Friendly Magazine, Mysticism Journal, Pall Mall Magazine, Windsor Magazine, Greeting, English Illustrated Magazine, Knowledge, Humanitarian, Work, World Magazine, New Century Review, Cornhill, Strand.

Appointments.

Successful applicants for Vacancies mentioned in Parliamentary Paper, and others, should forward copies of testimonials for the Lancet, or forward to us a copy of it in THE LANCET Office, addressed to the Sub-Editor, not later than Noon on the Thursday morning of each week, for publication in the next number.

ANDREW, S. N. W., M.B., C.M. Aberd., has been appointed Certifying Surgeon under the Factory Acts for the Sub-District of Alnwick, Northumberland.

ATKINS, J. A., L.R.C.P. Lond., M.R.C.S., has been appointed Certifier of the Burgh under the Factory Acts for the Sub-District of Aberdeen, Aberdeenshire, vice Dr. Fleming, resigned, and Certifier to the Burgh of Inverurie.

BEAMAN, E. H., L.R.C.P., L.R.C.S. Irel., has been re-appointed Medical Officer of Health for the Misterton Rural Sanitary District.

BRAND, O. H., L.R.C.P., L.M. Irel., L.S.A. Lond., has been appointed Honorary Medical Officer to the Northampton and County Association for the Blind.

DUBRANT, T. A., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health, Market Harborough, by the Urban District Council.

GOLDALL, J. H., M.R.C.S., has been re-appointed Medical Officer of Health for the Borough of Warrington.

GUNN, NORMAN, M.B., C.M. Edin., has been appointed Certifying Surgeon under the Factory Acts for the Civil Parishes of Botriphine and Mortlach in the County of Banff.

HARRIS, J. T. J., L.R.C.P., L.R.C.S. Edin., has been appointed Certifying Surgeon under the Factory Acts for the Urban District of Linslade, Wing Rural District, except the Civil Parish of Stoke Hammond and the Civil Parish of Stewkley in Winslow Rural District.

HAYES, A. HERBERT, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Casualty Department, East London Hospital for Children and Dispensary for Women, Shadwell, E., vice C. Frank Steele, resigned.

HEARDER, T. B., M.B., C.M. Edin., has been appointed Certifying Surgeon under the Factory Acts for the Urban District of Ilkley and the Townships of Nesfield-with Langbar Middleton, Denton, Askwith, Great Timble, Little Timble, Blubberhouses, and Fewston.

HINSELL, J. S., M.D. Camb., M.R.C.S., has been re-appointed Medical Officer for the Sixth Sanitary District of the Thingoe Union.

HOWELLS, WM., M.B., C.M. Glasg., has been appointed Medical Officer for the Workhouse, Brecon, vice W. M. Parham.

HUTCHINSON, W., M.R.C.S., has been re-appointed Medical Officer for the Urban Sanitary District of Newmarket.

KILNER, C. S., M.B., C.M. Edin., D.P.H. Camb., has been re-appointed Medical Officer of Health by the Thingoe Rural District Council, and Medical Officer for the Second and Seventh Sanitary Districts of the Thingoe Union.

MARTIN, JOHN MIDDLETON, B.A., M.B., B.C., D.P.H. Cantab., L.S.A., has been appointed Medical Officer of Health for the Stroud (Gloucestershire) Rural District vice Thomas Partridge.

NICHOLLS, L., M.R.C.S., has been re-appointed Medical Officer to the Eighth Sanitary District of the Thingoe Union.

PEARSON, SYDNEY VERE, B.A., B.C. Cantab., has been appointed House Surgeon to the East London Hospital for Children and Dispensary for Women, Shadwell, E., vice A. H. Hayes.

PHILIP, W. M., M.B., C.M. Aberd., D.P.H., has been appointed Medical Officer by the Aberdeen City Parish Council.

PHILLIPS, JAMES, M.R.C.S., L.R.C.P. Lond., has been appointed Senior House Surgeon to Bradford Royal Infirmary.

SHARP, HUGH CULLIFORD, B.A., M.B., B.C. Cantab., has been appointed Medical Officer of Health for Truro vice Edward Sharp, resigned.

SMITH, C. CHANNOCK, M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Surgeon to the York County Hospital.

STOWART, W. R., M.D. Dub., L.R.C.P., L.R.C.S. Irel., has been re-appointed Medical Officer for the First Sanitary District of the Trehoe Union.

WILKIN, R. H., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer for the Fifth Sanitary District of the Thingoe Union.

WILLIAMS, L. H., M.R.C.S., has been appointed Certifying Surgeon under the Factory Acts for the Civil Parishes of Thornbury, Oldbury-upon-Severn, [illegible] lockhampton, Falfield, Tortworth, Charfi[illegible] Cromhall Lygon, Rangeworthy, and Tyth[illegible] ural District.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BATH ROYAL UNITED HOSPITAL.—Resident Medical Officer for three years. Salary £100 per annum, with board, lodging, and washing.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL, Woodchurch-road, Birkenhead.—House Surgeon. Salary £75, with board, residence, and laundry. Apply to the Hon. Secretary, 20, Chapel-street, Liverpool.

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN, Birmingham.—Resident Medical Officer and Resident Surgical Officer. Salary of each £60, with board, washing, and attendance in the institution.

BURTON INFIRMARY AND DISPENSARY.—Junior House Surgeon for twelve months. Salary £50 per annum, with apartments, board, and attendance.

BRITISH OPHTHALMIC HOSPITAL AT JERUSALEM.—Surgeon as Clinical Assistant for eight months from June. Honorarium of £100, in addition to travelling expenses and maintenance.—Apply to Mr. B. Carter, 31, Harley street, London.

CARDIFF INFIRMARY.—Assistant House Physician for six months. Salary at the rate of £50 per annum, with board, washing, and apartments.

CHORLTON UNION.—Senior and Junior Resident Medical Officers at the Workhouse Hospitals, Withington, Manchester, for twelve months. Salary of Senior Officer £150, and of Junior Officer £120, with furnished apartments and attendance (but not rations) for each in the workhouse.

CITY OF LIVERPOOL INFECTIOUS DISEASES HOSPITALS.—Assistant Resident Medical Officer to the above hospitals, unmarried. Salary £[illegible] per annum, subject to a contribution to the Corporation Superannuation Fund, with board, washing, and lodging at the hospitals. Applications to the Town Clerk, Town Clerk's Office, Liverpool.

CUMBERLAND AND WESTMORLAND ASYLUM, Garlands, Carlisle.—Junior Assistant Medical Officer, unmarried. Salary £100 a year, with board and residence.

DENBIGHSHIRE INFIRMARY, Denbigh.—House Surgeon for 12 months. Salary £60 to commence, with board, residence, and washing.

DEWSBURY AND DISTRICT GENERAL INFIRMARY.—House Surgeon. Salary commencing £80 per annum, with board and residence.

FARRINGDON GENERAL DISPENSARY, 17, Bartlett's-buildings, Holborn-circus, London.—Resident Medical Officer. Salary £120 per annum, with apartments, coals, gas, and attendance and permission to take resident pupils.

FISHERTON ASYLUM.—Assistant Medical Officer. Salary £150 per annum, with board, lodging, and washing. Apply to Dr. Finch, Salisbury.

GENERAL INFIRMARY at Leeds.—Two H[illegible] for twelve [illegible] se Physicians [illegible] Board, [illegible] provided. A[illegible] Medical Officer. [illegible] with board, [illegible] washing.

GLAMORGAN COUNTY ASYLUM, Bridgend.—Junior Assistant Medical Officer. Salary £150, with board, apartments, washing, and attendance.

GLASGOW SAMARITAN HOSPITAL FOR WOMEN.—House Surgeon (qualified lady).

GREAT YARMOUTH HOSPITAL.—House Surgeon. Salary £60 per annum, with board, lodging, and washing, and £10 extra for lectures to [illegible]

[illegible] HOUSE, ST. LUKE'S HOSPITAL.—Assistant [illegible] this hospital and workhouse, unmarried. [illegible] per annum, mid-day meal provided, subject to super- [illegible] Apply to the Clerk to the Guardians, Union [illegible]

HOSPITAL FOR WOMEN, Soho-square, London.—House Physician for six months. Salary £30 for that period.

ITALIAN HOSPITAL, Queen-square, London, W.C.—Honorary Assistant Physician, Out-patient Department.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House Surgeon, unmarried. Salary £140, increasing annually by £10 to £170, with rooms in the Infirmary and attendance. Option of board at £40 per annum.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary £85 per annum.

LIVERPOOL DISPENSARIES, Moorfields, Liverpool.—Assistant Surgeon, unmarried. Salary £100 per annum, with board and apartments.

LIVERPOOL STANLEY HOSPITAL.—Junior House Surgeon. Salary £70, with board, residence, and washing.

[illegible] ROYAL KENT DISPENSARY, Greenwich-road. [illegible] Medical Officer for six months. Salary [illegible] per annum, with board, attendance, and washing.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Albany Memorial), Queen-square, Bloomsbury, London.—Two Assistant Physicians.

NORTHAMPTON UNION.—Medical Officer for a district. Salary £70 per annum, subject to superannuation deduction.

PARISH COUNCIL OF UIG, Island of Lewis.—Medical Officer and Public Vaccinator. Salary £200, exclusive of certain fees. Applications to the Chairman of the Parish Council.

PARISH OF ST. GILES, Camberwell, London.—Assistant Medical Officer for the Workhouse at Gordon-road, Peckham. Salary £120 per annum, with furnished apartments outside the workhouse, and an allowance of £1 1s. weekly in lieu of board and washing. Applications to the Clerk to the Guardians, Offices, 29, Peckham-road, S.E.

PARISH OF ST. MATTHEW, Bethnal-green, Lond[illegible] Officer for the New Infirmary, Cambridge-ro[illegible] £150 per annum, with board, lodging, and [illegible] Clerk to the Guardians, Offices, Bishop's-roa[illegible]

POPLAR HOSPITAL FOR ACCIDENTS, Poplar, London.—Assistant House Surgeon for six months. Salary at the rate of £65 per annum, with board and residence.

RIPON DISPENSARY AND COTTAGE HOSPITAL, Ripon.—Resident House Surgeon and Dispenser, unmarried. Salary £70 first year, to be advanced afterwards, with board and lodging.

ROYAL DEVON AND EXETER HOSPITAL, Exeter.—Assistant House Surgeon. Salary £40 per annum, with board, lodging, and washing. Also Junior Assistant House Surgeon for six months. Board, lodging, and washing provided.

ROYAL HALIFAX INFIRMARY.—Third House Surgeon, unmarried. Salary £50 per annum, with residence, board, and washing.

ROYAL LONDON OPHTHALMIC HOSPITAL (MOORFIELDS EYE HOSPITAL), City-road, E.C.—Three Assistant Surgeons.

ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AT VENTNOR.—Clinical Assistant. Board, residence, and laundry provided. Apply to the Secretary, London Office, 34, Craven-street, Strand, W.C.

ROYAL SOUTHERN HOSPITAL, Liverpool.—Junior House Surgeon. Salary 60 guineas per annum.

ROYAL SURREY COUNTY HOSPITAL, Guildford.—Assistant House Surgeon. Salary £50 a year, with board, residence, and laundry.

ST. MARY'S CHILDREN'S HOSPITAL, Plaistow, E.—Assistant Resident Medical Officer, unmarried. Salary £80 per annum, with board, residence, laundry, &c.

ST. THOMAS'S HOSPITAL, Westminster-bridge.—Resident Assistant Physician.

SALOP INFIRMARY, Shrewsbury.—Assistant House Surgeon for six months. Salary at the rate of £40 per annum, with board and washing.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior House Surgeon for twelve months. Salary £80, with residence, board, and washing.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—House Surgeon for two years. Salary £120 per annum, with board, lodging, and washing. Also Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.

STAMFORD HILL AND STOKE NEWINGTON DISPENSARY, Stoke Newington, N.—Assistant Resident Medical Officer. Salary £100 per annum, with board and residence.

STOCKPORT INFIRMARY.—House Surgeon. Salary £100 per annum, with residence, board, and washing. Also Assistant House and Visiting Surgeon. Salary £70 per annum, with board, washing, and residence.

...alary, £80, rising £10

...se Surgeon for twelve ..., apartments, washing,

...tion.—Assistant House ...ate of £30 per annum,

... notice of vacancies for ... Acts at Lynn in the ...ounty of Kent.

...—Professorship of Medical Jurisprudence. Also Surgical Registrar. Also Resident Medical Officer.

... The ... £50. ...LW— ..., with

... Westminster.—Resident Medical ...num, with residence, coals, gas,

...on. Salary £50 per annum, with

...E GENERAL HOSPITAL.—House ... £100 a year, with board, lodging, and washing. Also Assistant House Physician for six months. Honorarium at the rate of £50 per annum given, and board, lodging, and washing provided.

Births, Marriages, and Deaths.

BIRTHS.

BENSON.—On April 6th, at Fulwood road, Sheffield, the wife of H. Mitchell Benson, M.B., C.M. Edin., of a daughter.

FLEMING.—At 10, Chester-street, Edinburgh, on April 18th, the wife of Robert A. Fleming, M.D., F.R.C.P.E., of a daughter.

GALE.—On April 8th, at Manorgate House, Kingston hill, Surrey, the wife of Arthur Gale, M.R.C.S., L.R.C.P., of a daughter.

KERR.—On April 17th, at London road, Sheffield, the wife of W. S. Kerr, M.B., of a son.

LORRAIN SMITH.—On April 11th, at Westbourne, Windsor-avenue, Belfast, the wife of J. Lorrain Smith, M.D., of a daughter.

RANDALL.—On March 15th, at Ascension, the wife of Surgeon Philip N. Randall, M.B. Lond., Royal Navy, of a son.

SALISBURY SHARPE.—On April 7th, at Cleveland terrace, Hyde-park, W., the wife of W. Salisbury Sharpe, M.R.C.S., L.R.C.P., of a daughter.

WAINWRIGHT.—On April 11th, at Sandgate-road, Folkestone, the wife of Lennox Wainwright, M.D., M.R.C.S., L.R.C.P., of a son.

MARRIAGES.

... West Norwood, by the Lower Edmonton, assisted ...tha, West Norwood, John ...d, assistant physician to ... William Mead Bryant of ... sixth daughter of Richard

...hrist Church, New road, ..., of Sackville-road, Hove, ...le Louis Houssin of Lan-

... Trinity Church, Wey-... D.S.O., Royal Naval Sick Quarters, Portland, to Edith Elizabeth ...l eldest daughter of the late ..., Dorset. ...gregational Church, ...ond son of John H. ...day Wilson, second

WOODHEAD—WILLIAMS.—On April 11th, at Milton Congregational Church, Hubberslfield, Herbert Miall Woodhead, M.B., of Sale, Cheshire, to Mabel Cecilia, eldest daughter of J. E. Williams, Rose Hill, Huddersfield.

DEATHS.

COCKCROFT.—On April 12th, at Manor Lodge, Chislehurst, Thomas Howarth Cockcroft, M.D., in his 7[illegible]th year.

COURTENAY.—On April 6th, Joshua Passy Courtenay, Retired Fleet Surgeon, R.N.

JENNINGS.—On April 8th, at the Abbey House, Malmesbury, Wilts, Joseph Cave Spicer Jennings, F.R.C.S., in the 81st year of his age.

LAWTON.—On April 1st, at 1[illegible] Hamilton-square, Birkenhead, Hoth, dearly beloved wife of William Lawton, M.B., aged 50 years.

OAKLEY.—On April 11th, at [illegible] ...nal, Hampstead, Harry Calladine Oakley, L.R.C.S., L.R.C.P. Edin., aged 63 years.

PARKINSON.—On April 11th, at Hanover-street, Mayfair, Sir William Overend Priestley, M.P., M.D., LL.D., of Westbrook Hall, Horsham, Sussex, aged [illegible] years.

PETERKIN.—On April 12th, at 1[illegible] Wellington-square, Hastings, John Underwood, M.D. Edin., Hon. M.R.C.S. Eng., 1842, L.S.A., 1841, in his 84th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

"THE HOUSING OF THE POOR AND ITS AMELIORATION."

THE Howard Association was instituted under the patronage of the late Lord Brougham for the promotion of the best methods of Penal Treatment and Crime Prevention. It labours to indoctrinate the public mind with the importance of a reformatory and radically preventive treatment. In accordance with this definition it issues from time to time leaflets to the public and the press, and one that has just reached us bearing the above title is, in our opinion, particularly suggestive. In a characteristically practical speech which he recently made the Prince of Wales said: "There is no question at the present time of greater social importance than that of the housing of the working classes." For many years this has been widely felt and innumerable discussions upon the matter have taken place. A succession of Acts of Parliament have been passed in reference to it. Public bodies and councils have spent much money, at the expense of the already heavily burdened ratepayers, in endeavours to remedy the evils of overcrowded and insanitary dwellings, and yet the problem remains almost as difficult and as unsolved as ever. What, then, can be the reason of this large amount of failure, following so great a measure of effort? An answer is indicated, according to the Howard Association, by other words of the Prince of Wales used in the speech from which we have already quoted. His Royal Highness said: "I hope that the legislature may be able to deal with the case of *those who are responsible for insanitary property.*" Undoubtedly the Prince here pointed to a chief root of the great evil in question. Parliament has hitherto permitted the mischievous vested interests of slum property to be rewarded instead of punished. The Howard Association makes some sound reflections upon the erection of block tenements. "The erection," says the leaflet, "by municipalities and councils of large block tenements has at times defeated its own well meant purpose by increasing, instead of diminishing, the evils of overcrowding. For after all the cost incurred for 'compensation' and construction the number of persons thus accommodated has been comparatively small, and has in general consisted of a class better off that those evicted. The latter have either had to swarm into other adjacent slums, thus causing still higher rents there than before, and with still worse sanitary conditions, or they have been driven into suburban slums, in some of which the 'jerry builder' still piles his destructive work with impunity." Moreover model dwellings are apt not to supply the wants of the very poor. The accommodation provided for the next rung above those in the social ladder may concentrically form an incentive to the lowest to strive to better themselves, but the extremely poor want more than an example, they want a roof above their heads. The subject is one of enormous medical importance, but medical views on the matter seldom include any expression of opinion save the somewhat obvious sentiment that if drunkenness, vagrancy, and culpable pauperism could be more effectually eliminated by legislation one result would be a largely increased proportion of persons better able than at present to pay rent for improved and suitable dwellings. The Howard Association draws attention to the "rural exodus" which has been going on in England now slowly for many years. This exodus has brought multitudes of country people into the cities and towns in consequence of agricultural depression and the contrast between the exceeding dullness of rural life and urban attractions. If by any remarkable move the English man could be persuaded to go back to the soil the problem of the poor would be half solved. It is not within our [illegible] to discuss the political developments which have led to the present position of English agriculture, but the painful statement of facts should strike all of us—and more than medical men, so large a proportion of whom pass their lives in intimate association with the rural poor. Large tracts of land within a few miles of London have been given over to cultivation or are continued at a loss to the [illegible] while the fact that the chief industry [illegible] sanitary [illegible] from the country [illegible] effectually as it is this great [illegible] in positive [illegible].

"THE MEDICAL FOLK IN LIFE OF SHERLOCK."

To the Editor of THE LANCET.

SIR,—The [illegible] on the [illegible] April [illegible] ...ly the [illegible] at the [illegible] The champion [illegible] all [illegible] an [illegible] I have [illegible] seen it very [illegible] The [illegible] Lutgarway, [illegible] Patrick's [illegible] Dinery [illegible] as a [illegible]

fable. In fact St. Patrick furnishes the subject of an authentic piece of history. He was born in Armoric Gaul, and from his home at the early age of 16 he was taken with other prisoners of war to Ireland by Niall of the Nine Hostages, the immediate ancestor of the O'Neills, who reigned from 379 to 405 A.D. In Ireland Patricius was sold as a slave and with others tended the cattle of his master on Slieve Mis Mountain in co. Antrim. Patrick after a captivity of seven years effected his escape and returned to his family in Gaul. He then began his studies and in the year 432 he was consecrated an Irish bishop and was appointed successor of Palladius on the Irish mission. In the same year Patrick landed in Ireland and on the following Easter Sunday he preached before Laoghaire the Monarch, son of Niall, and a large assembly of people at Tara. When St. Patrick was explaining the doctrine of the Trinity and seeing the difficulty his hearers had in understanding him he plucked from the ground a shamrock, and by demonstrating the three leaves united in one he effectually brought the great truth home to the minds of his hearers.—I am, Sirs, yours faithfully,

Lincoln, April 16th, 1900. WILLIAM O'NEILL, M.D. Aberd.

"THE DOCTOR'S DREAM."

To the Editors of THE LANCET.

SIRS,—The lines which you quote in THE LANCET of April 14th are by Clement Scott and appeared in *Punch dpropos* of the suicide of Dr. Edwardes of Hounslow under most distressing circumstances many years ago. Clement Scott republished them in a little book entitled "Poems for Recitation," issued by [illegible] egard the poem as a classic, but it bears evide[illegible]

I am, Sirs, yours faithfully,

Biggleswade, April 14th, 1900. J. B. EMMERSON.

*** Several other correspondents have written to the same effect.—ED. L.

MYOTOMA CONGENITA!

To the Editors of THE LANCET.

SIRS,—In THE LANCET of April 7th I am credited with being about to show, and in that of the 14th with having actually shown, something at the Medical Society of London under the above heading. I have heard of a myoma and of many other things all beginning with an "m." But what on earth is a "Myotoma Congenita"? Does it talk, or walk, or fly, or spin, or can it only crawl about? Does it emanate from the fertile brain of your printer's boy? If so, why, being obviously a neuter noun substantive, does he tack on to it the feminine attribute congenita? How did so ghastly a false quantity escape his cultivated observation? Has he not enjoyed the advantages of a School Board education? Have not you and I paid 1s. 3d. in the £ for him? Don't you keep a plagosus Orbilius on the premises to make his ears, or his "myotoma," if he likes to call it so, tingle, when he does such things? "Myotonia Congenita" is a shocking mongrel. I am not responsible for the term, but I must protest against having "*Myotoma* Congenita" fathered on me. Are not printer's boys called devils? With your usual courtesy please make the necessary correction and oblige,

Yours faithfully,

LEONARD GUTHRIE.

Upper Berkeley-street, W., April 14th, 1900.

*** The substitution of an "m" for "ni" escaped our eye. It did not escape the eye of the proof-reader who looked out the term in a well known medical dictionary, only to find a mistake there.—ED. L.

"MURAL ADVERTISING AND THE LONDON COUNTY COUNCIL."

MR RICHARDSON EVANS, the Honorary Secretary of the National Society for Checking the Abuses of Public Advertising, has written an excellent letter to the *Times* with this title. While congratulating the London County Council upon its recent by-law vetoing in places where danger to traffic might be caused by them all forms of light which alter suddenly either in intensity, colour, or direction, Mr. Evans asks, as the *Times* and THE LANCET have also asked, why physical risks should alone be considered? Flash lights are dangerous to traffic and so entail physical risks, but this is only one side of their evils. They are hideous things, and ugly, noisy, hideous things, constantly vexing our eyes and our ears, constitute a very real peril to the community, a peril as real and as undeniable as an accident in a hansom cab. "It is sufficient to remark," says Mr Evans, in calling attention to the harm that may be done by perpetual shocks to the special senses, "that while the council has legal power to frame by-laws for securing the safety of traffic it would have to obtain statutory authority to make regulations out of deference to what are called 'aesthetic' considerations. For that advance in courageous common-sense the 'physical danger' by-law supplies an excellent basis. It is the English tradition to effect substantial reforms under cover of legal sections. When the London County Council saved the metropolis and set an example to the world by getting an Act enabling them to put a stop once for all to the newly invented and rapidly extending destruction of sky signs their real reason was regard for the appearance of the metropolis. Yet they could not nerve themselves to acknowledge that the things were intolerable because unsightly. They must needs make believe that the structures were [illegible] to life and limb. Other corporations are less timid. Edinburgh last year [illegible] for and obtained extensive powers for the control of advertising devices of all sorts, and the Dublin corporation, I rejoice to say, has celebrated the Queen's visit by resolving unanimously to arm itself with a similar weapon for self-defence. London must, for very shame's sake, move soon. Those who [illegible] restored to the aspect of our [illegible] making their desires known [illegible] We trust that the electors of [illegible] advice and insist that their representatives upon the London County Council shall pay proper attention to such matters as hideous advertisements and unnecessary street noises. It has been the custom to treat those who protest against these abuses as over-sensitive persons whose fads cannot be humoured. It should be made clear to the London County Council that it is not only dyspeptic journalists and overstrung musicians who run risks under perpetual irritation of their nerves. On the contrary, the whole community runs these risks, and the London County Council should put an end to them.

EARLY CLOSING.

THE report [illegible] has just been issued. It gives th[illegible]cts in which the daily work of [illegible] early closing improvements has been carried on. During the year 364 district reports have been presented and considered at the board meetings, and one thing becomes very clear upon reading the report. The opposition to the association and its reforms of a single individual may influence a district and prevent the earlier closing which would otherwise be effected. Permanent improvements have been effected in 392 metropolitan shops. The work of the association is active and well done, and deserves the support of medical men.

"A NEW USE FOR DOGS."

WE have received from press-cutting agencies a letter with this title, signed "Maurice L. Johnson." The following passage occurs in it:—

> According to THE LANCET of February 19th Dr. Fremont, of Vichy, gives his dyspeptic patients large doses of the gastric juice of dogs. "This treatment is," we are told, "unhappily, not within the reach of all purses, for in order to provide the large doses necessary a regular pack of small dogs with gastric fistulæ (holes in their stomachs) has to be kept so as to provide the necessary amount of gastric juice."

THE LANCET was not published on Feb[illegible] question, the date of the publication of whic[illegible] misquotes, was not "according to THE LANC[illegible] munication from a special correspondent to us. We should not have taken the trou[illegible] curacies if his name had [illegible] If he did not apparently [illegible] Only last year he apologised to us for grossly misquoting us in a letter which he distributed broadcast to the press, and although the inaccuracies occurred then, as they do now, in more than one paper, he calmly attributed them to "a compositor's error."

Stand Sure.—We regret to be unable to answer our correspondent's question. The fair arrangement depends upon circumstances which are not furnished in his letter. The difference in the wholesale and retail price of a commodity depends, among other things, upon the fact that the retailer has the responsibility of storage and the cost of establishment as well as special skill. We do not gather from "Stand Sure's" letter who stores the drugs and who makes up the prescriptions. If the whole of the pharmaceutical work and its responsibilities falls upon A it matters so little whether his partner or the patients pay him that there need be little difference in price.

Nottingham.—We agree that the questions are delicate, but none the less they should be put to a medical man. The medical profession is used to dealing with delicate questions. The points upon which information is required are outside the scope of family practice, and the family practitioner would certainly admit this and be happy to suggest to our correspondent where he could get the best advice, choosing for him, if he wished, a consultant living at a distance. We regret that we cannot break our invariable rules not to give medical opinions and not to recommend practitioners by name.

Ammonia.—Neale's Digest contains all the information sought, and the volumes of THE LANCET and the *British Medical Journal* to which reference is made are surely accessible to our correspondent.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received: *Derbyshire Times, Morning Herald, Leeds Mercury, Sun (London), Times of India, Pioneer Mail, Seaforth, Architect, Builder, Citizen, Liverpool Daily Post, Birmingham Daily Post, Bristol Mercury, Burton Mail, Yorkshire Post, Wiltshire Advertiser, Leicester Daily Post, Lancashire Daily Post, Hereford Times, Midland Free Press, Dundee Advertiser, East Anglian Daily*

Times, Surrey Mirror, South Wales Daily News, Yarmouth Independent, East Daily Press, Manchester Guardian, West Hartlepool Guardian, Glasgow Herald, Folkestone Herald, Westminster Gazette, Bexhill Chronicle, Gloucester Journal, Cheltenham Examiner, Newcastle Daily Chronicle, Mining Journal, Sanitary Record, Brighton Gazette, Oswestry Advertiser, Kenilworth Advertiser, Nuneaton Observer, Health, Wilts Advertiser, Ipswich Journal, Dudley Herald, Kettering Guardian, City Press, Local Government Chronicle, Surrey Advertiser, Portadown News, Guy's Hospital Gazette, Pall Mall Gazette, Local Government Journal, Hertfordshire Mercury, Reading Mercury, Stamford Guardian, Sporting Chronicle, Hastings and St. Leonards Observer, Australian Trading World, Weekly Free Press and Aberdeen Herald, Sheffield Daily Telegraph, &c., &c.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 19th, 1900.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rainfall.	Solar Radiation in Vacuo	Maximum Temp Shade.	Min. Temp	Wet Bulb	Dry Bulb.	Remarks at 8.30 A.M.
April 13	29·75	W.	...	101	60	43	51	53	Cloudy
" 14	30·03	S.W.	0·04	101	65	45	47	50	Overcast
" 15	29·97	S.W.	...	93	57	49	49	54	Cloudy
" 16	29·8	W.	...	101	58	42	45	50	Cloudy
" 17	30·24	W.	0·06	71	57	41	45	47	Overcast
" 18	30·30	N.	0·01	95	63	41	47	50	Fine
" 19	30·54	S.W.	...	85	64	49	49	55	Hazy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (23rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

[illegible] 30 P.M.), Guy's [illegible] 30 P.M.), West[illegible]ersity College [illegible]), St. Mark's [illegible] London Throat [illegible]

WEDNESDAY (25th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (26th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.) University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.).

FRI[illegible] [illegible] 0 P.M.), St. [illegible]), Charing-[illegible] St. Mary's [illegible] (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (28th).—Royal Free (9 A.M. and 12 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (23rd).—MEDICAL SOCIETY OF LONDON.—8.30 P.M. Mr. T. Bryant: The Relative Frequency of Cysts of the Breast, their Diagnosis and Treatment.—Dr. C. Powell: 5 Years' Death Certificates in General Practice.

TUESDAY (24th).—ROYAL STATISTICAL SOCIETY (4, Adelphi-terrace, Strand, W.C.).—5 P.M. Paper: Mr. H. B. Jacobs: On the Consumption of Alcoholic Beverages.

WEDNESDAY (25th).—HUNTERIAN SOCIETY.—8 P.M. The President: Traps and Pitfalls in Special and General Practice. After the address there will be a Discussion in which Fellows and their visitors are invited to join.

THURSDAY (26th).—DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND (20, Hanover-square, W.).—8 P.M. Internal Malignation of Cases. 9 P.M. Ordinary Meeting.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Dr. A. S. Myrtle (Harrogate): Personal Experiences of Gout. Paper:—Dr. L. Gordon (Forest Hill): The Climate and Hospitals of Rhodesia (illustrated by lantern slides).

FRIDAY (27th).—[illegible] W.).—8.30 P.M [illegible], Hanover-square, [illegible] ing cases will be shown:—Dr. [illegible] urgitant Murmur heard in the [illegible] A Case of Tuberculous Gland [illegible] radiograph:—Dr. P. Eldd: A Case of Lymphatic Leucocythæmia.—Dr. H. Campbell: A Case allied to Recklinghausen's Disease.—Mr. C. Symonds: A Patient after Complete Removal of the Clavicle.—Sir Hugh Beevor: A Case of Diffuse Lipomata of the Limbs.—Dr. N. Dalton: A Boy [illegible] Mediastinal Glands Pressing on the [illegible] ase of Osseous Tumour of the Arm [illegible] Savill: A Case of Macular Leprosy [illegible] Cod-liver Oil. Patients will be in attendance at 8 P.M.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (23rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. M. Morris: Consultation. (Skin.)

TUESDAY (24th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Sir W. H. Broadbent: Consultation. (Medical.)

WEDNESDAY (25th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—5 P.M. Prof. J. Dreschfeld: Clinical Lecture.

THURSDAY (26th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Hutchinson: Consultation. (Surgical.)

FRIDAY (27th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. D. Grant: Consultation. (Ear and Throat.)

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE, OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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A Clinical Lecture

on

A CASE OF INTERNAL DERANGEMENT OF THE KNEE-JOINT.*

Delivered at St. Mary's Hospital

By EDMUND OWEN, F.R.C.S. Eng.,

SURGEON TO THE HOSPITAL.

From Notes taken by Mr J. M. Pooley, *Clinical Clerk and Dresser.*

Gentlemen,—The case that I am going to demonstrate to you is that of a man with a damaged internal semilunar fibro-cartilage, and before the patient is wheeled in I may tell you that he is an artisan and an international (Rugby) football player. I will have him stripped, and I think that you will agree with me that he is a splendid specimen of muscular development. One rarely has the opportunity of seeing so well-made a man—at least in hospital practice. When he comes in and stands up you will notice the enormous mass of the muscles on the front and sides of his femora, but if you look carefully you will see that there is evident wasting of the right thigh. Here he is. He is 25 years of age and his history is briefly as follows. He first twisted his right knee at football in November, 1898. This was followed by much swelling and tenderness, so a splint was applied and he was laid up for a month, after which he again started playing and continued with it through the season. In June, 1899, he gave the same knee a sudden twist at cricket; he fell down and was unable to move. He then had to give up work for a month and he has not been right since. On Sept. 30th, 1899, at the beginning of a football match, he had another recurrence of his trouble, and the medical officer of the club advised his coming to St. Mary's Hospital for an operation.

Notice once more that the right thigh is not so massive as the left. Wasting of the neighbouring muscles is an invariable and early sign of disease of a joint, and sometimes before it is very obvious to sight or to measurement its presence may be recognised by gripping up a large mass of the muscle first of one limb and then of the opposite one, when a marked flabbiness is noted on the affected side. In thus estimating the amount of vigour of the muscles the same hand must be used [illegible] cannot institute a fair and [illegible] the muscles of the left thig[illegible] the right with your left hand [illegible] you.

Wasting of the muscles in joint-disease is not caused merely by want of use. As a matter of fact this man has rested his damaged limb but little; you will hear that he has been occasionally playing hard, county football, and as captain of his local club he has been constantly playing in matches of less importance, and he cannot do this with *one* limb. No, a man who walks, who works, and who plays football cannot rest his thigh very much, yet you notice that one thigh is comparatively small and that its muscles are flabby. There must be some other explanation for this phenomenon, and I offer it thus. When a joint is inflamed, nature does her best for it by keeping it as quiet as she can, and she effects this by taking all the energy out of the muscles which act upon the joint by a process of starvation. The afferent nerves from the damaged joint convey to the grey matter of the cord an impression which passes to the trophic cells in the anterior cornu of the crescent where the nerves arise which control the nutrition of the muscles. This molecular disturbance in the crescent results in an inhibitory influence upon the nutrition of the muscles. The phenomenon, I take it, differs only in degree from the wasting of a group of muscles which follows the gross lesion in the crescent due to poliomyelitis. As our powers of minute investigation increase it may become possible for the microscopist actually to demonstrate the existence of such a histological change in the [illegible] matter of the cord in a case of old standing articular disease, but in the meantime the theory which I venture to offer is not undeserving of consideration.

There is a small amount of fluid in the joint, and by compressing the upper and lateral parts of the capsule you can make the synovial membrane bulge at the lower part and possibly also you may at the same time cause the patella to "float" off the trochelar surface of the femur. This fluid is thin sero-synovia stained with blood, for when a man wrenches a fibro-cartilage there must needs be some tearing of blood-vessels and consequent haemorrhage.

As you flex and extend the leg you do not notice any impediment to motion, nor do these gentle antero-posterior movements cause discomfort to the patient. At present there is no pain in the joint, but if you press with the end of your index finger into the crevice between the internal condyle of the femur and the head of the tibia in front of the internal lateral ligament he will tell you that it hurts him. That spot corresponds, of course, to the anterior part of the internal semilunar cartilage, and I believe that if you carefully compare the two knees you will agree with me in thinking that there is less resistance in that crevice upon the damaged knee—that, in other words, the semilunar cartilage is not occupying its proper position.

Altogether the symptoms point to a displacement of the disc towards the central part of the joint, and in my experience nothing short of a cutting operation will put the knee right. Splints, knee-trusses, pads, or retentive apparatus are sometimes prescribed for cases like this, but they can keep the knee right only in crippling it. Certainly if we prescribed such treatment for this patient he would have to be shut out from the enjoyment of all violent athletic exercises. On the other hand, the operation is by no means free from anxiety and risk. The surgeon who undertakes an operation upon a semilunar cartilage should thoroughly realise the fact that the responsibility attaching to him is great. I cannot imagine a much more serious surgical calamity than that of septic inflammation following an operation upon the knee of a young man who, but for there being something amiss with the working of a joint, is in perfect health and vigour. A mere forgetfulness, the omission of some detail in the preparation or in the operation, may involve the loss of the joint or of the limb, or even of the life of the individual. And although the joint does not become septic the condition just subsequently to the operation may cause the surgeon intense anxiety. I [illegible] rience a few years ago after [illegible] man. His temperature went [illegible] rected in the sub-crural pouch to such an extent that I had to make a counter-opening. As soon as I did this everything went well, and in the following year the patient played himself into the captaincy of his golf club.

In a case of this sort the surgeon must not rush at the operation. He must have the patient if not all the time in bed at least laying up for the best part of a week before operating. We kept this young fellow in the ward for five days before operating. During this time the man and his joint were, so to speak, "training" themselves for the ordeal, and during this very needful period of training we had long lateral splints of gypsum moulded on to the limb to be ready for application after the operation. We gave him morning doses of Epsom salts, and we shaved, scrubbed, and cleansed his limb, and by the time that we were ready for him the synovial effusion had disappeared and the joint was absolutely quiet. During this time, also, we had assured ourselves that his urine contained neither albumin nor sugar. This was a very necessary assurance, for had he been albuminuric or diabetic—as even an apparently healthy young man may be—his tissues would have been improperly nourished, and the inflammation which necessarily follows the surgeon's knife might have far exceeded proper limits. Inflammation, I may remind you, is the "reaction of organs taking place in living tissue," and so on; you remember the definition—and living tissues are "injured" when they are healed, as living tissues are "injured" when they are healed, the inflammation necessarily follows every wound that the surgeon makes. Indeed, without inflammation the wound could not heal. Inflammation is, therefore, the surgeon's friend, it is only when it becomes septic and destructive that the surgeon dreads it, and then the fear is about his own.

Operation.—A vertical [illegible] [illegible] incision [illegible] a little [illegible] [illegible]

* This lecture is [illegible] [illegible] there [illegible]

and when the bleeding had been arrested the synovial membrane was freely incised and the interior of the joint was inspected. It was at once seen that the anterior part of the internal semilunar cartilage, torn and ragged, was out of its proper place, lying between the articular surface of the inner femoral condyle and tibial tuberosity. Nothing short of its removal could possibly have restored the function of the joint, so I cut it away from the internal lateral ligament and from the tibia. Mr. A. E. Priddle, the house surgeon, and I then explored the joint with the finger to see so far as we could that there was nothing else wrong with the joint, and we washed out the cavity with a few syringefuls of hot carbolic lotion. As there was a good deal of bleeding into the joint we left in a small drain for just 24 hours, and having closed the rest of the wound we put on a dry mercuric wool dressing and fixed the limb in its gypsum splint.

Anatomy.—I may remind you that the internal semilunar fibro-cartilage is the longer of the two, and that its extremities enclose those of the outer; that each disc is connected with the head of the tibia by the weak coronary ligament, and that the internal disc takes a very firm attachment to the articular aspect of the broad, internal, lateral ligament. The outer disc has no attachment like that last named, being separated from the articular aspect of the external lateral ligament by the tendon of origin of the popliteus and its investment of synovial membrane. The outer disc is therefore much less firmly fixed than the inner. If I asked you which of the two discs is more likely to become deranged you would probably say the outer. But so saying you would be wrong, for it is almost always the anterior part of the inner cartilage which gets adrift. Why this should be I confess that I do not know. Theories have been offered in explanation, but I do not think that they give a satisfactory solution of the paradox.

The operation was done on Oct. 19th, 1899, and the temperature-chart shows the highest point recorded to be 99° F. At the end of a fortnight, the wound being solidly healed, massage and movements were begun, and a week later the man left the hospital.

Under date of Jan. 23rd, 1900, a friend of the patient, Dr. Thomas Cooke of Barnstaple, reports:—"His knee is now quite right again, all the thickening has disappeared and he says that it is quite as strong as the sound one. He has made up his mind to play football and I told him that as far as I was able to judge I thought he might do so with safety."

It is interesting to note that through the latter part of the football season now ending the former patient has been playing with great vigour, and that he took part in the final match for the inter-county (Rugby) championship.

AN EXPERIMENTAL INQUIRY INTO SCURVY.[1]

BY FREDERICK G. JACKSON

AND

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THE view that scurvy is caused by the want of fresh vegetables or lime-juice, which has been the teaching of physicians and scientists in past years, would appear to require modification.

In the early part of this century, through the efforts largely of Lind, the better feeding of sailors led to the gradual disappearance of scurvy in the naval service, and from this and other observed facts it was conceived that the disease developed whenever individuals did not receive a sufficient quantity of fresh vegetables or some substitute, such as lime-juice, in the diet. Garrod held that the cause of scurvy was a deficiency of potassium salts, while others believed the essential factor to be the absence of organic salts which are present in fruits and vegetables. Ralfe believed that the absence from the food of malates, citrates, and lactates reduced the alkalinity of the blood and thus was the cause of scurvy. It was proved, however, by analysis that the alkalinity of the blood was not diminished, and the majority of evidence showed no diminution in the quantity of potash salts in the scorbutic blood, so that these explanations had to be abandoned. Neale, in an article on "Scurvy in the Arctic Regions," published in the *Practitioner* in 1896, stated that "scurvy is a disease due to want of proper ventilation and want of proper blood nourishment; in fact, scurvy begins with anæmia, and its great antidote is fresh blood." He consequently did not consider that fresh vegetables were of such prominent importance in the warding off of scurvy as the general teaching up to the present has led us to believe. These remarks of his were drawn from practical experience in the Arctic regions, as will be later mentioned.

It is to the sojourners in the Arctic and Antarctic climes that scurvy nowadays is of such overwhelming importance, although in some lands nearer home it is still rife and occasional cases even now occur in our marine services. Credit, as has been already stated, has been given to the use of lime-juice in the Royal Navy and the merchant service for the great reduction of scurvy on board ship, but, as this research will presently show, this conclusion is probably without justification. In the Nares polar expedition the crews of both the *Alert* and the *Discovery* suffered greatly from this affliction although lime-juice was taken daily by all hands when on board. When on the sledging expeditions, in consequence of the necessities of such a condition of travel, only a small quantity of lime-juice was carried, yet an outbreak of scurvy occurred not only amongst the sledging parties but also amongst the men who remained on board ship and continued to take the prescribed allowance of lime-juice daily. On the other hand, Mr. Leigh Smith's party, with its medical officer, Dr. Neale, after the loss of their ship, the *Eira*, spent nine months, including a winter, upon Franz Josef Land, in the severest, and in all certainty the most insanitary, conditions imaginable. They had no lime-juice whatever; they almost entirely lived upon freshly killed meat and frozen blood and no case of scurvy occurred amongst them. On comparing these two examples we see that in the case of a body of picked men, well housed, well cared for, and with all possible means for preserving health adopted by those in command, taking the prescribed quantity of lime-juice daily (except in the case of the sledge crews when absent from the ship for a few weeks), but who lived almost entirely on preserved meat, we have universal scurvy; while, on the other hand, we have a party who had not been selected on account of physical fitness, who were cast upon the desolate shores of Franz Josef Land with only the bare necessaries of existence, who passed through nine months of their life there under conditions of considerable privation and hardship and in circumstances which would hardly meet [illegible] of any sanitary inspector, who had no [illegible] lived on freshly-killed bear-meat and walrus meat, and no symptoms of scurvy appeared amongst them.

No less striking results were obtained by Dr. Nansen and Lieutenant Johansen. These two individuals, after they left the *Fram*, had to spend nine months, including the winter of 1895 and 1896, on Frederick Jackson Island. They were forced to live in a rudely constructed hut, without any changes of clothing or possibilities of washing, so that their sanitary condition was not only of the roughest description but the most unsuitable possible for health, and during the whole of this time they had no fresh vegetables whatsoever, and not even any lime-juice. The only food they were able to use was fresh walrus meat or bear's meat which had been preserved simply by the cold. During this entire period they ate no salted or tinned meats, and we can presume that the bear's meat and walrus meat, as it would freeze almost immediately on being killed, would remain perfectly fresh. In consequence apparently of the purely fresh meat and in spite of the most insanitary conditions, Dr. Nansen and Lieutenant Johansen passed the whole winter almost constantly in the dark and without exercise and yet showed no symptoms of scurvy whatsoever. In fact, the results with these two individuals show that the view of Neale, who had laid special stress on the want of proper ventilation as one of the causes of scurvy, was not realised, for the ventilation of their hut must have been extremely bad, as they describe the soot from their blubber-lamps as being deposited everywhere. Before commenting on this a few more examples in reference to this important subject may well be given.

[1] A paper read before the Royal Society on March 1st, 1900. [illegible] Dr. J. Lister, F.R.S. To meet the expenses of this [illegible] grant [illegible] Royal Society.

[illegible] of lime juice, scurvy is unk[illegible] entirely, upon fresh reindeer [illegible] among the Samoyads who [illegible] with the Russian peasant trader[illegible] Yugor Straits and live in common with them in the districts adjoining the large rivers in north east Russia upon salted fish—the chief winter food there until the following May—scurvy is prevalent. That this fish is invariably tainted can be testified to, from personal experience. In 1893, when at Kharborova, a Samoyad settlement on the Yugor Straits, a remarkable case pointing to the cause of scurvy came under his notice. Six Russian priests, whose religion forbade them to eat reindeer or other such meats but fish, were left in a hut by [illegible] owner) to pass the winter, [illegible] F. G. Jackson's visit A [illegible] (with whom he conversed) [illegible]m. The priests lived almost [illegible] salted fish; the boy lived [illegible] instead of the salted fish he ate reindeer meat. None of them had any vegetables. In the following May, when the Samoyads and peasant traders returned, they found that all the six priests had died from scurvy, whereas the little boy who had lived upon fresh meat and had not eaten salted fish was alive and well and had buried all his late masters in the snow, he being the only living being in Kharborova in the spring. In the experiences collected by one of us (F. G. J., during his late expedition to Franz Josef Land in 1894, 1895, 1896, and 1897) we have two parties to consider: the crew of the *Windward* who spent the winter of 1894 and 1895 there, no individual of which ever failed to take his prescribed ounce of lime-juice daily, and yet scurvy broke out causing at least one death; and, on the other hand, the land party on shore who took no lime juice, except two or three of them who used it as a refreshing drink during the first few months, after which none was used. During the three years that they passed in Franz Josef Land none of them suffered from any symptoms of scurvy. The difference between these parties was principally, if not entirely, due to the meat. The *Windward* party used largely tinned and salted meat; while, on the other hand, the land party principally lived on bear's meat, and when tinned meat was employed it passed a severe scrutiny in order that as far as possible it might not even be tainted. From these and other facts it would appear that neither lime juice nor fresh vegetables prevent scurvy or cure it, that it is not the absence of these which is the cause of the disease, but that scurvy is a disease produced through the eating of *tainted food*.

The view that scurvy is essentially due to poisoning by the ptomaines of tainted animal food was first propounded by Professor Torup of Christiania, and it would appear from the foregoing evidence that such is the case for in all the cases above mentioned where any scurvy occurred the men had lived on tinned meats or salted foods. Confirming this view, Dr George M. Robertson, of the Perth District Asylum, relates a case of a woman who had become an inmate chiefly owing to her malady having taken the form of eating filth from pigs' troughs. On arrival in the asylum she was found to be suffering from spongy ulcerated gums—in fact, from "land scurvy," and ultimately all the teeth, except the canines, fell out. In the many instances of scurvy that we have investigated in no single case have the circumstances rendered inadmissible, or even improbable, the theory that this disease is due to ptomaine poisoning. Before giving to lime-juice the credit of having practically swept away scurvy from the naval and marine services it is necessary to remember that other causes have at the same time been at work to promote health, such as improved sanitation, better quarters for the men, shorter voyages through the increased use of steam, and, above all, *better food*. The evidence so far shown in which the Lancashirgy experiment on the effects of ptomaine poisoning proves that scurvy is produced by the eating of tainted meat and not by the want of fresh vegetables.

In order to confirm or negative this view it was decided to carry out some experiments in this country. After careful consideration it was [illegible] that as tame animals for such experiments would [illegible] Monkeys are not naturally would be necessary to give the would not possess any alleged [illegible] for this purpose it was decided to feed the monkeys on boiled rice and maize. In order to keep the standard of meat as nearly as possible always the same, a certain brand of tinned Australian beef was employed. Daily the rice was well boiled, and after becoming thoroughly softened 50 grammes of meat were added to each portion of rice for the various monkeys. It was then well stirred and gently heated, by this means the meat got well mixed with the rice, and although the monkeys might reject some of the larger lumps of meat a considerable portion of it was eaten. At the same time any soluble ptomaines would be also [illegible] by their [illegible] and thus eaten by [illegible] ed daily a certain [illegible] described by [illegible]

Group 1—The monkeys in this group were given daily, together with their boiled rice, 50 grammes of meat from a *freshly* opened tin, together with maize.

Group 2—The monkeys in this group were given the same quantities of meat as in Group 1, but from tins which had been opened for a few days and had stood in the laboratory. The meat in these tins was not what one would call bad although it had a distinctly sour smell. Rice and maize were given as before.

Group 3—The mon[illegible] the same diet as was [illegible] monkey received daily.

We have found in t[illegible] far as diet is concerned, which ought to yield definite results in reference to the subject of ptomaine poisoning. In order that the general surroundings of the monkeys should be as nearly as possible the same and that each should be properly observed every monkey was kept in a separate cage of similar construction so that the fæces could be easily examined. The cages were kept in a room warmed by hot water pipes so that they were under as nearly as possible similar conditions as regards light and heat. The excreta of the monkeys were examined daily and the general appearance of the animals was noted, more especially as regards the condition of the gums. Every few days the monkeys were weighed.

We can now proceed to describe the results of the experiments. In order to study the results of each group more easily they are put together in a tabular form.

In Group 1 the monkeys were fed on boiled rice with 50 grammes of fresh meat and maize daily. Six monkeys in this group (table I) were kept under observation.

TABLE I.—*Group 1. Monkeys fed on Boiled Rice, with 50 grammes of Fresh Meat and Maize daily.*

Monkey No.	Date of commencement.	Weight in kilogrammes. Original.	Weight in kilogrammes. Last.	Date of death or [illegible]	Blood and [illegible]	Gums [illegible]
	Days.			Days.	Days.	Days.
1	0	2·000	1·100	[illegible]	0	0
2	31	2·000	1·100	[illegible]	0	0
3	23	2·100	1·000	[illegible]	0	0
4	63	2·000	1·100	7	0	0
5	73	2·000	1·100	13	0	0
6	0	1·000	1·000	5	0	0

In the case of monkey No. [illegible] which lost no less than 1·100 kilogrammes in 73 days, the loss of weight principally occurred during the last [illegible] days. Up to that period this monkey had only lost 0·300 kilogramme. During the last [illegible] days, however, [illegible] set in, followed by rapid weakness. The [illegible] gums as regards the colour were [illegible] that all of the monkeys on this diet lost weight, probably from the food not being sufficiently nutritious, the loss of weight was apparently due to the diarrhœa. We were unable to consider the diarrhœa as due to the diet, as the monkeys were in this condition [illegible]. As a whole it was noticeably by being very lively and [illegible] towards the end, when it appeared [illegible] the general [illegible] The [illegible] [illegible] had been [illegible]

62 days on the diet, when it proved fatal after seven days. In the case of monkey No 5, on the other hand, it began after 13 days, but was only slight, and at intervals of three or four days, after which it became very severe; during the last seven days there was rapid wasting, and death occurred on the seventy-third day. In the case of monkey No. 3 the diarrhœa commenced, however, on the third day, when it was very severe, and afterwards, although the diarrhœa was not so acute and occurred only at intervals, the animal became very feeble, and on the twenty-eighth day was killed by chloroform. At the necropsy no cause for the feeble condition could be found, although the large intestine was somewhat congested in this case. In spite of the appearance of this diarrhœa none of the monkeys in the group showed any signs of either blood or mucus in the motions, the liquid stools being merely of a pale yellowish colour. And in all these cases the gums, although frequently examined, showed no sponginess or signs of bleeding. The monkeys of this group as they became emaciated sat hunched up in their cages, the most usual attitude being with their heads between their knees as if they were trying to keep themselves warm, although the room was, as already stated, heated by hot-water pipes. They also showed signs of being out of condition by the general roughened condition of their coats. At the necropsy all these monkeys exhibited more or less marked emaciation, but with the exception of monkey No. 2, which died from pneumonia, in no case was the direct cause of death discoverable. In the bowels were found liquid light-coloured contents and only in the case of monkey No. 3 were there any signs of congestion to be noted in the large intestine.

TABLE II.—*Group 2: Monkeys Fed on Boiled Rice, with 50 grammes of Tainted Meat and Maize Daily.*

No.	Duration of observation.	Weight in kilogrammes.			Diarrhœa commenced.	Blood and mucus in stools.	Gums spongy and bleeding.
		Original.	Final.	Loss.			
	Days.				Days.	Days.	Days.
6	18	2·000	1 400	0 600	5	0	0
7	14	1·350	1 050	0 300	5	8	13
8	55	1 500	0 950	0 550	17	23	27
10	65	1 600	1·050	0·550	7	28	28
11	54	1 650	1 250	0 400	4	26	27
12	11	2 425	2 150	0 275	6	9	0
13	50	2 050	1 900	0 150	0	0	0
20	62	2 450	1·400	1·050	40	40	40

In Table II. the results of eight observations under these conditions are recorded. The monkeys of this group lived from 11 days to 80 days, although in the cases of monkeys No. 8, No. 10, and No. 20 we cannot call this the limit of their life, as they were killed in order to examine the influence which scurvy, thus artificially produced, would have on their blood. We see by this table that we have the same loss of weight in these monkeys as we had in the six monkeys fed on the fresh meat. In this group the diarrhœa commenced earlier than in those previously described. In only one case was it delayed 40 days; in the other cases it commenced between the fourth and seventh days, except in monkey No. 8, in which it did not commence until the seventeenth day. In these, as in the previous monkeys, diarrhœa, although always occurring, was somewhat intermittent. Out of those eight monkeys in no less than six was it seen that the motions were not of the simple diarrhœic character of the former group, but contained blood and mucus. In monkeys No 7 and No. 12 the blood and mucus appeared on the eighth and ninth day respectively, while in the other cases it was more delayed, the diarrhœa having continued for some time previously to its appearance. In some of the cases the motions just before death consisted principally of blood and mucus. When we turn to the appearance of the gums, we find that in five out of the eight monkeys included in this group they showed sponginess, and in some cases even small ulcers forming. The sponginess of the gums was most marked around the incisors and bicuspids and, as a rule, it did not occur around the molars at all. The monkeys belonging to this group sat in the same cramped position, with roughened coats, as has been already described in the case of Group 1. They showed a more marked disinclination to move or to take interest in objects around them, but in no case did they show any signs of definite tenderness of their limbs when handled. Only in one case (monkey No. 7) was there any indication of bruising. In this monkey a few days before death two bruises developed on the left knee, about half a centimetre in diameter, of a dirty red-brown colour, and also sores showed on the sole of the right foot and at the root of the tail. In all these cases, as in the previous monkeys, a necropsy was carried out. In no single instance were there found any signs of hæmorrhage or hæmorrhages into the pleura, pericardium, or peritoneum. The gums in monkeys No. 8 and No. 10 were not only spongy but had a tendency to the formation of ulcers at the root of the incisors. The stomach and small intestine showed little or no change, while, on the other hand, the large intestine was in the majority of cases (except monkeys No. 6 and No. 13) [illegible] gestion being, as a rule, most [illegible] ire and cæcum. The content [illegible] light yellow, while the large intestine contained more or less bloody mucus. The only thing else abnormal to be noticed was that in monkey No. 7 the liver was enlarged and fatty, showing markedly the line of the ribs.

We now come to consider Group 3 (Table III.). In this the monkeys were fed on boiled rice with 50 grammes of tainted meat and maize daily, but each monkey received in addition an apple or a banana.

TABLE III.—*Group 3: Monkeys fed on Boiled Rice, with 50 grammes of Tainted Meat and Maize daily, each Monkey receiving a Banana or Apple, these being given on alternate days.*

No.	Duration of observation.	Weight in kilogrammes.			Diarrhœa commenced.	Blood and mucus in stools.	Gums spongy and bleeding.
		Original.	Final.	Loss.			
	Days.				Days.	Days.	Days.
14	22	1·600	1·350	0·250	16	18	0
15	180	2 200	1·300	0 900	150	0	0
16	13	1·750	1 500	0·250	8	11	11
17	31	2,476	1 500	0·976	9	20	present*
21	123	2·000	1 650	0·350	90	90	0

* Only noted at the necropsy.

In this group the animals, therefore, in addition to the rice and maize and tainted meat, received fresh vegetables daily, and may be considered to have been well fed. Five monkeys only were used, and in spite of the extra food they all lost food. In fact, monkeys No. 15 and No. 17 lost no less than 900 and 976 grammes of weight in 180 and 31 days respectively. The others, however, did not lose so much weight. In three of the monkeys, No. 14, No. 16, and No. 17, diarrhœa commenced from eight to 16 days after the monkeys had been on this diet. But in monkey No. 15 diarrhœa did not commence until the one hundred and fiftieth day of observation, and in monkey No. 21 not until the ninetieth day. In four of the cases blood and mucus appeared in the motions in from eight to 18 days. When it first occurred in monkey No. 21 it was unfortunately not noticed. The other monkey, No. 15, did not show any signs of it. In two of the monkeys, No. 16 and No 17, spongy gums occurred; in the former on the eleventh day, while in the latter it was only noted at the necropsy. The other three monkeys showed no signs of bleeding gums. The necropsy of those monkeys which showed scurvy exhibited, as in those of Group 2, marked congestion of the large intestine, with bloody mucus in the contents. In all the cases there was marked emaciation but no hæmorrhage either into the pleura, pericardium, or peritoneum.

After this general description of the results obtained in the three groups of experiments and before discussing their significance we can consider the changes produced in the blood of animals suffering from the results of scurvy—scurvy being defined by Bristowe as "a peculiar form of anæmia arising from a deficiency of vegetable diet, and attended with a tendency to the occurrence of hæmorrhages, profound impairment of nutrition, and great mental and bodily prostration."

BLOOD IN THE SCURVY OF MONKEYS.

In order to get monkeys with as well developed symptoms of scurvy as possible the animals were kept until not only were they passing bloody mucus by the bowels but

the gums were spongy and easily bled. Unfortunately, the blood of only two monkeys could be examined, as the others died too speedily. The monkeys No. 8 and No. 10 in Group 2, however, both showed very well-marked symptoms of scurvy, as found in monkeys—diarrhœa, wasting, the motions containing blood and mucus, and the gums spongy and easily bleeding.

TABLE IV.—*Comparing the Analysis of the Blood of a Normal Monkey with the Analyses of the Blood of two Monkeys Suffering from Scurvy.*

	Normal.	Scurvy.	
		No. 8.	No. 10.
Weight in kilogrammes	2·000	0·950	1·950
Number of corpuscles	4,730,000	4,220,000	4,500,000
Number of leucocytes	8125	40,000	—
Hæmoglobin	75	43	45
Specific gravity	10·6	1035	1031
Water	83·37 %	85·18 %	84·93 %
Solids	16·63 %	14·82 %	15·01 %
Proteids	18·27 %	12·37 %	15·69 %
Fibrin	0·52 %	—	0·76 %
Time of coagulation	3 minutes	2 minutes	1 minute
Nitrogen	2·72 %	2·31 %	—
Ash	0·75 %	0·73 %	—

In Table IV. the results of the analyses of the blood in the case of two monkeys suffering from scurvy are compared with the analysis of the blood of a normal monkey, so that we can more readily see the changes produced. The blood to be examined was collected from the carotid artery while the animal was kept under the influence of ether and when sufficient blood had been collected for the various analyses the animal was killed by an overdose of the anæsthetic before it returned to consciousness.

The number of red blood corpuscles.—These were estimated by the Thoma-Zeiss counter and in each of these cases the average of two blood counts is given, the result being the number of red blood corpuscles contained in a cubic millimetre of blood. It is seen that while in the normal monkey the number of red blood corpuscles is 4,730,000 per cubic millimetre, in the two monkeys suffering from scurvy it is respectively 4,220,000 and 4,500,000. Other observers have drawn attention to the diminution in the number of red corpuscles in cases of scurvy as quoted by Philip Wales in Ashurst's "International Encyclopædia of Surgery." From these results one may conclude that there is a slight reduction in the number of red blood corpuscles in monkeys fed on tainted meat, although this reduction is nothing like the reduction found in the human subject in many of the more severe forms of anæmia.

The leucocytes.—The white blood corpuscles were counted in the same way as the red blood corpuscles. This was carried out on one of the monkeys affected with scurvy. It is seen that in the case of the normal monkey there were 8125 leucocytes per cubic millimetre, while in the case of one of the monkeys suffering from scurvy there were no less than 40,000. Laboulbène notes the occurrence of an unusual number of white globules in scurvy. We certainly can conclude that there is a very marked leucocytosis produced by the diet of tainted meat.

The hæmoglobin.—The quantity of colouring matter in the blood was estimated by Fleischl's hæmometer. In each case precautions were taken to use the same illumination power and at least two calculations were made, the average being taken. It is seen from Table IV. that the hæmoglobin present represents 75, while in both the monkeys suffering from scurvy it is very considerably reduced, being 43 and 45 respectively. When we compare this with the small reduction in the number of red blood corpuscles we see that in the monkeys fed on tainted meat there is produced a very marked hæmoglobinæmia, while at the same time there is probably oligocythæmia. In fact this condition corresponds with that in the human being in cases of chlorosis, as against those forms of pernicious anæmia or secondary anæmia where either the red blood corpuscles are reduced out of proportion to the hæmoglobin or the hæmoglobin and corpuscles are reduced in equal proportions.

The specific gravity of the blood.—The estimation of the specific gravity of the blood in the two cases was carried out by means of the picnometer. In the normal monkey we have a specific gravity of 1046, while in the cases of the two monkeys suffering from scurvy we have a specific gravity of 1035 and 1031 respectively, so that we can conclude that there is a slight decrease in the specific gravity produced by the diet of tainted meat.

The water and solids of the blood.—A given quantity of blood was collected in a platinum crucible and dried to constant weight at 70° C. It is seen that in the normal blood there was 83·37 per cent. of water and 16·63 per cent. of solids, while in the cases of the monkeys suffering from scurvy the percentage of water was 85·18 with only 14·82 per cent. of solids in monkey No. 8, while 84·93 per cent. of water with 15·01 per cent. of solids occurred in monkey No. 10. It would appear that all observers who have noted the blood in scurvy speak of the marked diminution in the total solids which occurs in this disease, so that we have with the decrease in the specific gravity of the blood a diminution in the total solids, as one naturally would expect.

The proteids of the blood.—The total quantity of proteids in the blood was estimated by precipitating a given quantity of blood in 15 volumes of absolute alcohol. After allowing it to stand some days with frequent stirring the precipitate was collected on a weighed filter-paper and dried, &c., in the usual manner. By this method it was found that the normal blood contained 18·27 per cent. of proteids, while in the case of the two monkeys fed on tainted meat the quantity of proteids was only 12·37 and 15·69 respectively, so that there is a very marked decrease in the quantity of proteids in the blood.

The quantity of fibrin.—This was estimated by the method of Hoppe-Seyler in one case. It is seen that in the normal monkey there is 0·52 per cent. of fibrin in the blood, while in the case of the monkey suffering from scurvy the fibrin was no less than 0·76 per cent., so that we see there was a very marked increase in the quantity of fibrin. Chalvet, in his analysis of a case of scurvy, comparing it with healthy blood in the normal individual, found the fibrin 0·216 per cent., while in the case of scurvy it was 0·434 per cent. Busk, in three well-marked cases of scurvy which occurred in the *Dreadnought* hospital ship, found the fibrin in excess of the normal amount, the least being 0·45 and the greatest 0·65 per cent.

The time of coagulation.—The time that it took for the blood to coagulate was estimated by Professor Wright's tubes, and it is seen that in the normal monkeys this is three minutes, while in the case of the monkeys suffering from scurvy it was found to be one and two minutes respectively. The increase in the quantity of fibrin (hyperinosis) with the shortening of the time of coagulation is what is commonly found in hydræmia in the human subject, and may therefore in all probability be put down to the same cause.

The quantity of nitrogen.—The total quantity of nitrogen in the blood was estimated by the method of Kjeldahl, and the average of two analyses is given. In the normal monkey it is seen that the total nitrogen was 2·72 per cent., while in the case of the monkey suffering from scurvy in which it was analyzed, it was 2·31 per cent. There is, therefore, a small decrease in the quantity of nitrogen, this decrease corresponding to the decrease in the quantity of proteids, and as this was only analyzed in one monkey it is as well, perhaps, not to discuss any theories as to its significance.

The ash of the blood.—The estimation of the ash was carried out in the ordinary way, but only in the case of one monkey suffering from the effects of tainted meat. It is seen that in the case of the normal monkey the ash was 0·75 per cent., while in the case of the monkey fed with tainted meat it was 0·73 per cent. The average amount in Ingerslev's, Hoffman's, and Busk's cases of scurvy in the human subject was 0·61, the smallest being 0·55 and the largest 1·15 per cent. respectively. Garrod, in the analysis of the blood in experimental scurvy, found a deficiency of the potassium salts, upon which he formed his well-known theory that scurvy was due to the want of these salts. We therefore see, in reference to this monkey, that the ash does not tend to be decreased with the low specific gravity and diminution of the total solids. It is apparent that the diminution in the total solids is probably due to a lessening in the quantity of proteids.

CONCLUSIONS.

The deductions to be drawn from the first part of several cases of scurvy which occurred in the Antarctic regions when the stations were away for a number of years [illegible]

or salted meats, in spite of their taking at the same time either vegetables or lime-juice, of the Nares polar expedition, in which scurvy occurred, as well as the very striking case of the six priests already mentioned, can be compared, on the other hand, with conditions of the greatest hardship and privation in the Leigh Smith expedition, in the case of Nansen and Johansen, and in the Frederick Jackson land party, as well as in the instance given of the Samoyads who winter on Waigatz and who live on fresh meat; in all of which cases, in spite of the entire absence of vegetables or even lime-juice, *no scurvy occurred*. If we look at this evidence alone we may almost say that we have conclusive experimental evidence that the eating of salted or improperly preserved meat or tainted meat in any form can produce scurvy even when lime-juice or vegetables are being taken at the same time. We have also the support of the fact that bad ventilation, believed by Dr. Neale to be one of the causes of scurvy, was not a cause of scurvy with Dr. Nansen, living on fresh meat and blood—probably owing to the fact that he introduced no ptomaine and therefore no scurvy occurred.

We now come to consider the experiments on monkeys and how much or otherwise these experiments confirm the results already given in man. It is necessary to consider what are the symptoms of scurvy. In the present paper it is impossible to go through all the symptoms of scurvy described by the various observers, since different epidemics have shown more markedly various symptoms. We, however, can compare the symptoms in our monkeys with those generally described as accompanying scurvy. The pallor and yellowish colour of the face, which are described as distinctive in scurvy, are of course impossible to be observed in monkeys, although in those monkeys which we consider to suffer from scurvy there was generally a good deal of blueness about the lips and gums. There was a very marked disinclination to bodily movement and a general tendency to mental prostration, for the monkeys in those cases which showed what we might consider the more definite symptoms of scurvy, such as the bloody mucus and bleeding gums, took little interest in the things surrounding them. At the same time, in none of these monkeys did we find any definite tenderness of the limbs, any swelling of the legs, or any purpura. Only in one case did we get the formation of bruise-like sores in an animal which apparently was suffering from scurvy.

In the monkeys included in Group 1, which were fed on fresh meat as well as maize and rice, the only symptoms we note beyond the wasting is diarrhœa, and none of these monkeys showed anything like the muscular feebleness or general ill-health which was noted in the scorbutic monkeys.

When we compare Group 2 (Table II.), in which the monkeys received the same diet except that the meat instead of being fresh was tainted, we find a very different state of affairs. These monkeys showed a much greater prostration, and although it is difficult to judge by the eye they certainly seemed paler and generally out of condition. No less than six monkeys out of the eight thus fed passed blood and mucus in their motions. The question whether the occurrence of blood and mucus in the motions is to be regarded as one of the symptoms of scurvy can be easily answered by the fact that, first, Bristowe states that "patients suffer from looseness of the bowels, the motions frequently being highly offensive and containing blood." It is also stated by other observers—such as Hilton Fagge and Osler, as well as in an article on scurvy in Ashurst's "International Encyclopædia of Surgery," by Philip Wales—that the occurrence of hæmorrhages in the mucous membrane of the stomach and bowels is of frequent occurrence.

None of our monkeys vomited, so that whether they suffered from hæmorrhages in the stomach cannot be noted. In the post mortem examination there was no evidence of any such thing. If this bloody diarrhœa is an evidence of scurvy we find that no less than six monkeys out of the eight which were given the tainted meat showed this symptom. We now compare Group 3 (Table III.) in which the monkeys were given fresh fruit, apples, or bananas every day. The monkeys in this case can be said to have been well fed. Five monkeys were observed, and out of these five monkeys no less than four developed the symptoms of bloody mucus in their stools, so that in spite of good feeding this symptom of scurvy developed in four out of the five monkeys on full diet.

We come to the next symptom, undoubtedly the most definite sign of scurvy that occurs in man—in fact, it is almost the only condition which is universal in scurvy and it is always found except in those cases in which the teeth are absent—that is, the spongy condition of the gums. When we consider the first group of monkeys which were merely fed on rice, maize, and fresh meat, out of the six monkeys not one showed any appearance of spongy gums, so that we can conclude that in these monkeys none of them showed any scurvy whatever. We now come to the eight monkeys fed on exactly the same diet, in which the meat was tainted instead of fresh, and here no less than five monkeys out of the eight showed sponginess of the gums, and some not only the sponginess but the gums even ulcerated, so that five monkeys out of the eight showed this sign, which is considered by all who describe scurvy as the most significant. We now come to those monkeys which were well fed, getting the fresh vegetables every day. Four of these monkeys showed bloody mucus in the stools, and two of them spongy and bleeding gums.

We have further to consider the condition of the blood in the monkeys fed on tainted meat. Scurvy is considered by all authorities to be a peculiar form of anæmia. In two monkeys we had the opportunity of analysing the blood, and it is seen by the analyses that we have marked changes in the blood, a very great diminution in the quantity of hæmoglobin, with a slight diminution in the number of red blood corpuscles—in fact, a condition corresponding to chlorosis, and that is accompanied by leucocytosis. The specific gravity of the blood is reduced, and this is due to the reduction in the quantity of proteids and not to a marked reduction in the quantity of salines in the blood. The fibrin of the blood is increased, together with an increase in the coagulability of the blood. When we consider what has been found in the blood of man suffering from scurvy we find it universally accepted that there is this condition of anæmia with low specific gravity, the blood being distinctly watery and with a marked excess in the quantity of fibrin. So the condition of the blood of the two monkeys which we have analysed corresponds with that found in the majority of analyses of scorbutic blood. Considering, therefore, the occurrence in the monkeys fed on tainted meat of bloody mucus in the stools, spongy gums, and characteristic anæmia, we assume that, although the symptom of hæmorrhages into the tissues was not observed, we may fairly conclude that they were really scorbutic. This conclusion is further justified when we consider, on looking over the description of scurvy given by authors, that all the symptoms except the sponginess of the gums are very often absent in different epidemics.

The fact that the five monkeys fed on tainted meat, with which fresh vegetables were given, showed in a smaller proportion the symptoms of scurvy than did the monkeys in the second group can be sufficiently explained by the fact that when the monkeys received a banana or an apple every day they would be less likely to eat as much of the meat as they would otherwise do and would thus daily receive a smaller dose of ptomaine. In spite of this fact in no less than four cases out of the five did we get bloody motions and in two of the cases spongy gums. In these cases tainted meat alone seems to have produced scorbutic symptoms, although the animals in this group took longer to develop the symptoms and seemed not to suffer in such a severe form.

Looking at the results of our experiments on monkeys as a whole we venture to think that they afford important confirmation of the conclusion derived from Arctic experience, as referred to in the early part of this paper, that the presence of fresh vegetables or lime-juice is not alone sufficient for the prevention or the cure of scurvy, and that we must regard the condition of the food in general, and especially the state of preservation of the meat, as the essential factor in the etiology of the disease.

We have to express our thanks to Dr. Francis Goodbody for his untiring assistance in the numerous observations that had to be made in the 18 months during which the research was continued.

SOCIETY FOR THE PREVENTION OF CRUELTY TO CHILDREN.—The annual meeting of the Gloucester and district branch of this society was held on April 19th under the presidency of Colonel Browne. The report stated that during 1899 there were 68 complaints received—an increase of eight over 1898—and that 62 of these proved to be well founded. 36 persons were warned, 15 were prosecuted, and 11 were otherwise dealt with. 171 children and 67 offenders were involved. The financial statement showed a deficit of £46.

ENDOSCOPY OF THE ŒSOPHAGUS AND STOMACH.

By DR. GEORG KELLING.

I.—A FLEXIBLE ŒSOPHAGOSCOPE WHICH CAN BE STRAIGHTENED BY A PULLING AND TURNING ACTION.[1]

MANY attempts have been made during the last 30 years to inspect the œsophagus of a living person. The first trials were made by laryngologists who, being accustomed to inspect the larynx and the trachea by means of the laryngoscope, were also inclined to examine the œsophagus in a similar manner. This method, however, is erroneous. Much attention has been devoted to the task of devising an instrument for this purpose. Stoerk has experimented with a pair of tongs, the three portions of which could be spread apart after introduction. Treitel uses an angular instrument, the two sides of which are connected by a moveable joint and are introduced point first in a folded condition. The upper ends are then screwed asunder by a long screw which lies in the mouth. Bevan, and at a later period Waldenburg, introduced a tube into the œsophagus. Stoerk used a flexible tube and then he introduced several tubes placed one inside the other like a telescope, capable of being pushed out mechanically. Eventually skeleton tubes were used by Mackenzie and Lowe. In this manner, however, although the apparatus might be ingeniously constructed and the mirror provided in the right position with electric light fastened on the tube (Stoerk), œsophagoscopy could never be satisfactorily practised. To inspect the œsophagus by means of the laryngoscope is a principle which readily suggests itself but it is nevertheless wrong. In this way we can neither exami[illegible] veniently make use of instrumen[illegible] off mucus or extracting foreign [illegible] of the tissues with a view to mi[illegible] sounding and dilating strictures, &c. One must be able to look straight into the œsophagus. The merit of having recognised this and put it into execution for the first time belongs to Mikulicz. He introduced a rigid tube, the lower extremity of which was co[illegible] rubber. It was illuminated [illegible] a lamp placed outside the bo[illegible] Mikulicz has been employed [illegible] numerous examinations with it and has made known the diagnostic and therapeutic results obtained. During the last few years Rosenheim, Einhorn, and myself have practised œsophagoscopy. Rosenheim used an instrument in all essential parts similar to that of Mikulicz. Stoerk's new instrument was the means of bringing about an advance in œsophagoscopy. He fastened to the lower end of a rigid [illegible] flanges. In front the [illegible] ack they touched one [illegible] rion the instrument [illegible] 120° and by pressing it against the vertebral column. By a further development of Stoerk's principle the problem of œsophagoscopy may be resolved in a satisfactory manner. It is certainly somewhat unnatural and dangerous to try to insert a rigid straight tube into the œsophagus, which is naturally curved. To avoid these disadvantages and at the same time to preserve the advantage of a straight tube permitting visual inspection nothing else remains but to insert an apparatus in a flexible condition and to convert it afterwards into a rigid straight tube. I have already announ[illegible] paper on œsophagoscopy and [illegible] only now when I possess satisfac[illegible] tion and have so far improved it [illegible] improvements remain to be made.

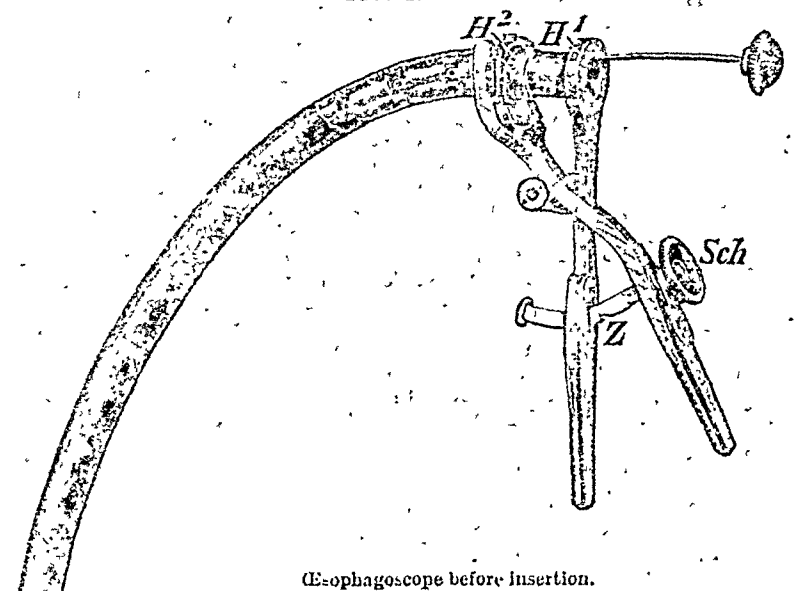
The principle of my apparatus is taken from the finger, which for this purpose must be modified to be hollow; the bones must be supplied to be replaced by small hollow cylinders joined by hinges, instead of the external tendons there is a whole; and instead of the [illegible] there is a covering of india-rubber. The apparatus consists of segments which are tubes or hollow cylinders about one and a half millimetres (one-seventeenth of an inch) thick, 13 millimetres (half an inch) in external diameter, and 17½ millimetres (seven-tenths of an inch) long. Upon each segment on the right and on the left there is a flange half the thickness of the cylinder walls, which flanges fit into a suitably repeated surface upon the next segment. Each of the flanges is connected by means of rivets to the next segment. The ends of the segments are beveled in front whereas they are horizontal on the back, so that the segments are in contact at the back. The segments are covered by a thin indiarubber tube. On the back of each segment there is an eye which is perfectly smooth, being of metal soldered in the sleeve, polished and then perforated. A wire passes through the eyes from the lowest segment to the uppermost. The segments are secured at the mouth to a sleeve which is provided with a longitudinal slot on the back (Fig. 1, H 1). Below this sleeve there is a second sleeve (Fig. 1, H 2) which is shorter than the sleeve H 1 and is furnished with a projection which slides in the slot of the sleeve H 1. The wire is secured to this projection. If the shorter sleeve is pushed forward the wire is tightened and by this means the tubes are straightened. This sliding motion of the sleeves is effected by means of levers. When the ends of the levers are pressed together the tubes are straightened. Between the two levers there is an automatic stopping device consisting of a bow which has a notch filed in it and on its concave surface the bow has a spring which makes the notch catch on a projecting piece when the tubes are in the straightened position. To enable an accurate adjustment to be made when the wires have become somewhat stretched by use the bow is connected to the upper lever not rigidly but by the agency of a screw (Sch), so that a certain amount of adjustment is possible. By fixing the notch in position by means of the projection and then straightening the tube by means of the screw we obtain an assurance that whenever the notch [illegible] on the projection the tube will be straight. By [illegible] pressing upon the bow the notch is released [illegible] projection piece and the tube once more becomes [illegible]. For the insertion an ordinary steel wire or rod with a sponge attached to the end can be used; this sponge must be renewed after each operation or examination. The lower opening can, however, be closed by means of hard indiarubber or a distended rubber ball or small bellows; this is, however, a mere matter of detail. For illumination either Leiter's pan-electroscope or the Kasper hand-lamp is used, which covers one-half of the lower end of the tube. For long œsophagoscopes the illumination is sometimes not altogether sufficient if one is looking for small objects which are not easily visible. For this purpose I then insert into the instrument, when straightened after the introduction, a platinum pin provided with a device for keeping it fast, just as in the Oberlaender urethroscope, and nearly as large as the œsophagus. This, however, is only necessary with those instruments which are 45 centimetres (18 inches) long.

For practical use my instrument is manufactured in four different sizes. For adults there are three sizes, all of 13 millimetres (half an inch) external diameter and 45, 40, and 30 centimetres (18, 16 and 12 inches) long, the attached piece, nine centimetres (three and a half inches) long, which projects beyond the mouth, not being included. For children this instrument is 10 millimetres (0·4 inch) external diameter and 20 centimetres long. [illegible] the instrument carried in the [illegible] and provided with a cap for the insertion [illegible] Fig. 2 shows the instrument straightened for [illegible] of the œsophagus. [illegible] œsophagoscopy is contraindicated in those conditions which preclude examination and sounding of the œsophagus, as, for instance, in adhesions which are caused in certain cases severe injuries in the neck of the œsophagus, in diseases of the liver, in fore-man of early age, and in cases where the walls of the œsophagus are friable. In cases where the diameter is unusually small, for the introduction of the apparatus enlarges the diameter of the œsophagus. As a precaution it is [illegible] an elastic bougie [illegible] millimetres [illegible] of the œsophagus [illegible] specially further [illegible] the [illegible] the lower [illegible] the latter. [illegible]

[1] The apparatus can be obtained [illegible] Berlin, Friedrichstrasse 64.

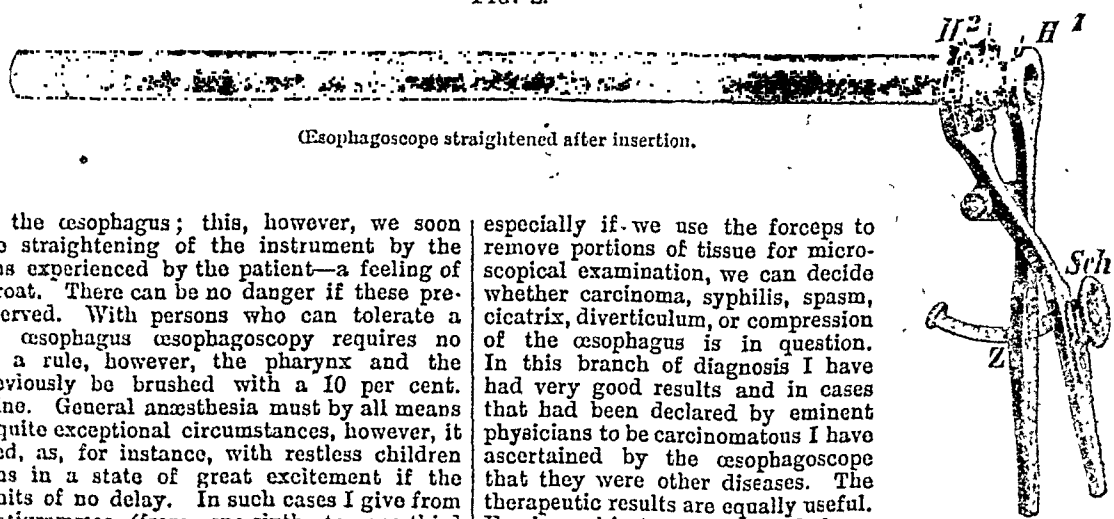
[2] [illegible] of the engraving by Frank Hopkins.

FIG. 1.



Œsophagoscope before insertion.

FIG. 2.



Œsophagoscope straightened after insertion.

straightening of the œsophagus; this, however, we soon learn during the straightening of the instrument by the painful sensations experienced by the patient—a feeling of tearing in the throat. There can be no danger if these precautions are observed. With persons who can tolerate a bougie in their œsophagus œsophagoscopy requires no anæsthetic. As a rule, however, the pharynx and the larynx must previously be brushed with a 10 per cent. solution of cocaine. General anæsthesia must by all means be avoided. In quite exceptional circumstances, however, it may be permitted, as, for instance, with restless children and with persons in a state of great excitement if the examination admits of no delay. In such cases I give from one to two centigrammes (from one-sixth to one-third grain) of morphia subcutaneously a quarter of an hour beforehand.

Œsophagoscopy with my instrument is exceedingly easy, quite free from danger, and may be performed by anyone who understands sounding the œsophagus. The patient must not recently have eaten anything. Any considerable quantity of mucus which may have gathered in the œsophagus must first be removed. The best of all methods is to use an ordinary table cushioned all over. The patient sits on the table, care being taken to place him so that on passing from a sitting to a lying position his head hangs freely over the edge. The apparatus is lubricated externally with glycerine and the point is inserted in the cap already mentioned. Whilst the patient is sitting on the table the medical man stands on a low stool and inserts the œsophagoscope with the curve forwards like a flexible bougie. Then the patient lies down on his back and his head, which hangs backwards, is held by an assistant. By pressing the handles of the lever against each other the œsophagoscope is slowly straightened, a proceeding during which the patient must not suffer pain. Before the œsophagoscope is quite straightened the handle is turned through an angle of 90° and the projecting piece now catches in the notch. The object of this is to enable the principal curves of the instrument to be straightened by the substantial rivets of the tube and not by the weaker wire. If the œsophagoscope lies in the right corner of the mouth it is given a quarter turn to the right; if it lies in the left corner of the mouth it is turned as much to the left. As a rule that side is preferable where there are appropriate gaps in the line of the teeth. A second little expedient is this: the apparatus is quite inflexible towards the back, where the links—i.e., the segments—touch one another when in a straightened position. On the front side, however, where in the links corresponding portions are cut away, the apparatus is less rigid, so that by pressure it yields a little and a curve is thus formed. Therefore, if we wish to inspect an object which lies far away towards the back of the apparatus and if the instrument by pressing against it should bend a little we may easily avoid this by a previous rotation to the extent of 180°. Before the examination wadding to wipe off the mucus and a pair of forceps of the requisite length must be provided. After the examination the projecting piece is released from the notch and the instrument, which is now flexible, is withdrawn. The instrument is cleaned and rendered aseptic by boiling, previously to which the indiarubber covering may be removed.

The œsophagoscope is used to a considerable extent, although it would seem that many hospital physicians and surgeons do not avail themselves of it for the purpose of advancing their diagnosis from the stage of probability to that of certainty. In the case of narrowing of the œsophagus, especially if we use the forceps to remove portions of tissue for microscopical examination, we can decide whether carcinoma, syphilis, spasm, cicatrix, diverticulum, or compression of the œsophagus is in question. In this branch of diagnosis I have had very good results and in cases that had been declared by eminent physicians to be carcinomatous I have ascertained by the œsophagoscope that they were other diseases. The therapeutic results are equally useful. Foreign objects which had been swallowed can be extracted. Another instrument, however, is wanted for the purpose of breaking up foreign bodies such as artificial teeth, and I am now engaged in the construction of such an instrument. Under particular circumstances—e.g., in the extraction of sharply-pointed sets of artificial teeth—it may be of some use to combine œsophagoscopy with œsophagotomy. The œsophagoscope is then inserted through the fistula in order to effect the extraction. In this case the patient suffers less pain, we also come within easier reach of the foreign object, and in extracting it avoid the narrow part of the œsophagus at the level of the cricoid cartilage. Moreover, by the œsophagoscope strictures can be successfully sounded when the usual method of blindly touching fails. Also laminaria pencils (tents) and permanent cannulæ can be successfully inserted by means of the œsophagoscope. Finally, we can carry out all such measures as are used in the treatment of morbid conditions of the larynx, the urethra, &c., together with the making of incisions and the local application of caustic, liniments, powders, injections, and the galvano-cautery. We are now too conservative in the treatment of inoperable carcinomata. If progress is made in this direction we shall be able by means of the œsophagoscope also to attack carcinoma in the œsophagus. I must mention that in the rare cases where hæmorrhage occurs from œsophageal varix—hæmorrhage which is almost always fatal—I should invariably try to plug the œsophagus with strips of gauze three feet in length. In doing this I would insert into the straightened œsophagoscope a smooth thin-walled metal tube in order that the gauze might not catch on the links. We know that in 5 per cent. of the

cases of ulcer of the stomach death is caused by bleeding. May we venture to plug the stomach by means of the œsophagoscope in cases of hæmorrhage threatening to be fatal? This question can only be answered by experiments on animals.

Everyone who uses the [illegible] be well acquainted with th [illegible] phagus in the living subje [illegible] else, the rule applies that [illegible] a glance what the inexperienced one does not find after long search. I hope that by means of my instrument œsophagoscopy will be universally adopted and will become a permanent addition to our clinical methods, in like manner with laryngoscopy, cystoscopy, &c.

II.—A FLEXIBLE GASTROSCOPE, CAPABLE OF BEING STRAIGHTENED AND HAVING A MOVEABLE PRISM

Our means of diagnosing the diseases of the stomach are in many cases insufficient. It is a fact that by the usual methods we are quite unable to recognise the beginning of carcinoma of the stomach, neither can we decide with certainty whether an ulcer in the stomach has or has not degenerated into carcinoma. Reliance on chemical tests will *in these cases often lead to disappointment. In many* cases it is impossible to make a differential diagnosis between chronic catarrh and carcinoma of the stomach or between organic diseases of the stomach and the neuroses which simulate them. Our usual means allow of diagnosis only in advanced cases. We therefore can hardly pretend that our diagnostic routine furnishes us with a good idea of the condition of the stomach and that we have no need of other methods. On the contrary, we most urgently want a method enabling us either to make an early diagnosis of carcinoma or to exclude it with certainty. In this respect I am, as I believe, in agreement with all surgeons familiar with this branch of practice, all of whom recommend frequent recourse to exploratory laparotomy.

In deciding whether gastroscopy is to be made use of we have first to discuss the position as between gastroscopy and exploratory laparotomy. I believe I can give an impartial answer to this question, as I employ not only gastroscopy but also exploratory laparotomy followed eventually by a further operation. Exploratory laparotomy is not a dangerous operation but it is by no means one to be lightly undertaken. First of all, in most cases general anæsthesia is essential. The danger of infection is, of course, reduced, but we cannot fairly maintain that it can be absolutely avoided. In our best hospitals 5 per cent. of aseptic wounds continue to show suppuration due to the sutures. The confinement in bed and the difficulty of expectoration lead with many patients to a risk of pneumonia, in addition to which, moreover, hernias and adhesions may ensue. We must also admit that many patients after exploratory laparotomy suffer great pain and fits of vomiting occur when the abdominal wall is newly [illegible] cannot be com- [illegible] patients, unless [illegible] to the examination pretty well.

It makes no inconsiderable difference to a patient in whom carcinoma has been erroneously presumed whether, on the one hand, he can after an examination of about five minutes walk home completely reassured or, on the other hand, must undergo a surgical operation and pass a week or two lying in bed. Moreover, the question has to be considered, What are the results of exploratory laparotomy compared with those of gastroscopy? The former has the undeniable advantage that by it we learn the conditions existing external to the stomach, such as adhesions, glands, metastases, &c., and if an operation proves necessary it can be performed at once. Under these circumstances laparotomy is of undoubted value, but, on the other hand, if an operation is impossible the exploratory laparotomy turns out to the patient's disadvantage. Although the condition of the abdominal contents external to the stomach can be ascertained it must not be forgotten that in this way much less information is obtained as to the internal state of the stomach. For instance, it is in most [illegible] quite impossible to tell whether there is a gastric ulcer or not. If an ulcer has the walls a more correct [illegible] can be formed regarding it when it is seen from the [illegible] of the stomach than when it is seen from the serous side. It will be remembered that to recall a the shape and size of the ulcer can only be ascertained by afterwards examining the mucous surface. It is therefore probable that with increasing experience we shall from inspection of the situation and shape of the thickening be better able to decide as to the chances of its operability.

By means of gastroscopy we can with certainty ascertain the condition of the mucous membrane and the extent of any changes that may be taking place in it. The appearances are as distinctly seen as if the eye was looking directly at the part in question. The views of the bladder obtained with the cystoscope are less perfect, as it cannot be filled with air and the water which is used for this purpose absorbs much of the light.

The question now presents itself, Is gastroscopy dangerous? The use of rigid tubes in œsophagoscopy has been recently recommended by Rosenheim, Epstein, Killian, and Kirstein as a practical method presenting no considerable difficulties. This being so, it is a singular thing that rigid tubes have been regarded with less favour in gastroscopy than in œsophagoscopy. The introduction of such tubes is much more dangerous in œsophagoscopy than in gastroscopy, because in the former case we have usually to deal with œsophagi undergoing morbid alterations, whereas in the latter the *œsophagus is almost always healthy. Moreover, the use of* rigid tubes for œsophagoscopy is by no means necessary, for I brought out a flexible instrument more than a year ago and have shown it before the Surgical Congress, before a Silesian society, and in the wards of hospitals, on all of which occasions it proved itself capable of practical application. I have made more than 100 separate examinations of about 60 patients by means of the œsophagoscope without any accident whatever. I do not mean to say that an accident cannot happen—whoever understands the matter will agree with me—but when the œsophagus is healthy, as is usually the case when gastroscopy is required, this proceeding if carefully employed may be considered to be safe. If, then, we reckon up the deaths that are known to have occurred up to the present time when rigid tubes have been inserted in the hundreds of examinations that have been made the mortality would be considerably less than 1 per cent.—that is to say, it might be quite well compared with the mortality of exploratory laparotomy. By the employment of flexible instruments I hope to be able to reduce the mortality in gastroscopy to zero.

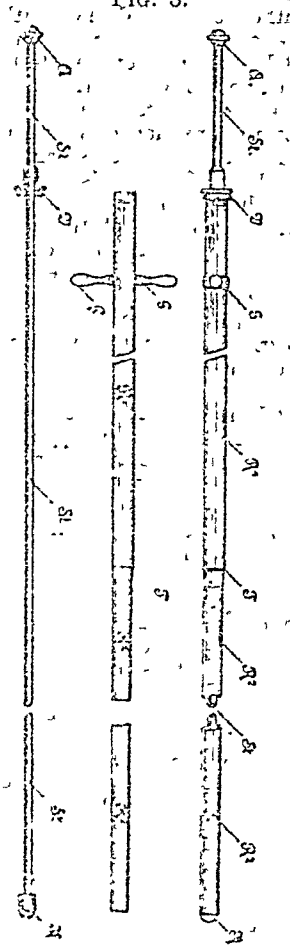
Lastly, we have to refute an objection which has been made against gastroscopy and which appears in some of the most recent treatises on diseases of the stomach—the objection that no results have up to the present been obtained by means of it. It must be admitted that those who have used the method of Rosenheim with straight instruments have not as yet published any cases in which gastroscopy has proved its utility, a circumstance which may be explained on anatomical grounds. On the other hand, the method of Mikulicz, who uses an instrument bent at an angle and having a bent point, has yielded excellent results. For instance, in 1893 Mikulicz diagnosed an ulcer with it and recognised hardness of the pylorus as a symptom of carcinoma. I have published several cases in which the instrument in my hands made known the existence of tumours not discoverable by palpation, and another thing of much greater importance is that it has enabled me to make sure of the absence of carcinoma in several cases in which its clinical symptoms were manifested. During a visit to the surgical clinic at Breslau in the summer of 1897 I had several opportunities of practising œsophagoscopy and gastroscopy for which I was indebted to the kindness of Professor Mikulicz, the founder of the method and an operator extremely skilful in the practical application of it. Professor Mikulicz [illegible] the apparatus modified by myself and described as a best portable [illegible]. As a proof of the practical utility of the method I will mention two cases which were examined by Professor Mikulicz and myself. They were two men in whom carcinoma was suspected, although no tumour could be felt on palpation. In one case [illegible] that the disease was only chronic catarrh, in the other I found a [illegible] ulcer of about the [illegible] of a shilling in the [illegible] at the small curvature. An operation which was performed completely confirmed the result of the gastroscopic examination. [illegible] in spite of the fact that its utility is [illegible]

For endoscopy of the sto [illegible] œsophagus and trachea should be [illegible] cardiac orifice of the stomach. The possibility of [illegible] this has for a long time been proved by the [illegible] of the sword-swallowers, feats the originator of which is unknown. Duval in 1896 claimed that he was the first to introduce rigid straight instruments (thermometers) into the stomach for scientific purposes. For the history of œsophagoscopy and gastroscopy we require to know who it was that first recognised the necessity for straightening the oro-œsophageal tract and who it was that first gave practical application to this discovery. In both respects priority belongs solely to Mikulicz who in 1881 br[illegible] the first gastroscope. For the œsophagus [illegible] straight instruments, but for the stomach he recommended a rigid bent one. He showed that a rod could be passed into the œsophagus as far as the cardia (the ninth dorsal vertebra), but that it could not be passed further on account of the normal kyphosis of the spine and also on account of the pancreas. The extremity of the gastroscope for a length of 15 centimetres (six inches) was therefore bent at an angle of 160°. It has now been found by Rosenheim and Perl, and the observation has been confirmed by Rewidzoff, Kuttner, and myself, that a straight rod can be passed further still—namely, in most cases as far as the level of the umbilicus or the great curvature of the stomach. This discovery has led Rosenheim to use a straight gastroscope. The idea is at first sight attractive on the ground of its simplicity. Such an apparatus is easy to make, for it is [illegible] scope of the requisite size with its [illegible] Moreover, it can be easily rotated in the stomach, and if the tube is separated from the optical apparatus the latter can be easily withdrawn, as, for instance, in the event of the prism having become soiled. Different refracting prisms may also be inserted, but this, although it may appear to be a simple matter, is not easy in practice, because on inserting a new prism fresh adjustments have to be made. It was Rosenheim, and after him Rewidzoff and Kuttner, who first led the way to gastroscopy; the two latter endeavoured to avoid the introduction of the rigid tube.

There is no need any longer to speak of the construction of a straight gastroscope. In a former paper,[3] the results of which have not been acknowledged by Rosenheim, Rewidzoff, and Kuttner, I have demonstrated that a straight gastroscope cannot be a universally practical instrument. Mikulicz has, after all, been right with his angular shape. In order to prepare a reliable foundation for gastroscopy I undertook some anatomical researches which had not up to that time been entered on. It was obvious that the various parts of the alimentary tract from the cardia to the entrance of the mouth must be all brought into a straight line. To bend the apparatus, as Kuttner proposes, corresponding to the angle between the mouth and the œsophagus in a right angle, is a complicated arrangement and in practice only an obstacle. The stomach in this axis has a length of from 15 to 25 centimetres (from six to ten inches), and means have to be found for examining its walls within these limits. It is optically impossible to inspect the whole length equally well from the centre; we must therefore be able to give different positions to the window of the apparatus, and this can only be conveniently done if the mouth and the œsophagus are in a straight line. Many medical men still believe that it would be better to use a flexible gastroscope similar to an india-rubber tube. Perhaps it may be possible to make an optical apparatus of this kind at some future time, when an electrical method of viewing distant objects has been discovered, but even then the flexibility of the apparatus will be useful only for introducing it and not for inspecting the stomach. It must not be forgotten that what is required is information about the state of the stomach, that certain portions of it must be distinctly brought into view, and that for this purpose rigidity of the optical apparatus is necessary. This must be understood if further endeavours to improve the instruments are to lead to a useful result.

First of all it is necessary to know what position is occupied by a straight rod passed into the stomach from the mouth, or, in other words, what position this gastroscopic principal axis has in the stomach. This I ascertained by means of a number of observations on the dead body. The rod which I introduced for this purpose is shown in Fig. 3. From the lower end K to the upper end A it measured 93 centimetres (36 inches). Part of it was a tube (R 2) 12 millimetres (half an inch) in external diameter and 35 centimetres (14 inches) in l[illegible] tube was cut across and fit[illegible] 17 millimetres in diameter and [illegible] centimetres (13 inches) in length. The tube [illegible] into R 1, and [illegible] to correspond to the dimensions of the two tubes. When connected together the two tubes are 80 centimetres (32 inches); [illegible] one is fitted with a handle G at a poi[illegible] two inches) from its extremity. In [illegible] is a screw. A steel rod St. [illegible] is now inserted into both [illegible] At the upper end of it there is a button A, 10 centi- [illegible] (four inches) from which there is a screw V fitting the screw of the tube R 1. At the lower end the steel rod has a piston-like thickening K, which exactly fits into R 2 and closes the opening at its lower end. When the tubes were joined together and the steel rod screwed in, the whole [illegible] formed a strong rod with a rounded lower end, which was passed as far as possible along the œsophagus of unopened bodies of recently deceased persons, the bodies being placed on their backs with their heads hanging down. In most cases I succeeded in reaching the great curvature. I held the entrance of the œsophagus open at the level of the cricoid cartilage by means of a pair of forceps, which rendered the introduction of the rod much easier. The body was now opened from the ensiform cartilage to the umbilicus and the position in which the rod lay was observed. The duodenum was then cut across, a short, thick glass cannula was tied in, and an indiarubber tube pushed over the latter was led out of the body. Above the cardia the stomach was completely closed by means of a ligature passed round it, encircling both the stomach and the rod. The stomach was then cleansed by rinsing. I now inserted several button sutures in the abdominal wall and closed the body, the india-rubber tube being led out between the button sutures. I next measured the capacity of the stomach by means of air at a pressure of 20 centimetres (eight inches) of water. The sutures were then untied and a quantity of thin plaster of Paris corresponding to the above-mentioned volume of air was poured into the empty stomach. The duodenum was now ligatured, the cannula removed, the abdomen again closed by sutures, and the body allowed to lie for from 16 to 24 hours. We do not in this way obtain exactly the natural position of the rod in the stomach, because it always has a tendency towards the posterior wall. When the stomach is filled with a mixture of plaster and water the lower end of the rod rises a little, in accordance with the laws of hydrostatics, because the brass tube containing air has a tendency to ascend in the heavy liquid. Nevertheless, I did not change it, though this might have been easily done by withdrawing the rod St with the piston-like end K. The thorax and abdomen were then opened and the lungs and heart were removed. The stomach with the tube R 2 embedded in plaster being left *in situ*, the rod with the tube R 1 was removed through the mouth, so that the stomach with the tube embedded in plaster could be afterwards taken away without interfering with the subject's throat. For every experiment I used a fresh tube R 2, but the rod and the tube R 1, of course, always remained the same. In most cases

FIG. 3.



Rod for exploring the stomach.

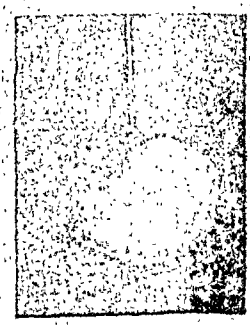
[3] Archiv für Verdauungskrankheiten, Band [illegible]

air or gas collects in the stomac[illegible] spouding quantity of plaster h[illegible] The stomach was at once placed [illegible] 4 per cent. solution of formalin [illegible] whereby the flexibility of its [illegible] pylorus was then opened or else a small hole, which was afterwards sutured, was made so as to allow the escape of [illegible] on [illegible] in [illegible] from [illegible] a cast was made by a model-ma[illegible] covering the mould with a layer of [illegible] a centimetre (a quarter of an inch) in thickness, the plaster-embedded tube being, of course, also enclosed. The *papier-maché* cast of the stomach was then cut into two halves, and I took care that the separation of the halves should correspond as exactly as possible to the frontal plane of the body. Two wooden boxes into which the *papier-maché* stomachs fitted were made and I thus obtained phantoms for practising gastroscopy.

In this way I ascertained exactly the position of the principal axis, so important for gastroscopy, as well as all the dimensions of the stomach which were required to be known, and I will now give a detailed description of some of the work done in the course of the investigation, accompanied by illustrations prepared from photographs of the models.

A.—A man, 23 years of age, whilst in a state of intoxication climbed over the fence of a railway and was caught by an engine. His arm and skull were fractured, from the effects of which he soon died. About 24 hours after his death I introduced the rod through the mouth of the body [illegible] the stomach. The length of the [illegible] (five feet six inches), and the [illegible] to the upper incisors was 57 centimetres (23 inches). The lower end of the rod was three fingers' breadth above the umbilicus. The portion of the rod within the body measured 51 centimetres (20 inches). The stomach lay under the liver partially filled with food with its great curvature where the upper third of the distance between the ensiform process and the umbilicus ended. The rod lay on the left side of the vertebral column, across which its lower end could only just be brought by pressing the head backwards with very great force. Fig. 4

FIG. 4.



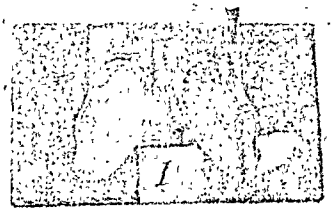
Stomach filled with plaster-of-Paris.

is a reproduction of a photograph of the stomach filled with plaster, including the plaster-embedded tube. The model represented a stomach of normal shape, such as is shown by Luschka in his Atlas. The following relations of parts were noticed and presented some points of interest. The tube touched the posterior wall of the stomach with its lower end. Between the tube and the pylorus the posterior wall showed an elevation corresponding to the vertebral column which would inevitably render it impossible to see anything of the posterior wall of the pyloric region by means of a straight gastroscope. From the middle of the tube to the middle of the pyloric part of the stomach the distance in the sagittal diameter was three centimetres (one and a [illegible]. Moreover, it will be seen from the illustra[illegible] [illegible]is of the pyloric part of the stomach and the [illegible] incipal axis intersect one another outside the [illegible] therefore obvious that the pyloric part can [illegible] brought into view by the intervention of a second axis inclined at an angle to the principal axis. If a beak is therefore provided at an angle of 45° the window must find [illegible] of about eight centimetres (three and a [illegible] the stomach the gastroscopic principal [illegible] a length of 15 centimetres (six inches). [illegible] lies three centimetres (one and a quarter [illegible]) below the end of the rod. In the frontal plane perpendicular to the principal axis the greatest diameter measured 24 centimetres (nine and a half inches). In the [illegible] tube embedded in the [illegible] nine centimetres from the [illegible] from the back and six centimetres from the front wall. At the spot where the lower end of the rod touched the wall the diameter of the sagittal plane was six centimetres. The total capacity of the stomach was 1900 cubic centimetres (116 cubic inches). On the posterior wall of the stomach two impressions were seen here as in all other models. The one corresponded with the left kidney, the other corresponded with the vertebral column and was situated nearly where the vertical left part of the small curvature formed an angle with the more or less horizontal right part.

B.—The following three cases showed stomachs placed vertically, what are seen being the *papier-maché* models in their boxes with the lids off. The principal axis is marked by black lines.

CASE 1 (Fig. 5).—This was the stomach of a man, aged 30 years, who died from tuberculosis of the lungs. The end of the rod lay one finger's breadth below the umbilicus. The rod touched the posterior wall of the stomach on the left side of the vertebral column. By pressing strongly on the

FIG. 5.



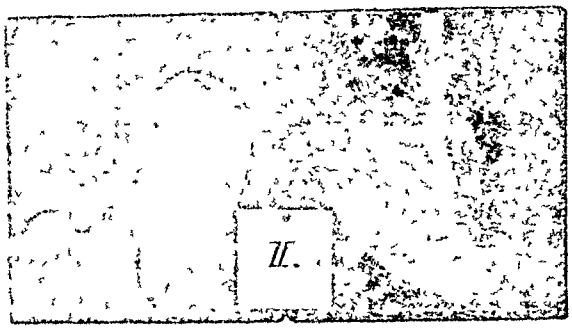
Model of stomach.

upper end of the rod its lower end could be raised towards the anterior wall of the stomach and lifted over the vertebral column, but on being released the rod immediately returned to its former position. The stomach was almost empty. The great curvature was at the level of the umbilicus, the small curvature at the pyloric part, almost horizontal, a little below the middle point between the ensiform process and the umbilicus. Posteriorly it ran almost parallel to the vertebral column. The length of the body was 164 centimetres (five feet six inches); the distance from the umbilicus to the upper incisors was 60 centimetres (23½ inches). The length of the rod within the body was 51 centimetres (34 inches). The distance of the umbilicus from the ensiform process was 13 centimetres (seven and a quarter inches). It will be seen from the model that the principal axis ran very near the posterior wall, for the section made through the axis showed the greater part of the stomach (on the right hand side of the illustration) lying in front. It will, moreover, be seen that this plane even passed altogether behind the posterior wall of the pyloric part. A longitudinal axis drawn through the pylorus, however, intersected the principal axis, which was not the case with the normal stomach. The principal axis had in the stomach a vertical length of 17 centimetres (six and three-quarter inches). The greatest horizontal diameter passing through the pyloric region was 15 centimetres (six inches). The greatest diameter in the sagittal plane was 12 centimetres (four and three-quarter inches). This is about three centimetres [illegible] than the height of the [illegible]

The longitudinal axis in the middle of the pyloric region ran three centimetres in front of the principal axis. The total capacity of the stomach was 1500 cubic centimetres (91½ cubic inches).

CASE 2 (Fig. 6).—This was the stomach of a man, aged 35 years, who died from tuberculosis of the lungs. The stomach contained only a little liquid. The rod lay on the left side of the vertebral column two fingers' breadth below it. This was a decided case of gastroptosis. The great curvature of the stomach ran one finger's breadth below the level of the umbilicus. The pyloric part of the stomach lay quite horizontal. This body had a long and flexible throat, so that the lower end of the rod could be easily pushed against the anterior wall of the stomach. The length of the body was 177 centimetres (5 feet 10 inches). The distance

FIG. 6.

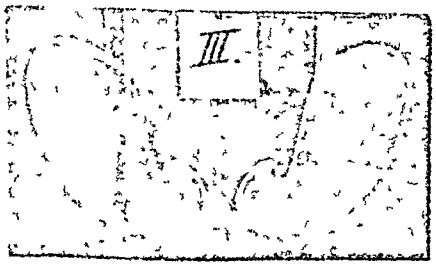


Model of stomach.

of the umbilicus from the upper incisors was 58 centimetres (22¾ inches). The length of the rod within the body was 62½ centimetres (24½ inches). It will be seen from the model that the dimensions were exceedingly favourable for a straight gastroscope. A frontal plane through the principal axis even intersected the anterior wall of the pyloric part. The length of the vertical principal axis was 21 centimetres (eight and a half inches); the greatest diameter in the frontal plane vertical to the principal axis was 18 centimetres (seven and a quarter inches). This diameter touched the small curvature at the point where the left vertical part formed an angle with the right horizontal one. The greatest depth of the stomach in the sagittal plane was 12 centimetres (five inches) in the upper portion of the posterior part. The total capacity of the stomach was 1950 cubic centimetres (119 cubic inches).

CASE 3 (Fig. 7).—This was the stomach of a woman, aged 30 years, who died from tuberculosis of the lungs. It was decidedly gastroptotic and absolutely empty. The pyloric part was quite contracted and lay horizontally at the level of the umbilicus. When the stomach was inflated with air the

FIG. 7.



Model of stomach.

small curvature was one and a half fingers' breadth above the umbilicus. The rod lay on the left side of the vertebral column, its lower end being two and a half fingers' breadth below the umbilicus. It could be easily moved and could be pushed from the posterior wall of the stomach and brought across the vertebral column. The length of the body was 160 centimetres (five feet four inches). The distance of the umbilicus from the upper incisors was 50 centimetres (20 inches). The length of the rod within the body was 55 centimetres (22 inches). A frontal plane drawn through the principal axis intersected the pyloric part at one centimetre below the axis lying in the middle of its longitudinal direction. The length of the principal axis in the stomach was 20 centimetres (eight inches) The greatest horizontal diameter, which also here touched the angle of the small curvature, was 16 centimetres (six and a half inches). The greatest depth of the stomach (in the sagittal plane) was 11 centimetres (four and a half inches) and was situated in the upper part of the posterior portion one centimetre below the level of the cardia. The total capacity of the stomach was 1800 cubic centimetres (110 cubic inches).

The principal results of these investigations were as follows:—

1. The pyloric part of the stomach lay above the vertebral column and was bent upwards towards the right side. On the other hand, the rod lay on the left side of the vertebral column, touching the posterior wall of the stomach. A longitudinal axis drawn through the pyloric part did not intersect the principal gastroscopic axis if the stomach was normal. It intersected this axis outside the stomach and ran in front of it, but in gastroptotic stomachs where the pylorus had sunk down and the pyloric part ran horizontally the principal axis and the pyloric axis intersected each other within the stomach. This, however, did not occur in all sunken stomachs; for instance, it was not found in cases of dilatation from ulcer of the pylorus or adhesions in the same place.

2. When the rod is inserted its lower end has, as a rule, very little freedom of movement either forwards or to the right side or to the left side; it can be easily moved only in its longitudinal axis. In all cases, however, where the neck is long and flexible, where the upper jaw is not prominent, and where the pharynx is sufficiently wide from the back of the mouth to the cricoid cartilage, the lower end of the rod can be moved to the requisite degree for the purpose of a straight gastroscope.

These conditions combined with a vertical position of the stomach would permit a sufficient inspection of it with a straight gastroscope, but in the living subject the conditions are not so favourable as in the model copied from the stomach of a dead body filled with plaster-of-Paris, for the living stomach when inflated is not immobile. What is, moreover, unfavourable for a straight gastroscope is that the distances changing at great intervals by the rotation cannot be compensated—e.g., one centimetre towards the back wall of the stomach, and after a rotation by 90° ten centimetres towards the pylorus. Except in the above cases a bent instrument is essential for gastroscopy. The point must form an angle of from 40° to 50° with the principal axis and the opening or window must of course be in the point. The principle adopted by Mikulicz is therefore proved to be absolutely correct. If, however, the window is fixed it will not be possible to inspect the whole of the stomach because that side which is opposite the window cannot be seen. The window must therefore be capable of rotation in the point. With such an apparatus the stomach can be thoroughly examined notwithstanding differences in shape. This form of the apparatus is also the least trying to the patient. The instrument has only to be moved and rotated in its longitudinal axis and does not require to be used like a lever, as a straight gastroscope does. The window can always be placed approximately opposite that part of the stomach which is to be examined, an arrangement which is evidently most favourable from the optical point of view. The instrument can be brought up to, or withdrawn from, both the anterior wall, the posterior wall, the right side, and the left side, and in this way two different views of the most important parts of the stomach may be obtained—either a general view at a distance or a close view showing details. I must not omit to mention that there are conditions which are scarcely accessible to gastroscopic examination, such as the rare abscesses and carcinomata which are limited to the pyloric ring, but these form a very small percentage of the cases concerned in gastroscopy, and even in them gastroscopy is of considerable use, for these conditions cause pains which are clinically most characteristic, and with a view to a surgical operation it is of the greatest importance to know that the morbid process is confined to the pylorus.

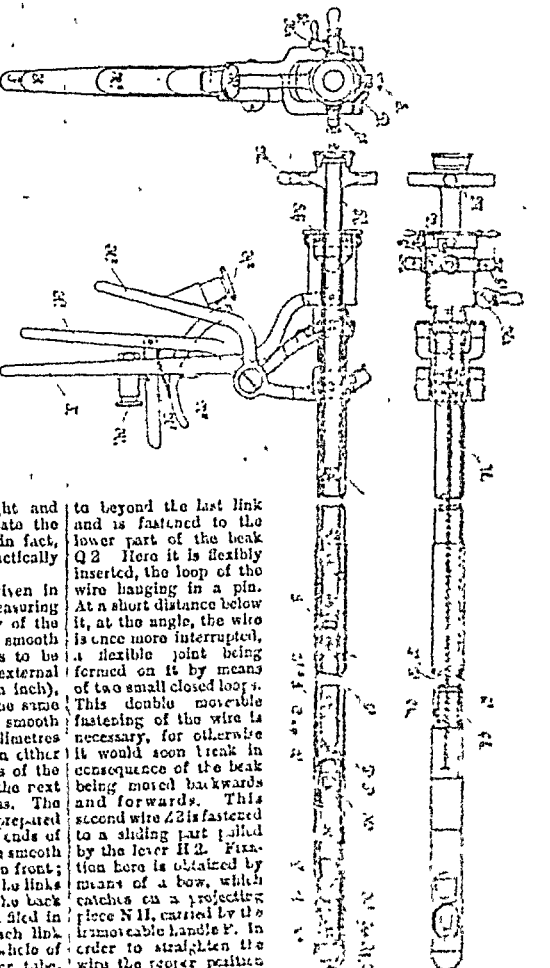
In constructing a gastroscope I began by modifying the

apparatus of Mikulicz, so that the incandescent lamp could be rotated to the right and the left together with the reflecting prism in the point. This instrument was rigid, and it is easy to understand that on account of its rigidity there was little difficulty in managing it. The introduction of rigid instruments into the stomach is, however, attended by conditions which will prevent the general adoption of such instruments, the principal reasons being the following. It is possible that the œsophagus may be perforated without great force being used. There are patients in whom a flexible bougie of the same dimensions as a rigid gastroscope can be passed, but who either cannot endure, or can only with difficulty endure, the passage of a straight rod or the straightening of an originally flexible tube. The cause of the difficulty may be a prominent upper jaw, or shortness of the tongue, or inflexibility of the parts at the level of the cricoid cartilage, or an unusual increase of the normal curvature of the vertebral column, or distortion of the œsophagus, or especially tuberculosis of the lungs. When a rigid instrument is introduced if an obstacle is encountered the operator is left in doubt as to whether the difficulty is due to faulty management of the instrument or to anatomical reasons. By a number of experiments upon dead bodies I have ascertained that the regions liable to perforation are at the level of the cricoid cartilage and the intersection of the left bronchus.

Every uncertainty and all risks resulting from it are avoided by using an instrument which is flexible while being inserted and is capable of being straightened after insertion. If the patient is placed in such a position that his œsophagus forms a straight line the straightening of the instrument must not cause him any pain, neither must it require the application of force by the medical man; if these conditions are not fulfilled the patient is not a suitable subject for this kind of examination and it will not be necessary to try a second time. In the great majority of cases, however, gastroscopy is possible. If required my apparatus can be used partly straight and partly bent and in this way will serve to indicate the position of an obstacle. I believe that I have, in fact, solved the problem of the construction of a practically useful gastroscope.

The instrument, of which various views are given in Fig. 8, consists principally of a flexible tube measuring 36 centimetres from the angle to the upper extremity of the apparatus. Here the tube is connected with the smooth rigid metal tube R 1, which enables the apparatus to be easily moved and rotated between the teeth. The external diameter of this tube is 14 millimetres (about half an inch), a size which is generally used. The links are of the same construction as in my œsophagoscope. They are smooth cylinders of 13 millimetres external diameter, 20 millimetres in length, and two millimetres thick in the wall. On either side of each link there is a flange half the thickness of the wall and fitting into a suitably prepared surface on the next link; the wall is also here filed to half its thickness. The flanges are fastened by means of rivets on these prepared surfaces, so that the hinges Ch are formed. The ends of the rivets are filed, so that the riveted parts are quite smooth both inside and out. The ends of the links are filed in front; at the back they are cut square across, and here the links touch each other when they are straightened. At the back of the links and on the outside there is a channel filed in which a wire runs, and little bridges soldered to each link prevent it from springing out of the channel. The whole of the flexible portion is covered with an indiarubber tube. The principle followed in changing the flexible tube into a straight rigid one is taken from the human finger if it be imagined to be hollow. The extensor tendon is here represented by the wire, traction on which is made by means of a lever. On the tube R 1 there is a moving piece to which the wire Z 1 is fastened. A rigid arm F is attached to the tube R 1, and when the lever H 1 is pressed against F it straightens the tube by pulling up the moving piece to which the wire Z 1 is fastened. When the tube is straightened a bow fixed to the lever H 1 catches on a projection N 1; the position of this projection on the arm F can be shifted by turning a screw K 1, and in this way the wire Z 1 can be tightened in the event of its becoming stretched by use. By releasing the bow from the projection N 1 the strain is taken off the wire and the tube at once becomes flexible. The wire Z 1 does not run along the whole length of the apparatus, but only as far as the last link and is soldered there (Q 1). At this last link a tube with a round top is attached by means of two hinges, one on either side. This tube is the beak of the apparatus and can be moved backwards and forwards through an angle of 135°. By the side of the first wire Z 1 a second wire Z 2 runs from the upper end of the apparatus to beyond the last link and is fastened to the lower part of the beak Q 2. Here it is flexibly inserted, the loop of the wire hanging in a pin. At a short distance below it, at the angle, the wire is once more interrupted, a flexible joint being formed on it by means of two small closed loops. This double moveable fastening of the wire is necessary, for otherwise it would soon break in consequence of the beak being moved backwards and forwards. This second wire Z 2 is fastened to a sliding part pulled by the lever H 2. Fixation here is obtained by means of a bow, which catches on a projecting piece N 11, carried by the immoveable handle F. In order to straighten the wire the proper position of the bow is obtained by turning the screw K 11. If the handles H 2 and F are pressed against each other the wire Z 2 is stretched, the flexible tube is straightened, and, moreover, the beak and the lower part are bent till they touch the last link of the tube. Then the angle in the position secured by the projecting piece N 11 is 135°.

FIG. 8.



Three views of the gastroscope.

Before introducing the apparatus it is of course bent into a curved form, the beak being made to take the same direction. It is now inserted so far that the angle between the

tube and the beak is below the cardia. If the wire Z 2 were now stretched immediately after the insertion the tip of the beak would touch the posterior wall of the stomach. In order to avoid this the wire Z 1 is first stretched, which straightens the tube as far as the angle, the beak remaining movable. A rotation of 180° is now given to the whole apparatus in the body, and then by pressing the lever H 2 the beak is pulled towards the tube and fixed in a position at an angle. The tip of the beak now approaches the anterior wall of the stomach and finds an empty space to move in. The separation between the arrangements for straightening the œsophageal portion and for imparting an angular movement to the beak is an important feature of my apparatus. The first stage is the straightening and stiffening of the apparatus as far as the angle; in the second stage the apparatus thus straightened is rotated through 180°, and then the beak is moved through whatever angle is required for the inspection. This end is attained by stretching two parallel wires and by a rotation through 180°. In this way it seemed to me that the simplest and best solution of the problem would be arrived at. The length of the beak is about 10 centimetres (four inches). I might have divided it into two halves of five centimetres each, hinged together. In this case the wire Z 2 would have had to run beyond the hinges and the tube R 3 in the beak would have also had to be divided into two portions, but the rotation of the apparatus would have remained the same. I did not do this because the beak caused no difficulties in the insertion and the effect might have been to diminish the rigidity of the apparatus.

The beak consists of two exterior tubes. The lower tube, which is fastened by two hinges to the last link, runs from the angle for about five and a half centimetres (two and a quarter inches). To this is fastened a second tube containing the reflecting prism P and the incandescent lamp Gl. This tube is capable of rotation, but the other part, of course, is not. In order that the tube with the reflecting prism and the incandescent lamp may be easily rotated from outside the body it is screwed upon an inner tube R 3. This runs through the whole beak. After the apparatus is straightened and made rigid, an inflexible metal tube R 2, with a crown of toothed wheels T 1, is inserted into the flexible tube. This tube runs to the angle Q 2. Here its teeth gear into the teeth of the tube R 3. This tube R 3 can be rotated in the beak, and to it the lowest part of the beak containing the prism and the lamp is fastened. At the mouth of the tube R 2 there is a strengthening cone of hard indiarubber, behind which some slices of indiarubber are placed, both the cone and the slices fitting accurately into a hollow space of metal, closed by a cover V, which can be fixed by a bayonet catch B. To inflate the stomach with air a stopcock Ha is provided, to which a pair of bellows can be connected. The air passes through the whole instrument and makes its way out beside the incandescent lamp through the end of the beak by a small valve Kl, which prevents mucus and liquid from getting into the apparatus. At the mouth of the tube R 2 there is a rotation disc, a button M on which serves as a mark for placing the reflecting prism P. The tube is always inserted so that the button M is in a line with the prism P, and as the rotations of the prism and the button correspond to one another the position of the prism in the stomach is always known.

The method of illumination and the arrangement of the optical part of the apparatus require a particular description. For conducting one portion of the electric current which starts from E 1, the whole flexible tube R 1, and the two tubes on the outside of the beak are used, and on arriving at the head of the apparatus the current passes into the lamp through a sliding contact X 4. The lamp, moreover, is fastened to an insulated lid. If the wire of the lamp breaks by burning all that has to be done is to screw off the end of the beak with the insulated lid in which the lamp is placed and to introduce a new lamp. The remaining portion of the current follows a more complicated course. As has been already said, at the back of the links there is a channel which serves for the reception of the two tubes used as above described and at the bent side of the links, not far from the prepared surfaces, another channel is [illegible]. In this second channel I have placed a small channel of German silver R 2, covered with silk which insulates it from the tube. The current now runs from E 2 in an insulated wire through the insulated German silver chain, which [illegible] time crosses the angle in a bridge, as far as the sliding contact X 1. Here the current passes over the tube R 3, which is the innermost tube passing through the beak; it carries a toothed wheel and upon it the outermost tube with the prism and the lamp is fastened. The tube R 3 consists of two parts, the one with the teeth being at the angle and the other one nearer to the extremity of the beak. One part is inserted into the other; both are insulated and the part lying towards the extremity of the beak R 3 is absolutely insulated from the outermost tube of the beak by rotating in ivory rings. The current now enters at H 1 into that part of R 3 which is completely insulated. At X 2 it then enters an insulated wire having at X 3 a sliding contact with the lamp. In order to be able to illuminate with interruptions the screw E 1 is inserted insulated. From here a bow D starts which is also insulated. The contact is effected by pressing or screwing the bow to the tube by means of the screw S.

The action of the optical part of the apparatus is as follows. The light of the lamp is reflected by the silvered interior Rf of the tube, passes out though a circular aperture or window, and the rays reflected from the object which is to be examined are admitted into the tube R 3 through the prism P. Behind the prism there is a plano-convex lens of so short a focal distance that the image of the object is formed directly on the back of the lens. This is the best arrangement for obtaining a large field of view. The rays now pass along R 3 as far as the angle, where they are reflected by a metal mirror Sp axially to the tube R 2. This mirror is soldered to the exterior tube of the beak, which is furnished with hinges and fastened to the lowest link of R 1. The two interior tubes, R 2 and R 3, provided with toothed wheels (crown wheels) revolve round the mirror, the latter remaining stationary. The mirror being inclined at an obtuse angle (135°) the reflected image would be no longer circular, but would be oval, unless a strong biconvex lens, which makes the rays converge, were previously inserted. Behind the mirror there is a second biconvex lens, changing this image into an inverted, enlarged, and real one. This image is transformed by another biconvex lens into an inverted real image of the same size, which is finally changed by the eyepiece as by a magnifying glass into an enlarged virtual erect image. It has been already said that the rays are directed into the optical part of the apparatus by means of the totally reflecting prism P, and I have here made use of an artifice for the purpose of somewhat enlarging the field of view. As is well known a biconcave lens produces a diminished upright image, with a correspondingly enlarged field of view, and I have provided a substitute for such a lens by giving a concave figure to the front sides of the prism, the third side, which is moreover silvered, being the reflecting surface. These reflected rays now leave the prism through the convex surfaces. The curvatures of the concave and convex surfaces must not be exaggerated, because if s [illegible] distorted. To a certain extent the [illegible] the stomach being, as it were, presented for inspection like the interior of a hollow ball.

The method of introducing the gastroscope may be explained in a few words. A simple preliminary trial, often without the use of cocaine, will suffice to show whether the examination will succeed easily with any given patient. The longest flexible œsophagoscope being passed into the stomach it can be straightened without any resistance if the patient is a suitable subject. If the sensitiveness of the patient's throat prevents this cocaine must be used for the examination.[4] A 10 per cent. solution is brushed on; the first parts to be treated being the palate and the base of the tongue, and then the back of the pharynx and the sinus pyriformis. The patient is then made to swallow and the brushing of the œsophagus is continued as far as the level of the cricoid cartilage. The gastroscope is made flexible and inserted exactly like my œsophagoscope. The patient is seated on the examination-table, as shown in Fig. 9. The insertion must be accomplished easily and without the use of any force. The apparatus in its flexible condition is inserted so far that the angle is below the cardia. The reflecting prism is turned towards the right side of the patient. The distance of the cardia must be previously ascertained, which can be done in several ways. If the patient contracts the muscles of his throat very much it is sometimes more convenient to introduce the apparatus whilst he is lying on his back with the upper part of his body raised and

[4] See Gattstein, Ueber Oesophagoscopie, Verhandlung Deutscher Naturforscher und Aerzte, No. 69, 1897, Theil II., Heft 2, p. 82.

his head a little bent backwards, his back and head being, of course, well supported in order to relax the muscles of the

left side with his left hand under t[illegible]
ing the head and his right hand [illegible]
the head downwards. In this po[illegible]
[illegible] angle by
[illegible] be accom-
[illegible] causing any
[illegible] fulfilled, a
things which very rarely happens, the examination must be abandoned and a second attempt need not be made. It has happened to me in cases where examination with the

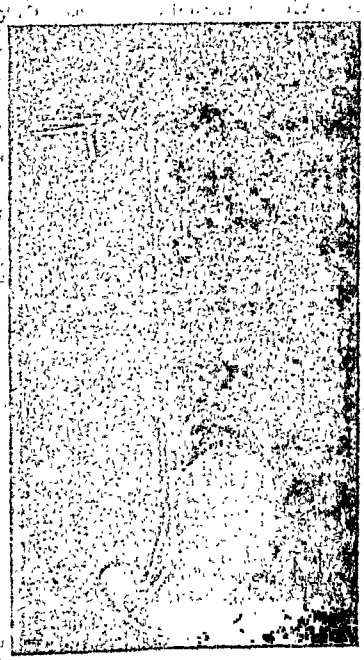
FIG. 9.

Introduction of the gastroscope.

œsophagoscope was of great importance that two prominent incisors were the only obstacle, and I have not hesitated to recommend their extraction by a dentist, for the operation causes little pain and the place of the missing teeth can be supplied by artificial ones. After the apparatus is straightened as far as the angle, the tube with the toothed wheel is cautiously inserted until it enters the lowest link but does not quite reach the angle. The apparatus is then rotated through 180°, and the lever H 2 is put in the latch, whereby the beak is directed forwards and fixed. The tube H 2 is then completely inserted and care must be taken that the button M, in a line with the reflecting prism, is on the left. The lid V with the bayonet catch H is now inserted and the stomach is inflated with air, the operator being guided by the sensations of the patient. It is of some use to blow a certain volume of air into the stomach with a syringe, its capacity being previously measured. The apparatus is then pushed as far as the great curvature, the distance of which has been ascertained beforehand by means of a bougie, and the proper length marked off on the gastroscope with a silk thread. The reflecting prism is now directed towards the pylorus and the beak towards the right and the pyloric region is first inspected. The beak is then brought into the middle and towards the left and in each position the prism is rotated 360°, the apparatus being at the same time gradually drawn back. The distance it may be drawn back each time depends of course on the size of the field of view and the observer must practise it on a model of the stomach. In this way the whole stomach can be methodically inspected in not more than three or four minutes and sometimes a single glance suffices to clear up the situation. The examination must be stopped now and then. In order to become conversant with this part of the examination a preliminary trial should be made by holding the beak in the hand and illuminating for 10 or 15 minutes with intervals. After the examination is concluded the lid with the bayonet catch is unfastened and the toothed wheel tube is pulled back a little way. The lever H 2 is then released and the apparatus rotated through 180°. In the next place H 1 is disengaged, the toothed wheel tube is [illegible], and the whole apparatus is withdrawn in its flexible [illegible]. If care be taken to proceed in this manner no accident can happen.

Of course the observer will test the condition of his apparatus before each examination. Although no particular strain is put upon it while in use it is at least conceivable that some part of it might give way. Either the wires or the hinges might break, their action being mutually antagonistic. The first of these accidents is of no consequence whatever. If the hinges break the lower flexible part can always be easily withdrawn by means of the wires and the indiarubber covering. The method of introduction and withdrawal already described shows that the rotation is effected by means only of the right toothed wheel tube and the wires. The lower part is in this way always flexible, both during introduction and withdrawal. The illustration (Fig. 10) is a reproduction of a photograph of the complete apparatus, inserted, as for the purpose of inspection, into a model (phantom) of the stomach. After having been used the apparatus is cleansed and rendered aseptic by wiping it

FIG. 10.



Inspection of the stomach.

with a cloth wet with a 5 per cent. solution of carbolic acid and finally it is wrapped in carbolized cloth.

Gastroscopy is indicated when there is a well founded suspicion of the existence of a disease which cannot be cured by internal treatment or which may even become worse under it, or which cannot be diagnosed with certainty by any other means. The indications are the same as for exploratory laparotomy. As I have already said, gastroscopy will be of great use in the early diagnosis of carcinoma. When carcinoma exists it is desirable to know its extent with a view to an operation and gastroscopy will be admirable for this purpose if the information cannot be otherwise obtained.

Gastroscopy will also be of great use in watching cases that have been operated on and in detecting recurrence. Chronic incurable ulcers of the stomach may be examined with reference to the presence of carcinomatous degeneration, and the many cases of cicatricial stenoses in the pylorus may be investigated. The position of an ulcer in the stomach for which excision is contemplated may be ascertained. Hour-glass contraction of the stomach may be diagnosed with certainty, and chronic catarrh of the stomach with impairment of its motility may be distinguished from carcinoma. Ulcer and stenosis of the duodenum may also be distinguished from the corresponding morbid conditions in the stomach. Furthermore, gastroscopy enables a differential diagnosis to be made in a great number of abnormal states which simulate organic disease of the stomach; these are the so-called pseudo-diseases of the stomach (Oser), and are neuroses imitating the symptoms of ulcer, &c. A knowledge of the position of an ulcer of the stomach is sometimes of the utmost consequence for its surgical treatment, and exploratory laparotomy does not always answer the purpose, for inspection of the serous surface of the stomach is not decisive as to lesions in the interior. Finally, the rare cases of foreign bodies in the stomach, such as balls of hair and lumps of shellac, may be distinguished from tumours.

It is unquestionable that an experienced surgeon who knows upon what morbid process and upon what spot he must direct his attention will be more successful in gastroscopy than an inexperienced surgeon. Gastroscopy is no doubt the most difficult of endoscopic procedures. For proficiency much practice is essential and it does not suffice to make use of it only now and then. It is true that œsophagoscopy requires still more experience for the correct interpretation of the appearances observed. The best plan for a learner is to begin by practising with a model (phantom) of the stomach. The method of introducing the apparatus is in the next place learnt by trials on bodies of the recently deceased, the gastroscope being placed in an indiarubber tube closed at the bottom. Every opportunity should be taken of seeing pathological conditions in the recent state at operations. Whoever uses the apparatus must understand every detail of its mechanical construction and must be perfectly familiar with its management; he must also possess a delicate tactile sense for sounding, and must be able instantly to form an opinion regarding the appearances observed. I am confident that in a few years gastroscopy will gain ground, as œsophagoscopy has already done, and that excellent results will be obtained by well-trained specialists.

Dresden.

A CASE OF PERNICIOUS ANÆMIA TREATED BY ANTI-STREPTOCOCCIC SERUM.

BY WILLIAM ELDER, M.D., F.R.C.P. EDIN.,
PHYSICIAN TO LEITH HOSPITAL.

IN THE LANCET recently[1] Dr. William Hunter placed before the profession the results of his most recent investigations into the causes and symptoms of pernicious anæmia. The conclusions he has arrived at are best described in his own words as given in the last part of his paper.[2] Dr. Hunter states: "The definition I formulate for the disease is, then, the following. Pernicious anæmia, a chronic infective disease localised to the alimentary tract; caused by a definite infection of certain parts of the mucosa of the alimentary tract, chiefly of the stomach, occasionally also of the mouth and of the intestine. It is characterised by (1) intermittent destruction of blood and increasing anæmia (and all the other pathological and clinical changes consecutive to these—e.g., anæmia, lemon colour, urobilinuria, hæmorrhages, dyspnœa, palpitation, œdema), as the result of the absorption of poisons into the blood; (2) periodic disturbance of the alimentary tract, chiefly of the stomach and the intestine, as local effects of the infection on the alimentary canal; and (3) occasional 'toxæmic' attacks characterised by fever, sweatings, general nervous symptoms; not infrequently by effects—e.g., numbness, tingling, ataxia, absence of reflexes—denoting deeper nervous changes, such as peripheral neuritis, sclerosis of the cord."

I need hardly point out how important these conclusions are, if further investigations confirm them, for a successful treatment of the disease. The first part of Dr. Hunter's elaborate article appeared in THE LANCET of Jan. 27th, and it so happened that the following case was admitted to Leith Hospital under my charge on the same day. The reading of the first part of the article led me to begin the treatment of the case on the same lines as he suggested in the third part which appeared in THE LANCET of Feb. 10th. Briefly, that treatment consisted in the thorough cleansing of the mouth with antiseptic mouth-washes, the administration of internal antiseptics in the form of salol and salicylate of bismuth, and the injection of anti-streptococcic serum. For the notes of the case, as well as for the carrying out of the treatment, I am indebted to the house physician at Leith Hospital, Miss Edith Hudson, M.B. Edin.

A man, aged 35 years, was admitted to Leith Hospital on Jan. 27th, 1900, complaining of debility and breathlessness. The history of his present illness was as follows. About six months before (in July, 1899) the patient had a severe attack of sickness and diarrhœa, and since then he had felt that he was gradually getting weaker and he had had occasional attacks of sickness. About the end of the following November he had what he called a "chill," which seems to have been a slight feverish attack. After this left him he felt more debilitated than ever. It tired him to walk short distances and he began to be very breathless. About the first week in December he first noticed that his skin was of a pale yellow tinge and he became troubled with constipation. For a month or two before he came under treatment he had had very slight bleeding piles, but he had never lost much blood, only a streak having been detected very occasionally. He continued to work till three weeks before admission and was then forced to stop owing to his weakness. He attended at the hospital as an out-patient for ten days before his admission. He had not previously had any definite illness, but he occasionally suffered from pain along the costal margin on both sides which was, he said, very slight, and he sometimes had "bilious attacks." About 17 years ago he was troubled very much with bad teeth, had many gumboils, and had to get several teeth extracted. Since then his teeth had been bad and had troubled him much, but gumboils had not been so frequent. His mother, father, and the other members of the family were strong and healthy.

State on admission.—The patient was found to be a markedly anæmic man. His skin was of a lemon yellow colour. The palpebral conjunctiva and the mucous membrane of the mouth were very pale and the ocular conjunctiva was slightly yellow. He had a rigor shortly after admission, was breathing very rapidly, and was almost pulseless. The temperature was 100·8° F. The pulse improved after he was given an ounce of whisky and five minims of digitalis, and it was 124 about half an hour after admission. With regard to the hæmopoietic system the spleen was not enlarged. The blood was examined on Jan. 29th, two days after admission, and showed hæmoglobin 24 per cent., red corpuscles 797,500, and white corpuscles 4520. As to the integumentary system the skin had a soft velvety feel and was of a yellow lemon tint, except over the lower part of the back, where it was brownish in colour, the discolouration being diffused and not in circumscribed patches. With regard to the circulatory system he had palpitation and shortness of breath on exertion. If working with his head low he felt very giddy. He was occasionally troubled with tinnitus aurium. The cardiac impulse was neither visible nor palpable. On percussion the base was at the upper border of the third rib and the right border reached to the right edge of the sternum. The left border was three and a half inches from the mid-sternum. Auscultation detected nothing abnormal about the sounds. The pulse was 124 per minute; it was large, soft, and easily compressible. As to the alimentary system the tongue was pale, flabby, and indented by the teeth. The lips and the mucous membrane of the mouth were pale. Many of the teeth were in a state of decay and there were a number of carious stumps. The appetite was fairly good and the thirst was not increased. The patient sometimes suffered from pain along the left

[1] THE LANCET, Jan. 27th (p. 221), Feb. 3rd (p. 226) and 10th (p. 311), 1900.

[2] THE LANCET, Feb. 10th, 1900, p. 374.

costal margin and a burning sensation in the stomach. These sensations had no reference to food. The bowels were very constipated. The stomach was not enlarged. Liver dulness extended to about an inch above the costal margin. With reference to the nervous system, on rising after sitting for any length of time he felt giddy and his limbs were very tremulous when he walked. He complained of seeing dark specks before his eyes and occasionally he saw yellow and red lights floating in the air, the red being close before his eyes and the yellow at a distance. His temper was rather irritable. He had not been sleeping very well for some time. On ophthalmoscopic examination nothing abnormal could be seen in the retina. The respiratory system showed nothing abnormal. The specific gravity of the urine was 1020. The reaction was acid. There were no abnormal constituents and no indican.

[illegible] patient was put on milk [illegible] mixture and half an ounce [illegible] stimulant. On the evening of Jan. 27th the temperature reached 103·6° and the pulse was 120. On the 28th the temperature was 101° in the morning and 101·4° in the evening, and the pulse was 120. On the 29th the temperature was 100·8° and the pulse was 110. On the 30th he was very suspicious and it was very difficult to get him to take his medicines, as he thought that the medical attendants and the nurses were trying to poison him. The temperature on this day was 100° and the pulse was 108, and on the 31st the temperature was 99° and the pulse was 100. On Feb. 1st the temperature was down to normal and the pulse was 100. When the lights were turned down he became very excited; he jumped out of bed and was brought back after a great deal of persuasion. An attempt was made to give him bromide but he absolutely refused to take any drugs. He complained of being hungry, so he was given hot milk with 15 grains of sulphonal dissolved in it. He quieted down after a while and slept better than he had done for several nights. On the 3rd he was quieter and talked more sensibly. He was put on convalescent diet. The following treatment was then begun. A powder consisting of five grains of salol and 15 grains of bismuth salicylate [illegible] six hours. Eight cubic [illegible] serum were injected into [illegible] iliac crest. A mixture of one drachm of tincture of myrrh, 24 grains of carbolic acid, with six ounces of water was ordered as a mouth-wash. The patient's weight was 9 st. 1 lb. On the 5th eight cubic centimetres of anti-streptococcic serum were injected and on the 7th 10 cubic centimetres. An examination of the blood on this day showed hæmoglobin 44 per cent., red corpuscles 1,952,500, and white corpuscles 4700. On the 9th five cubic centimetres of anti-streptococcic serum were injected and the patient was allowed to be up. On the 11th his skin was seen to be not so yellow as it had been. He had lost about two and a half pounds in weight, now weighing 8 st. 12½ lb. The serum running short he had not an injection on this day as was intended. On the 13th 10 cubic centimetres of anti streptococcic serum were injected and the examination of the blood showed hæmoglobin 68 per cent., red corpuscles 2,340,000, and white corpuscles 4500. 10 cubic centimetres of anti-streptococcic serum were again injected on the 15th and the same quantity again on the 17th, on which day the patient was taking his food well; he had been having very good nights. On the 19th he again received 10 cubic centimetres of anti-streptococcic serum. During the week the patient had lost one and a half pounds in weight and now weighed 8 st. 11 lb. On the 21st 10 cubic centimetres of anti-streptococcic serum were injected. He had been restless during the previous night and very wakeful, and 10 grains of trional were administered. On the 23rd 10 cubic centimetres of anti-streptococcic serum were injected. The blood was examined and showed hæmoglobin 68 per cent., red corpuscles 3,355,000, and white corpuscles 5100. On the 25th his weight was the same as that of a week ago. He was very restless and was therefore ordered a drachm of liquid extract of cascara sagrada to be taken at bedtime. On the 26th and 28th 10 cubic centimetres of anti streptococcic serum were injected. The blood was examined on the latter day and showed hæmoglobin 60 per cent., red corpuscles 3,700,000 and white corpuscles 5100. On the night of March 2nd he was sleepless and very excited. He talked a lot of nonsense and said he felt as if he had very little blood in his body and that the little blood he had was leaving him from the tips of the fingers, and so on. 15 grains of trional were given on the 3rd and he slept a little after its administration. He still weighed 8 st. 11 lb. 10 cubic centimetres of anti streptococcic serum were given on the 4th. On the 6th, as he had been restless and wakeful during the night, he was given 15 grains of trional dissolved in hot milk, and 15 grains of trional were again given on the night of the 6th. 10 grains of anti-streptococ[illegible] 8th. He had been quiet on [illegible] pt well without any hypnotic. [illegible] the back of his head and rushing down the bridge of his nose. His wife was asked if he had been quite sensible in his conversation when he was at home, and she said that after the beginning of his illness he used to imagine that all sorts of queer things were going on inside him. An examination of the blood on the 10th showed hæmoglobin 83 per cent., red blood corpuscles 4,260,000, and white corpuscles 4500. On the 12th it was found that he had gained two and a half pounds in weight during the previous week. He had been given 15 grains of bromide of potassium at midnight on the 11th. 10 cubic centimetres of anti-streptococcic serum were given on the 12th and again on the 15th, when he looked remarkably well, the skin having a perfectly healthy colour and appearance. He had another of his wakeful and excitable nights on the 18th and was again given 15 grains of bromide of potassium at 10 30 P.M. 10 cubic centimetres of anti-streptococcic serum were also injected. It should be said here that all the serum injections were given in the subcutaneous tissues covering the dorsum ilii. He had no constitutional symptoms after them. On several occasions the urine was examined and no trace of albumin was found. On the 20th an examination of the blood showed hæmoglobin 104 per cent. and red corpuscles 4,600,000. He had no anti-streptococcic serum injected after the 19th. On the 28th he continued to look and to feel well, and he slept very well. He still spoke, however, about queer sensations in different parts of his body, but his talk was more sensible.

The blood examinations were kindly made by Dr. J. S. Fowler, assistant physician to Leith Hospital, and the following are his reports on two examinations. The first describes the appearance of the blood on admission and the second its appearance on March 10th. "Jan. 29th.—Red corpuscles 797,500, leucocytes 4520, hæmoglobin 24 per cent. The red corpuscles show marked alterations; megalocytes are numerous and many of them have no central dell. On the whole the average diameter of the red corpuscles is above the normal. There are numerous poikilocytes as well as fairly well marked polychromatophilia. There are a great many nucleated red corpuscles; by comparison with the number of leucocytes in the films they may be estimated at about 1038 per cubic millimetre. Typical normoblasts are comparatively few, the majority of the cells being of the megalobiastic type but somewhat smaller in size than usual. 31 per cent. of the nucleated reds are typical megaloblasts. A few nucleated reds show mitotic figures. The differential count of the leucocytes gives—large and small mono-nuclear 30 per cent., polymorphonuclear 66 5 per cent., eosinophiles 3 per cent., myelocytes about 0 5 per cent. March 10th.—Red corpuscles 4,260,000, leucocytes 4500, hæmoglobin 83 per cent. The red corpuscles appear almost normal though some megalocytes are still present. Nucleated reds are exceedingly few, only one or two normoblasts being found. Leucocytes: large and small mono-nuclear 40 per cent., polymorpho-nuclear 55 5 per cent., eosinophiles 4 per cent., myelocytes also 0 5 per cent."

When one considers how unsatisfactory the treatment of cases of pernicious anæmia has been in the past I make no apology for thus early recording the results obtained in this interesting case. Dr. Hunter, who has done so much in his investigations on this disease carried on for many years, has arrived at the conclusion that the cause in which is such a characteristic symptom is only a symptom and is a result of an infection of the alimentary tract. I do not at this time intend entering into a full resume of the evidence which he has so ably brought forward in support of his conclusions, but this case is one which, apart altogether from the result of the treatment, might be used by him to further support his views. Dr. Hunter believes that the disease has its origin in the small sing of pyogenic organisms which, when long continued, leads to a gastric or intestinal catarrh and, eventually, to a specific infection of the gastric or intestinal mucous membrane with, as a result, a hæmolysis in the portal circulation, so that all the

symptoms of pernicious anæmia show themselves. He suggests that probably the specific infection of the gastric mucous membrane is of "mixed" origin due to more than one organism, and that in most cases the primary source of the organism is to be found in the mouth associated, as a rule if not invariably, with bad teeth. Dr. Hunter also suggested that serum treatment might be tried, and as streptococci are found in a large proportion of cases of caries of the teeth, of stomatitis, and of gastritis, he intended trying treatment by anti-streptococcic serum.

There are some special points I would like to discuss in connexion with the case.

Diagnosis.—Was this a case of pernicious anæmia? To my mind there can be little doubt about the diagnosis. The patient had not been observed longer than a week before his admission, but his condition when admitted was so characteristic of pernicious anæmia that the disease was at once suggested to the minds of those who saw him. His pale lemon yellow colour at once indicated the marked anæmia which was present without apparently a sufficient cause. After careful questioning we could only get a history of blood-stained stools on one or two occasions which apparently came from a small hæmorrhoid. This loss of blood, however, should hardly be designated by the word "hæmorrhage," for it was trivial and at rare intervals. I only mention it in order to be absolutely accurate in the recording of the case. I am thoroughly satisfied that it had nothing whatever to do with his symptoms. In addition to the colour the other symptoms—breathlessness, general weakness, &c.—all pointed to marked anæmia, but when a microscopic examination of his blood was made the diagnosis became more certain. He was admitted on Jan. 27th and it was found that he had 797,500 red corpuscles per cubic millimetre instead of 5,000,000, that his hæmoglobin was 24 per cent. of normal, and that his leucocytes were 4520 per cubic millimetre. His corpuscles, besides, showed the characteristic appearances which are supposed to be associated with pernicious anæmia. Such profound anæmia is seldom found in men unless after severe hæmorrhages, and the fact that although the red corpuscles were reduced to less than a sixth of what they ought to be, whilst the hæmoglobin was only reduced about one-fourth of the normal with little reduction in the leucocytes, points strongly to the case being one of pernicious anæmia and not one of anæmia from loss of blood or such an anæmia as one sees in chlorosis. The microscopic appearances of the corpuscles were all typical of the disease. The progress of the case as regards the microscopic appearances of the blood points strongly in the same direction, because a marked characteristic which was brought out by all the examinations was the greater reduction in the red blood corpuscles than in the hæmoglobin, whilst the leucocytes remained practically the same. As the case improved the appearances of the corpuscles became less typical of the disease. His other symptoms tend to confirm the diagnosis. Marked features in the case were the nervous symptoms, chiefly evidenced in the sleeplessness, general irritability, and varying subjective sensations, which were chiefly referred to the abdominal region and digestive organs. Disturbances of the nervous system are often prominent symptoms in this disease. It was difficult to ascertain from his history how long he had shown these nervous symptoms and whether he might not have had some symptoms of mental or intellectual weakness before the onset of his anæmia. The patient was perhaps best described as being "slightly peculiar" at times, but this peculiarity was generally not at all well marked, though at other times it was quite evident. These symptoms did not improve in proportion to the improvement in the condition of the blood and this fact makes me a little doubtful as to whether they were all due to his disease and not rather to a slight mental degradation which he had had before the onset of his illness. The serum and other treatment I believe have no causal relation to these symptoms, as they were quite marked on his admission, and there was a history of them for at least some time previously. As regards the primary cause of the disease this case supports Hunter's views. The mouth and teeth could be described as in a state of neglect. A large number of teeth were carious and many were reduced to mere stumps, and he gave a distinct history of having had frequent gum-boils. The history of discharge of pus into the mouth extended back for many years. He had a history of occasional bilious attacks during the previous six months with pains referred to the costal margin, pointing to gastric disturbance, for some time before the onset of his anæmia, and he gave a history of having suffered from an attack of diarrhœa at the onset of his gastric symptoms. These gastric and intestinal disturbances are therefore also in accordance with Hunter's theory of the cause of the disease.

Treatment.—As regards the treatment of the case the details are sufficiently noted in the notes which I have already given. The treatment was begun on Feb. 3rd, exactly a week after the patient's admission into the hospital. His mout[illegible] and brushed with an antiseptic [illegible] given five grains of salol and 15 grai[illegible]h internally every six hours. 10 [illegible] serum were at first injected into the subcutaneous tissue over the dorsum ilii every second day. At the first two injections, on account of a fault in the [illegible] only about eight cubic centimetres, but [illegible] cubic centimetres were given on each occasion except on Feb. 9th, when he got o[illegible] From Feb. 3rd till March [illegible] injections of the serum and t[illegible] continued all through. With [illegible] occasionally when his nervou[illegible] f castor oil or cascara [illegible] was the only medici[illegible] of the usual remedies for anæmia—neither iron nor arsenic nor bone-marrow. His blood was examined at intervals of about a week and the result is noted in the following table. The treatment, it should be said, began on Feb. 3rd.

Date.	Red corpuscles.	Hæmoglobin.	Leucocytes.
Jan. 29th	797,500	24 per cent.	4520
Feb. 7th	1,962,500	44 "	4700
" 13th	2,340,000	66 "	4600
" 23rd	3,355,000	66 "	5100
" 28th	3,700,000	90 "	5100
March 10th	4,360,000	88 "	4500
" 20th	4,800,000	104 "	—

On March 20th (52 days [illegible] and 45 days after the commencement of [illegible] had practically reached normal.[3]

It would be a mistake to draw very decided conclusions from the results obtained by the serum treatment of one case, the more especially as cases of pernicious anæmia are so apt to be intermittent—a fact which almost every practitioner who has had experience of such cases must soon have noted. If a new method of treatment is adopted in those cases we are apt to think that the particular treatment has been the cause of the improvement. The hopes of the profession have been raised again and again with regard to this disease by the announcement of good results from particular forms of treatment. Arsenic and [illegible] hitherto given the best results, [illegible] has been derived from both forms of treatment in many cases such improvement has generally been only temporary and the disease as regards its ultimate result has been one of the most hopeless. Whether further experience of anti-streptococcic serum will confirm the result I have obtained in this case or not time alone will enable us to judge. That every case will be benefited by this treatment I can scarcely venture to hope, because the chances are that the disease, even if due to a specific infective affection of the gastric mucosa, may not always be due to the same species of organism and may, as suggested by Dr. Hunter, be owing to "mixed" infection. Judging from the results which have been obtained from the use of the anti-streptococcic serum in other conditions of blood infection and from what is recorded in the medical journals it must be concluded that this serum is not at all certain in its curative action. Whether this result is due to faulty serum placed upon the market or, as is more probable, to some cases of blood-poisoning being due to "mixed infection," or to there being

[3] On April 3rd an examination of his blood was made. The red corpuscles were found to be 4,325,000, hæmoglobin 104 per cent., and leucocytes 5600. On April 16th he was discharged from hospital and on April 22nd he reported himself as feeling fit and well and looked in very good health.

several species of streptococci producing a poison giving rise to similar symptoms but not counteracted by the administration of the anti streptococcic serum in the market, further experience will show The case recorded above is suggestive, and I believe this form of treatment is worthy of a further careful trial by those who have cases of pernicious anæmia under their care

Leith

ON CYSTS OF THE BREAST, THEIR RELATIVE FREQUENCY, DIAGNOSIS, AND TREATMENT.[1]

BY THOMAS BRYANT, F R C S ENG, M CH R U I,
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FOUR years ago, after having seen in consultation a very interesting series of cases of tumour of the breasts which had been considered to be examples of carcinoma but which eventually turned out to be cases of simple cysts, I was induced to write and subsequently to read a paper before this society upon the Diagnosis and Treatment of Early Cancer and Cysts of the Breast,[2] and I did so under the conviction that the frequency of cyst disease of this gland was not appreciated, that its diagnosis was not as perfect as it ought to be, and that the treatment of such cases was consequently uncertain and unsatisfactory. In that paper I quoted a dozen cases of simple cysts in the breast which had been suspected or pronounced to have been cancerous and which in the majority of instances would have been treated as such, and probably by the removal of the breast, when with a correct diagnosis the cyst itself was dissected out of the affected gland or otherwise destroyed, and the breast was saved in every instance.

The experience I have had since that date, with the attention I have given to the subject since my interest in it was awakened by the compilation of that paper, has led me to review as a whole my clinical experience of breast disease during recent years and particularly as to its bearing upon the frequency of the development of cyst disease of the gland, and I now bring before you in a condensed form the conclusions to which my investigations have brought me, of which the following are the most important (1) that simple cysts of the breast are far more common than they are generally believed to be, (2) that they are chiefly found in women during the same period of life as that in which cancer is met with; (3) that they are mostly quite amenable to local treatment without the sacrifice of the breast-gland in which they are situated; and (4) that there is no reason to believe that women who have there cysts are more prone to cancer than those who have them not

With the view of gaining some definite information as to the frequency of the presence of these cysts I have gone to my own note books and have carefully noted and analysed 242 consecutive cases of breast disease as they have appeared before me in private practice, for I felt convinced that it was by such means alone that a correct impression as to the comparative frequency of the affection was to be acquired The analysis of these 242 cases comes out as follows 163 cases were registered as solid tumours or examples of cancer or sarcoma and 67 cases as of cystic disease Of the 12 remaining cases eight were examples of adenomata, two were cases of lipomata developing in the parts covering the breast, and two were cases of carcinoma in men, but these 12 cases are not now under consideration It will thus be seen that there are 230 cases of breast disease to deal with—163 of diagnosed cancer or sarcomatous disease and 67 of diagnosed cystic disease, the latter or cystic disease bearing to the former or cancerous disease the relative proportion of 29 1 to 70 9 per cent. These facts suggest the conclusion that out of every four cases of tumour of the breast, more or less simulating cancer, one at least will be of a cystic or simple nature

But it will be said that there is some fallacy in this conclusion, since, in both groups cases which have been only diagnosed are mixed with others in which the diagnosis was proved by operation, and the force of this objection I fully admit Consequently to get rid of this source of fallacy I have eliminated from my calculation all the cases in both groups which were simply diagnosed and I now give an analysis of the cases of both groups which were subjected to proof by operation By this method a like conclusion will have to be drawn, for it appears that out of the 163 cases of diagnosed cancer 126 were operated upon, and out of the 67 examples of diagnosed cyst disease 44 were operated upon, the total number of operations being 170, and these figures work out to show that of the whole number 25 8 per cent were examples of cyst disease and 74 1 per cent of cancerous disease, the proportion of cases being practically the same as in the larger figures, both series supporting the conclusion that out of every four cases of breast disease more or less simulating cancer one will prove to be an example of cyst disease These figures consequently fully prove the truth of the first conclusion I have formulated—"that simple cyst disease of the breast is far more common than is generally believed"

I will now proceed to show you the truth of the second conclusion, "that these cases of cyst disease of the breast are found in women at the same period of life as that in which cancer is met with," and for this purpose have analysed all the cases which have presented themselves to me, 67 in all, 23 of which were in single and 44 in married women The analysis is as follows —

Age.	Cases operated upon			Cases not operated on			General total
	Single	Married	Total	Single	Married	Total	
Under 30 years of age...	2	1	3	1	—	1	4
Between 31 and 40	4	4	8	1	2	3	11
" 41 " 50 "	8	11	19	4	10	14	33
" 51 " 60	2	11	13	—	3	3	16
Over 60 "	1	—	1	—	2	2	3
Total	17	27	44	6	17	23	67

By this table it appears that out of 44 cases of cysts of the breast in which the diagnosis was confirmed by operation 11 occurred in women under 40 years of age and 33 in women over 40 years of age, and out of 23 cases diagnosed but not proved to be examples of the same affection four were under and 19 were over 40 years of age, the conclusion being that 52 of the whole number of 67 cases, or 77 5 per cent, took place in women over 40 years of age the proportion in the group of cases which had been operated upon and in that in which the cases had been only diagnosed being about the same These facts are enough for me to say that they afford ample proof of the second conclusion I have formulated, that these cases of cyst disease of the breast are found in women at the same period of life as that in which cancer is met with.

The third conclusion I have now to support is "that these simple cysts of the breast are mostly amenable to local treatment without the sacrifice of the breast gland in which they are situated," for by a free incision through the soft tissues which cover the cysts they can be exposed and completely and by a simple dissection removed from the gland should the cyst when exposed present a lining membrane absolutely free from anything like papillary or other growth its excision is not, however, a necessity for when its inner surface has been destroyed by swabbing it with either pure or dilute carbolic acid a strong solution of iodine or the tincture of iodine there is but little probability of any growth will subsequently appear In my own practice I have had no instances in which this took place and the cyst when any intra cystic growth appears small is found to the easy with the direction of the cyst wall If the cyst should be adjudged as a rule of practice to be, indeed, when any suspicious growth is found to exist in a cyst, or if such a growth is of a fleshy and fast of a papillary character the lobe of the breast involved or the whole gland should be taken away as well as the cyst, the latter course being probably the safer But such cases are rare and

[1] A paper read before the Medical Society of London on April 9th, 1900.

[2] Transactions of the Medical Society of London, vol. xxiii., 1900, p. 245.

quite exceptional in my practice; there have been but two and these have been classed with the solid or cancerous tumours.

The practice I have just described is the one I have for many years always adopted, and I have not yet met with a case in which it has not been permanently successful. Under these circumstances the fourth or last conclusion has its best support, for my experience tends to show "that there is no reason to believe that women who have these cysts are more prone to cancer than those who have them not," and under such circumstances there can be no reason why a breast affected with this trouble should be sacrificed. A surgeon who may have removed a breast for supposed cancer and has found on or during its removal that the tumour was a cyst may soothe his conscience with the thought that he has, after all, done a good thing and saved his patient from future trouble. But this conclusion will have been based on the surgeon's hopes rather than his experience. In my belief the presence of a simple cyst in the breast is no harbinger of future evil if it be treated and removed, although if left it may without doubt become a source of mischief; and that should a cyst containing intra-cystic growths be left untreated it to a certainty will develop into a serious local affection, although when treated as I have advised the danger in the future seems to be small. I should like it, however, to be understood that I do not advocate the exploration of every cyst or of all tumours which may be cysts of the breast gland. Small involution cysts come and go, and particularly when the whole gland has been in a coarse, irritable, and painful condition and subsequently settles down; cysts of the size of a nut and even of a walnut occasionally disappear under an improved condition of health, and particularly of the pelvic organs when they have been disturbed. In the paper to which I have already drawn the attention of this society I recorded two cases in which this happy event took place, and it is doubtless such cases as these which, when they fall into the hands of quacks and undergo quack treatment, are regarded as examples of cancer and published as cancer cures. The cases upon which this paper is based were all examples of tumours as large as, or larger than, an unshelled walnut; each one had existed for some months and was the seat of local uneasiness, if not of pain. In the minds of their possessors they had excited fears, as well as in the minds of the medical men who had been consulted about them; in fact, all the cases were examples of breast disease which should justly claim the surgeon's close attention.

In some of the instances the lump in the breast existed alone, without any collateral symptom to help a diagnosis. In others a discharge from the nipple of some kind was present. In a few the patients reported that the tumour varied in size as well as in hardness at different times, and these symptoms should always lead the surgeon to suspect that the tumour might be a cyst. In exceptional cases there was some traction upon or retraction of the nipple, this condition tending to lead the surgeon towards a diagnosis of cancer, although it is quite consistent with the presence of a cyst. In none of the cases was there any dimpling or infiltration of the skin over the tumour as in cancer, although in several the skin was involved by stretching, and this in exceptional instances may be carried to the extent of its rupture. I have seen examples of this with rupture of the cyst and the discharge of its contents externally.

A serous cyst is sometimes met with in a breast which is as a whole undergoing involution changes. The gland thus affected feels on manipulation cordy, or as I prefer to describe it, as a "coarse" gland. The involution cysts when exposed by the incision into the breast appear as greenish or black spots of about the size of a hempseed in the substance of the gland; at times they appear in strings. Their appearance is well illustrated in Fig. 5, Plate viii., page 317, of my work on Diseases of the Breast.

The presence of these small cysts when associated with a simple serous cyst which calls for treatment does not require the removal of the breast gland, although hitherto surgeons have deemed it right to adopt this practice. I have followed their example in past years, but extended experience has confirmed me in the belief that it is not necessary, for the affected gland after the removal of the cyst has in all my cases so affected subsequently settled down without any future troubles manifesting themselves. In fact, the "coarse" breast, associated with a cyst, has settled down after operation just as well as the "coarse" breasts the subjects of involution without serous cysts have done, and generally do by time and treatment. The removal of the one is no more necessary than the removal of the other. When, however, intra-cystic growths are found to be present in the cyst which is being dealt with and the breast generally is full of small involution cysts the extirpation of the whole gland is a right measure to adopt.

It is foreign to my purpose to enter into the pathology of this affection, although since it occurs mostly in women over 40 years of age it seems probable that the cysts are originally involution cysts, and as it is very commonly associated with the occasional discharge of a more or less clear fluid from the nipple it seems justifiable to conclude that the ducts of the gland are in connexion with the cyst, if a dilated duct is not its origin. Some of these cysts, and roughly calculated less than half of those explored, will be found to contain small papillary growths attached to their walls. In one case these will appear like small red sessile buds of the size of mustard seeds; in another they will be pedunculated, whilst in exceptional cases the cyst will be found to contain solid growths. It seems probable, however, that all large cysts of the breast if left untreated will sooner or later become the seat of some proliferating intra-cystic growth, which will be papillomatous, sarcomatous, or carcinomatous in its nature according to the proclivity of the tissue to form or of the individual to develop either special variety; in my book on Diseases of the Breast I have quoted a series of cases to illustrate these points. The cases which I found in practice to contain solid growths have not been included in this communication, as they have been grouped with the solid sarcomatous or cancerous tumours.

Why these cases of cyst diseases of the breast are so frequently overlooked and left to be discovered by accident, is a question which may be difficult to answer. I believe it is so from two main causes, the first being, the strong belief that such cases are rare and are not, therefore, to be expected; and the second being the fact that these cases are met with in women at the same period of life as that in which cancer is known to appear. For it is true that the professional as well as the public mind is so firmly impressed with the idea that any tumour, not inflammatory, appearing in the breast of a woman over 40 years of age is probably cancerous as to forbid any other explanation of its nature being seriously entertained.

The facts I have laid before you clearly indicate that this opinion is not a correct one; for if we take all the cases of tumour of the breast together, excluding inflammatory affections but including the cases of carcinoma, presenting symptoms of so marked a character as to forbid any error in diagnosis being made, it has been shown in my analysis of cases that in one out of every four the tumour will be cystic and not cancerous; whereas if we eliminate all such well-marked examples of cancer from our consideration in which an error in diagnosis can hardly occur, and apply our argument to those alone of a doubtful nature in which there are no collateral symptoms of cancer to support a diagnosis, it does not appear to be wrong to conclude that in every two cases of this kind one will be cystic. I must confess that this conclusion came upon me somewhat as a surprise, but the facts I have laid before you clearly suggest no other, nor will they bear any other, interpretation. I do hope, therefore, that the professional mind will accept the truth as I now present it and in any individual case of breast tumour not clearly cancerous supply the argument of probability, and instead of assuming at once that the disease is probably cancerous remember that the logic of facts suggests that the case is as likely to be one of a simple cystic nature as of a malignant kind. In my practice it is certain that this has been the case. To admit that my experience in this matter is exceptional is what I cannot do; indeed, I know of nothing in my practice which differs from that of other consultants, although it is just possible that I may have been consulted more in difficult cases of breast disease than in those of cancer that are fairly evident, and if so I may therefore have had a larger proportion of cystic breast cases to deal with than other men. But I do not believe this to have been the case—nor do I think that such an explanation need alter materially the conclusions I have formulated, nor make them less worthy of your attention.

With respect to the diagnosis of these cases there may be a difficulty, and particularly in the case of a middle-aged woman with a hard, slow-growing lump in her breast, and in

lactation and of
condition of the
normal. In such a case as this the surgeon should put to himself the question, Is it one of cyst or is it one of early cancer? for the chances of either have been shown to be equal. To decide, or, rather, to help towards the diagnosis, a careful local examination should be made, with the patient placed flat upon a couch and the breast gland made to rest upon the ribs, when, should the surgeon's sense of touch be keen enough to detect an elasticity in the swelling or even fluctuation, the diagnosis of a cyst may reasonably be hazarded, although what the nature of the contents of the cyst may be cannot be otherwise than obscure. If a clear serous fluid can be made to flow from the nipple by manipulation of or pressure upon the tumour the probabilities of the cyst being a simple serous cyst are much enhanced If the fluid be brown or blood-stained the existence of an intra-cystic growth of some kind may be suspected, and if the discharge be more like pure blood the presence of a soft solid growth, sarcomatous or carcinomatous, should be feared. When, however, there is no nipple discharge, as is often the case, and the other conditions are the same, the chances against the swelling being caused by a cyst are not lessened, although the view of the supposed cystic enlargement of the breast being due to the presence of some soft cancerous growth would be encouraged.

To make the diagnosis certain an exploratory incision should be undertaken, when if the lump be due to a cyst it should be dealt with as already described; and should the tumour be due to a cancerous infiltration or sarcomatous disease the breast gland should be removed; the operation being in these circumstances undertaken at the period of the tumour's growth after which the most favourable result may fairly be expected. To allow a cyst to enlarge and persist for months in order to make its diagnosis more certain is a timid and dangerous practice; and to allow a tumour which may be cancerous to drift until collateral symptoms have made their appearance so as to make its diagnosis certain is neglectful and culpable. For to the patient delay in removing the local disease, whether cystic or solid, is fraught with danger, whereas by early interference nothing but good can be achieved.

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INVERSION OF THE MYOMATOUS UTERUS.

By W. ROGER WILLIAMS, F.R.C.S. Eng.

I THINK it is seldom realised by those concerned in the teaching of pathology that of all non-malignant tumours uterine myomata are by far the commonest; thus of 5010 consecutive cases of non-malignant tumours of all parts of the body, in both sexes, I have found that no less than 883, or 17·6 per cent., were uterine myomata; and of 3866 females in this list 22·7 per cent. were affected with these tumours. It may be said that about 10 per cent. of all tumours in women are uterine myomata.

Of the various complications of myomata demanding surgical intervention inversion is one of the most urgent. It cannot be said that this condition has hitherto been studied with the attention that the important issues involved demand; and even in the best gynæcological treatises the subject is dealt with in a meagre and unsatisfactory manner. The forms of myomata prone to be complicated by inversion are submucous and intramural tumours, evolving towards the uterine cavity. The favourite seat of attachment for such tumours is the fundus or its vicinity. Myomata of this kind are usually sessile or they have only a short thick neck; even when the tumour is somewhat elongated it generally remains thick and it is usually well supplied with blood-vessels, including one or more fairly large arterial branches. It is important to note that at its point of implantation the uterine wall is nearly always thinned from pressure atrophy, and this predisposes to inversion, of which a slight degree is nearly always present with tumours [illegible] This form of the disease generally gives rise to [illegible] symptoms, so that it is clinically important, all such tumours [illegible] attain large size. Exceptionally, however, large formations are met with. These tumours generally present as smooth, pyriform, ovoid, or rounded masses, the pyriform shape being the commonest with the attachment by the narrow end. They are softer, more muscular, and more vascular than their subperitoneal congeners but less prone to fibrous, calcareous, and cystic changes, while conglomerate forms are most exceptional. It is rare to find more than a single polypoid myoma within the uterine cavity, although with such a tumour intramural and subserous myomata may be associated. Hence success usually attends their removal.

The presence of a myoma within the uterine cavity acts like a foreign body—the uterus contracts and endeavours to expel it, becoming hypertrophied in the process ("*gravidité fibreuse*" of Guyon) Intermittent expulsive, labour-like pains result from this condition. The tumour is thus gradually forced downwards towards the cervical canal which it dilates, and it may even enter the vagina and be extruded from the vulva Among the conditions favouring extrusion are congestion, œdema, septic infection, and other inflammatory complications, causing sudden increase in the size of the tumour, and many cases occur after parturition. In all these instances the determining factor generally is some injury sustained by the tumour during examination with the sound, tent, curette, finger nail, &c. Ledlard has reported a case in which the slight wounding of an intra uterine myoma with the sound was soon followed by fatal septicæmia and this is by no means an exceptional occurrence. It is also to be noticed that salpingitis, hydro- and pyosalpinx are more likely to be associated with such tumours than with any other kind of uterine myoma.

Now, it is just these extruding myomata that are specially apt to be complicated by inversion of the uterus of which many instances have lately been recorded, and it is noteworthy that this condition may occur long after the climacteric.

In the mechanism of inversion two factors seem to me to be chiefly concerned: (1) thinning and weakening of the uterine wall at the seat of the tumour's implantation owing to pressure atrophy, which is the more marked the larger the tumour and *vice versâ*; and (2) contractions of the uterine musculature excited by prolapse of the tumour into the cavity of the organ, which is the chief cause of inversion with small tumours. The efficacy of these factors in any given case is inversely proportional. With large myomata the weight of the tumour dragging through its attachment on the weakened uterine wall is also an important factor. Here it may be mentioned that traction on extruding myomata readily causes inversion, and some cases are no doubt due to this cause. The facility with which this happens was long ago recognised by the celebrated American gynæcologist Emmet, who employed traction, prolonging inversion to facilitate the removal of these tumours. After a quarter of a century's oblivion this method has lately been revived as a great novelty. In gynæcology there is evidently some truth in the saying, "There is nothing new except what has been forgotten."

The only other kind of uterine tumour besides myoma often complicated with inversion, is sarcoma, for cancerous growths hardly ever cause it. Sarcomata generally induce great softening of the uterine wall, often forming tumours which project into the uterine cavity, and it is these conditions which predispose to inversion; on the other hand the infiltration, contraction, and induration associated with the extension of cancerous growths are unfavourable to the production of this form of displacement. The [illegible] association of the neoplastic form of inversion, with marked softening and weakening of the fundus uteri, [illegible] the view of Matthews Duncan as to the important part played by this condition of the fundus in the causation of post-partum inversion.

The inversion due to myomata may be of [illegible] besides prolapsus, most cases belonging to the [illegible] gory, when the tumours are generally [illegible] gangrenous, and the coast of the [illegible] attended by alarming hæmorrhage, as in [illegible] Such cases may easily be mistaken for [illegible] the inversion being [illegible] likely to happen since the [illegible] is in these cases generally [illegible] kind may be obviated by digital examination [illegible] when a hollow [illegible] is felt to the place of the [illegible] crater, as I have found in a similar case [illegible] with [illegible]

It is worth noting—as the history of many cases shows—that the inverted myomatous uterus is remarkably tolerant of all kinds of operative procedures. This is fortunate, because for dealing with the condition tolerably extensive operations are generally necessary.

The removal of extruding myomata per vaginam is a very ancient procedure, and it is still the least dangerous and most successful of all the modes employed for the removal of myomatous tumours. In cases of inversion no other method need ever be employed, for even when the tumour, &c., is only partially extruded it is always accessible, and complete extrusion can readily be determined by traction, as Emmet long ago taught and practised. In my opinion abdominal section is never really necessary for the treatment of the inverted myomatous uterus, and I should like to see this principle more generally recognised than it is at present. By far the simplest and most conservative procedure, in suitable cases, is enucleation of the tumour with reposition of the inverted organ; this has been successfully done in a large number of cases—acute as well as chronic. Enucleation is adapted for the removal of nearly all tumours except sloughy and gangrenous ones and those that are of the largest size. Dr. Aust Lawrence has reported an interesting case in which the tumour having been successfully enucleated the displaced uterus soon afterwards underwent spontaneous re-inversion. His patient was a married nullipara, for many years subject to menorrhagia, who, eight months previously, suddenly "felt her womb come down." A week before coming under treatment a large tumour appeared at the vulva and this was accompanied by alarming hæmorrhage. On examination a myoma of the size of a man's fist was found outside the vulva—a long pedicle apparently connecting it with the top of the vagina. Realising that this pedicle was the completely inverted uterus, Lawrence was careful not to interfere with it in removing the tumour. Shortly afterwards the uterus was found to have undergone spontaneous re-inversion and the patient was soon restored to health.

Frazer Nash, Herman, Dow, and others have met with cases in which they have successfully replaced the inverted organ after enucleation of the offending myoma. This is a procedure that many years previously had often been successfully employed by Emmet. Watts has described an instance in which an inversion of 13 years' standing was successfully reduced after removal of the extruded tumour.

For the treatment of inversion with sloughing, gangrenous, or septically infected tumours, and with myomata of large size, the mere removal of the offending tumour is insufficient; and this is also the case when the inverted organ cannot be reduced, as not infrequently happens when there are inflammatory complications. In such cases more or less extensive portions of the inverted organ must be removed together with the tumour. In the first class of cases this is necessary because the morbid process quickly spreads from the tumour to the thinned and weakened uterine wall. Herman has described a case which strikingly illustrates the necessity for this mode of operating. His patient was a 2-para, aged 38 years, with a gangrenous tumour of the size of the fist projecting from the vulva. On examination it proved to be the inverted uterus with a gangrenous myoma attached to its fundus. The tumour was removed piecemeal with the curette and unsuccessful attempts were then made to reduce the inverted organ. The patient died the next day and at the necropsy it was found that death had resulted from perforation of the fundus by progressive gangrene.

As examples of the beneficial effects of the more radical procedure the following cases are of interest.

CASE 1.—Oliver's patient was a multiparous widow, aged 53 years, who had suffered for a fortnight from inversion, due to the presence of a small sessile, gangrenous tumour of the fundus. She had been subject to metrorrhagia for three months previously. The inverted organ protruded from the vulva as a sloughy mass. It was completely extirpated, together with the tumour, the ovaries being left. The patient soon recovered without a single bad symptom. The result would probably have been very different had the surgeon merely enucleated the gangrenous tumour. It is noteworthy in this and the following case that the complication occurred long after the climacteric.

CASE 2.—Oliver has reported the case of Madame X——, aged 55 years, who had been subject to profuse metrorrhagia for several years. Her medical attendants, finding a big [illegible] by dilating the os, filled it with [illegible] and then proceeded to draw it into the vagina. In so doing the tumour suddenly shot out from the vulva, carrying the inverted fundus uteri with it. Péan, who was called in at this juncture, clamped the inverted organ well above the tumour with long curved pressure forceps and then cut away the tumour with most of the inverted corpus uteri. The margins of the severed uterine walls were united with catgut sutures and the stump was then reduced without any difficulty. The patient made an excellent recovery.

CASE 3.—Horrocks has described a similar case with an equally satisfactory result, although the patient—a multipara, aged 45 years—was very weak and anæmic.

Many instances have been published in which operations of this kind have been done without the inversion being recognised, under the belief that only an extruding myoma was being dealt with. As an example of this condition Vanderlinden's case may be cited. His patient was an unmarried woman, aged 42 years, who had suffered for some time from uterine hæmorrhages and urinary troubles. On examination the vagina was found to be occupied by a tumour of the size of a child's head which caused marked protrusion of the hymen. In the process of its removal by *morcellement* a pedicle was reached. When this had been cut through it was seen to be hollow; and it was evidently the inverted uterus, as the peritoneum had been opened. The whole uterus was then extirpated, every part of it except the cervix being affected with myomata. Convalescence was delayed by rather severe septic symptoms, but eventually the patient recovered.

Mistakes of this kind—which are far from being uncommon—are far less dangerous than was formerly believed, when wounds of the peritoneum were regarded as almost necessarily mortal.

Clifton, Bristol.

STRYCHNINE AS A FACTOR IN CAUSING CEREBRAL HÆMORRHAGE.

BY LACHLAN GRANT, M.D., C.M. EDIN.,
MEDICAL OFFICER, GESTO HOSPITAL, ISLE OF SKYE.

A MAN whose arterial walls are healthy stands very little chance of being attacked with spontaneous cerebral hæmorrhage; but if his blood-vessels want their normal elasticity through their being affected with degenerative changes such as arterio-sclerosis or miliary aneurysms, he is liable to an apoplectic seizure from one of the weakened vessels giving way when it is subjected to any extra strain. This extra strain results from an increase of the blood-pressure, as when the individual is engaged in occupations involving a more than usual muscular exertion—for example, in lifting heavy weights, or in defecating, or from some mental excitement causing acceleration of the heart's action. Knowing this we quietly caution patients in whom we may suspect apoplexy against such exciting causes and against such stimulating agents as alcohol which increase the blood-pressure. The following case occurred whilst the patient was, of his own accord, taking a mixture containing strychnine, a drug which is known to have a powerful action in raising the pressure in the circulatory system.

The patient, a man aged 64 years, of apoplectic build, with atheromatous arteries, had been exposed to a great deal of hard tear and wear. Latterly he had been in the habit of dosing himself whenever he felt below par with the syrupus ferri phosphatis cum quinina et strychnina[1] (syn., Easton's syrup), generally taking it along with some bicarbonate of sodium, which gave him what he termed a "fizzing" drink. One morning he fortified himself with a larger dose than usual of the syrup and about an hour afterwards he began to feel uneasy, with giddiness and numbness in his extremities. He became quiet and drowsy and when I saw him two hours later symptoms of right-sided cerebral hæmorrhage were well marked. There was hemiplegia of the left side of the body, for when the left arm or leg was raised and allowed to drop it fell as if it belonged to a lifeless person. The limbs on the opposite side of the body had jerky movements which continued for half an hour; the hypoglossal nerve was involved as the tongue could not be put out straight, but deviated towards the paralysed side. The patient's face was of an ashen-grey

[1] Each drachm contains [illegible] of a grain of strychnine powder.

colour, the pupils were equal and moderately dilated, the pulse was 70 and was full and regular, the temperature was normal, the sphincters were relaxed, and the evacuations were passed involuntarily. The urine contained neither sugar nor albumin. Complete unconsciousness gradually developed, the respirations became stertorous, and on the second day the face became injected and the temperature reached 101° F., the pulse being 110. The fundi oculi were examined and appeared to be normal. There was little or no change until the fifth day, when the breathing assumed the Cheyne-Stokes rhythm, the coma deepened, the temperature reached 103°, and he succumbed without having regained consciousness. I was informed that a week previously to this fatal seizure he had premonitory symptoms, being attacked with headache, vertigo, and syncope.

When the action of strychnine is considered it is not unreasonable to suppose that in this case it was the actual exciting cause of the rupture. Strychnine increases the blood-pressure in several ways. It is a cardiac tonic, making stronger the contractions of the cardiac muscle. It

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sensibility and strengthening people generally,[2] so that the patient may be tempted to undue exertion and thus overstrain himself. It is also a gastric tonic, and, being one of the bitters, is hunger-producing, so that the patient may eat more and the overloaded viscera will also tend to raise the arterial tension. There is, however, another action of the drug which is dangerous—namely, that when strychnine has been taken for some time the cumulative action,[3] when the drug may suddenly develop. I . . . . . in this patient there was a cerebral vessel on the point of rupturing the strychnine might have so raised the pressure within the artery as to cause the weakened wall to give way.

From the above it is apparent that older patients should be warned against drugging themselves promiscuously with tonic syrups and tablets containing preparations of the seeds of *strychnos nux vomica*, remedies which are largely sold by druggists nowadays. By comparison with other prescriptions it has been found that strychnine in the form of nux vomica is more used than any other drug whatever in this country.[4] It is evident, however, that great care should be taken in administering this stimulating drug to patients who have arrived at the degenerative age, and especially in all cases of cirrhotic Bright's disease, chronic gout, and syphilis, or where a patient has thickened and tortuous blood-vessels, or even where there has been an hereditary tendency to apoplexy. In many of these cases it should only be given when absolutely necessary, as in cardiac failure, to endeavour to tide the patient over his threatened dissolution.

Isle of Skye.

ON THE VALUE OF ABDOMINAL DISTENSION AS AN INDICATION FOR EXPLORATORY LAPAROTOMY IN INTESTINAL OBSTRUCTION.

BY JOHN J. WADDELOW, F.R.C.S. ENG.

A MAN, aged 54 years, who had hitherto enjoyed good health with the exception of some attacks of diarrhœa, was attacked suddenly with giddiness and an aching pain in the chest about midday on April 1st, 1900. After a time this passed off but there was a slight return in the evening. The bowels were opened on that day. At about 2.30 A.M. on April 2nd he was attacked with a violent pain under his right ribs over the gall-bladder which woke him. The paroxysms increased and caused him to sweat and writhe about. I was sent for and I saw him about 11 A.M. and administered a hypodermic injection of morphia and prescribed ten-minim doses of solution of morphia every four hours with a rhubarb mixture. The colic was accompanied by bilious vomiting. The pain subsided suddenly about 5 P.M. On the 3rd he was more comfortable but very sore and tender over the gall-bladder and diaphragm was complained of in the umbilical region. The urine was blood-stained but there was no jaundice. On the 4th he complained of more pain about the umbilicus and the mixture was repeated. He was sick occasionally. On the 5th he was still sick and the tongue was becoming coated. Abdominal distension became marked, coils of intestine being visible through the skin. On the 6th, as the bowels had not been moved, I gave him a mixture of sulphate of magnesia, carbonate of magnesia, and peppermint water. In the evening faecal vomiting set in. The pulse remained good all the time. On my arrival on the 7th the faecal vomiting was more marked and the vomit contained some solid masses of faeces. He had had no sleep. The distension of the intestines remained the same. I gave a copious enema of soap and water and brought away some scybalous masses. Nothing was detected per rectum. I explained the gravity of the situation and said that I should come on the following day to perform laparotomy. On the 8th I went down prepared to open the abdomen, but finding the patient no worse and the distension unchanged I postponed operation and gave another copious enema. The tongue by this time had become dry and brown and the man assumed an anxious expression. The sickness had ceased on the 9th and a better night had been passed; the pain was less but the distension was unchanged. I injected about half-a-gallon of warm soap-and-water per rectum, and brought away some scybalous masses and there was a suspicion of flatus. This was the first passage of flatus since the illness began. The pain was less, there was no vomiting, and the patient slept well. On the following day he had a very copious pultaceous motion spontaneously and there was an abundance of flatus. This occurred four times during the day. The abdomen subsided and the patient felt much better. On the following day he began to eat a little solid food and the bowels acted naturally and since then he has made an uninterrupted recovery.

The great point of interest in the case is the spontaneous recovery after seven days of complete obstruction and two days of faecal vomiting, and the important feature, to my mind, which prevented my operating was that suggested recently by Mr. W. H. Bennett—namely, the progress or not of the distension. As to the real cause of the obstruction I was in grave doubt. The onset of the case was undoubtedly biliary colic. The man was said to have been losing flesh for the last six months and the idea that the cause might be carcinoma either by itself or with the assistance of an impacted gall-stone suggested itself. I should think it highly improbable that a gall-stone of sufficient size to block the bowel by itself could pass through the varicose ducts, and the question of ulceration of a big stone into the duodenum seemed untenable considering the short duration of the attack. Lastly, was the obstruction due to the amount of morphia given to deaden the pain? If so, the effect must have lasted from April 5th to 10th, as he had no morphia after the 5th.

I feel quite convinced that if this man, instead of being in an out-of-the-way country cottage, had been under observation in a London hospital nine out of ten surgeons would have operated and with probably perfect justification in so doing. My delay in operating and the treatment I followed may be opened to criticism, but the end justified the means; and, moreover, a laparotomy in a country cottage is not to be undertaken as it is in a hospital with all appliances at hand and plenty of trained assistance, for in a country cottage, with the sole assistance of an anæsthetist and a respectable country matron not trained in matters surgical and sublimely ignorant of the principles of antiseptics, the difficulties and dangers are naturally enhanced.

Whitlesea.

GATESHEAD MEDICAL ASSOCIATION.—At the April meeting of the above association the honorary secretary was instructed to write to Mr. T. P. O'Connor, Mr. Lloyd George, and Sir George Pilkington, Members of Parliament, expressing the warm thanks of the association for their attitude of opposition to the registration of medicines and to the Bill at present before the House of Commons. Also to ask them to continue their opposition to the principle of the Bill and, failing its rejection at a later stage, to support the amendments of the British Medical Association. The secretary was also instructed to send a short outline of the attitude of the association on this question to Mr. W. Abel, M.P., for Gateshead, also to Mr. Hayes Fisher, M.P., and Mr. L. Alberry Jones, M.P.

[2] Lauder Brunton. [3] Med. Times [illegible]
[4] Lauder Brunton. Materia Medica [illegible]
Lauder Brunton. Antidotes [illegible]

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum propriis collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

WESTMINSTER HOSPITAL.

A CASE OF DOUBLE OPTIC NEURITIS FROM SEROUS EFFUSION (QUINCKE'S DISEASE).

(Under the care of Dr. W. MURRELL.)

A SCHOOLBOY, aged seven years, was admitted into Westminster Hospital on Jan. 28th, 1900, the only history obtainable being that on the previous morning he had been brought home in a "fit" which lasted the greater part of the day. On admission he was perfectly sensible and talked freely but on being put to bed he passed into a condition of semi-consciousness which lasted for many days. He took no notice when spoken to and remained absolutely mute. The face and upper extremities exhibited choreiform movements of a slow and coarse type. These movements were apparently purposive in character and at times he endeavoured to clutch at objects within his reach. Sometimes the arms were widely extended and then slowly flexed as if performing the act of embracing. Sometimes the movements conveyed the idea that he was feebly endeavouring to strike those around him. There was no paralysis of the face or of the muscles of the limbs. The movements were, as a rule, bilateral, although sometimes the facial movements were unilateral, but not always on the same side. There was no rigidity of the muscles, retraction of the head, or opisthotonos. There was nothing to indicate that the patient suffered from headache, although at times the brows were contracted and the face wore a worried and anxious appearance. The bowels were open twice a day and urine and fæces were passed in bed. The motions were normal in character. The patient was unable to swallow and had to be fed by the nasal tube. There was no nystagmus, the pupils were normal in size and contracted well to light. There was well marked double optic neuritis. The temperature was 99·8° F. and the pulse was 108. There was no tenderness or swelling of the joints and there was no rash on the skin. No tache cérébrale could be obtained. There was a little cough, but there was no expectoration. The breath and heart sounds were normal. The urine was acid, had a specific gravity of 1018, and contained neither albumin nor sugar. The spleen was not enlarged. The patient showed no signs of anæmia, but the blood was not examined. There was no wasting of the muscles and the knee-jerks were present, although somewhat sluggish. The tongue was clean and presented no sign of having been bitten. The patient would not protrude it voluntarily and it had to be examined with the spatula.

The condition of the patient remained practically unchanged for 12 days. The highest temperature recorded was on the second day, when it reached 100°; on the following day it was 99·8°, and from that time onwards it was normal. The double optic neuritis continued and the discs were observed to be getting paler. On Feb. 13th (the seventeenth day of the illness) the patient was much more sensible and recognised his mother, putting his arms round her neck. He was still unable to talk, although apparently he endeavoured to do so, from time to time uttering a few inarticulate words. On being asked if he would like an orange he nodded his head and he showed some signs of interest in a watch which was shown to him. The incontinence of urine and fæces continued but food was taken with less difficulty. The movements gradually subsided. On the 17th the patient could say his own name but beyond that he did utter only inarticulate sounds and failed to recognise letters or words either written or printed. On the 20th he was able to speak plainly although laboriously. He endeavoured to get out of bed and during the night was found by the bed and had to be removed from the ward. Urine and fæces were still passed under him. On the 22nd he was quieter and for the first time indicated that he wanted the bed-pan. The optic neuritis was less marked. On March 1st the patient was able to get up and seemed to be quite well. On the 8th the following note was furnished by Mr. G. Hartridge, who had frequently examined his eyes during the course of his illness: "Pupils five millimetres each. React well to light, to convergence, accommodation, and consensually. Right vision $\frac{6}{9}$, left vision $\frac{6}{9}$. Right disc getting white; not much swelling of the disc; edges clearing. Retinal vessels, especially veins, very full and tortuous. Left disc pale (less so than right), dim; edges blurred." The only medical treatment adopted was the administration for a few days of 15 minims of liquor arsenicalis three times a day.

Remarks by Dr. MURRELL.—This case presents many points of interest and it is easier to say what it is not than what it is. The facts on which we [illegible] diagnosis are the mental incapacity, [illegible] ments, the incontinence of urine and fæces, the double optic neuritis, and the transitory elevation of temperature. The short duration of the fever, the absence of rash and of any characteristic symptoms exclude all the ordinary acute specific fevers. The possibility of its being enteric fever was considered, but although Dreschfeld and others have reported cases of apyrexial typhoid fever there was nothing to lead one to suppose that this particular case belonged to that category. The absence of spots, of the characteristic motions, and of any enlargement of the spleen was against it. It is true that the blood was not examined for Widal's reaction, but, on the other hand, optic neuritis is not common in enteric fever. Cases of acute rheumatism without joint affection are common enough in younger children, but the course of the temperature and the absence of tonsillitis and of cardiac complication are sufficient to exclude this condition. It was not pneumonia, for there was no dulness on percussion and the breath sounds were normal. It was not an example of status epilepticus, for even admitting that the initial seizure may have been epileptic in character, which was by no means clear, the patient had no epileptic attack during the time that he was in the hospital. Jacksonian epilepsy naturally suggested itself, but there was no history of an injury to the head and there was no specific history. Against the theory of chorea, which was at one time moted, we have, apart from the fact that the movements were never strictly choreiform, the absence of any of the frequently associated conditions, rheumatism, tonsillitis, and carditis. Double optic neuritis has been reported in a few cases of chorea, but it is not common, and the association has probably been accidental. The idea of a cerebral tumour is worth considering, but although the patient had double optic neuritis and vomiting the latter was due to the administration of the arsenic, and it is not safe to diagnose cerebral tumours on one symptom alone. Had the patient been given a course of the iodides we might have thought that it was a syphilitic gumma or a periosteal growth, but he had no specific treatment. It may fairly be taken for granted that the double optic neuritis was the result of intracranial pressure. This was probably the result of an ependymitis causing a serous effusion into the ventricles analogous to the serous exudates in the pleura and synovial membranes. I regard it as a case of Quincke's disease—an angio neurotic hydrocephalus. These cases are rare and are of considerable interest.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Cystic Diseases of the Breast.—24 Years' Death Certificates in General Practice.

A MEETING of this society was held on April 23rd, Dr. F. T. ROBERTS, the President, being in the chair.

Mr. THOMAS BRYANT read a paper on the Relative Frequency of Cysts of the Breast, their Diagnosis and Treatment. This paper appears in full on p. 1201 of the present number of THE LANCET.—Dr. G. C. STELLE PERKINS agreed that the difficulty of diagnosing a simple tumour of the breast from carcinoma was often very great and he instanced two cases in his own experience which tended to support this view. The first case

was about to be operated on by the late Mr. Forster who gave it to his class as a typical example of mammary cancer. When, however, he incised the tumour pus escaped. The second case was one which occurred in his (Dr. Perkins's) private practice 17 years ago. A woman, about 38 years of age, without children, came to him with a lump in the breast. After careful examination he came to the conclusion that it was an innocent tumour which could be relieved by merely opening it and letting out its contents. A second opinion was, however, desired and Mr. Hutchinson was called in, and he without hesitation pronounced it to be cancer and advised immediate operation. When the tumour was incised pus flowed out. These two cases, he remarked, occurring in the experience of very able men showed how easy it was to make a mistake in diagnosis. In the second case there had been a history of injury nine months before which was followed by much pain. The nipple was unquestionably retracted but the tumour was only of about the size of a walnut and was hard.—Dr. H. CAMPBELL POPE observed that those in general practice saw these cases in their early stage and they had to make their diagnosis as best they could. Such cases often presented great difficulty in arriving at a diagnosis. Undoubtedly there was often a history of injury in cases which ultimately turned out to be carcinoma, a point to which Mr. Bryant had not referred. Mr. Bryant, moreover, had not said much about the significance of enlarged glands in establishing the diagnosis of carcinoma. Enlarged glands might be present when there was inflammatory mischief and thus might tend to confuse the diagnosis. Personally, he attached most importance to involvement and dimpling of the skin, especially the latter, which was often the first thing to direct attention to the fact that there was serious mischief in the breast. He agreed with Mr. Bryant in the probable proportion of innocent tumours in the breast and would be disposed to consider that it was even greater than 50 per cent.—Mr. BRYANT, in reply, pointed out that his paper did not profess to deal with cancer or abscesses of the breast but only with cysts of that organ. He remarked that Mr. Forster was a man who avowedly ignored the history, preferring to base his conclusions on what he himself saw. Such a method was very apt to lead them astray. The history of injury in Dr. Perkins's case might well have raised a doubt in the surgeon's mind as to the possibility of its not being cancer. He held that in the majority of these cases, if one utilised the information afforded by the history, one might arrive at a correct diagnosis. He had not referred to the significance of enlarged glands in establishing the diagnosis of cancer because he did not believe that fact had any significance, inasmuch as enlarged glands might be present independently of carcinoma; moreover, he was only dealing with doubtful cases. He admitted that the figures which he had brought together had surprised him, the more so as they were based on consecutive unselected cases. Cysts of the breast were looked upon as somewhat uncommon, but his figures showed the contrary to be the case.

Dr. H. CAMPBELL POPE read a paper on 24 Years' Death Certificates in General Practice. He commenced by remarking that whereas in hospital practice results of clinical work were tabulated, nearly the whole of the experience of general practitioners died with them, and thus an enormous waste of useful material took place. The series of deaths tabulated consisted of 595 cases; these consisted of the deaths actually occurring in the period exclusive of all inquest cases save one, a death under chloroform, which appeared under the heading "Pneumothorax." The series was divided as follows: carcinoma, 51 deaths; kidney diseases, 14; diseases of the lungs, 170, diseases of the heart and circulation, 46; scarlet fever, 9; typhoid fever, 4; diphtheria, 5; measles, 15, rheumatism, 11; diabetes, 8; senile decay, 8; influenza, 13; General tuberculosis, 2; tetanus, 2; hæmophilia, 2, liver diseases, 14; gout, 9; sneezing, 3; purpura, 1, debility and malnutrition, 62; diseases of the brain and nervous system, 60; extra-uterine gestation, 1; ovarian and uterine disease, 2; parturition, 8; hernia, 1; diseases of the digestive system, 42; erysipelas and septic diseases, 9; lymphadenoma, 1; bladder diseases, 5; and inflammation of the lower jaw, 1. The conclusions drawn were far different from those which had been anticipated at the commencement of the inquiry—namely, that the district of London (W.) suffered much more to be more afflicted with respiratory diseases, especially bronchitis, than with anything else. Secondly, that infectious diseases were not very prevalent or fatal owing to the excellent arrangements made by the medical officer of health of Hammersmith and to the fine gravel subsoil. Thirdly, that cancer appeared more frequently than was supposed—1 in 12 of all deaths; that influenza was not a remarkably fatal disease; and that there was a lamentable and unnecessary waste of young human life.

HARVEIAN SOCIETY OF LONDON.

Removal of a Curtain Ring from the Pharynx of a Child.—Congenital Laryngeal Obstruction.—Cholesteatoma.—Exhibition of Cases.

A MEETING of this society was held on April 19th, Mr. PEYTON T. B. BEALE, Vice-President, being in the chair.

Dr. H. L. LACK showed a Curtain Ring which he had removed from the Pharynx of a Child, aged nine years. The ring was swallowed when the child was nine months old and produced violent fits of coughing and choking which soon passed off. For years the ring had caused no symptoms. The upper edge was free in the post-nasal space; the lower part lay free behind the arytenoids, while the two sides were firmly embedded beneath the mucous membrane of the lateral pharyngeal walls. The ring was cut through with bone forceps at its lowest part, opened out, and pulled upwards until free. Dr. Lack emphasised the importance of the coughing and choking attacks following a history of swallowing a foreign body, attention to which would lessen the number of these cases which had been overlooked.

Dr. C. H. MCILRAITH read notes of a case of Congenital Laryngeal Obstruction in which sudden death took place from laryngeal spasm (a specimen of the larynx was shown). The case was that of a female child, aged six months, who had been seen to be suffering from persistent respiratory stridor from the age of six weeks. There were no other cases in the family and no history of injury at birth or convulsions after. The child had, however, congenital syphilis. The stridor was entirely inspiratory, expiration being noiseless. It varied at different times both in character and in intensity. When the breathing was regular or superficial the stridor was diminished or absent. It was absent during sleep. It was increased when the child's breathing was irregular or deepened, as after crying, and also by changes of temperature, as on taking the child from a warm to a cold room and to a lesser degree from a cold to a warm room. There were no signs of obstruction. The mucous membrane of the nose and naso-pharynx was generally relaxed and there was some small amount of post-nasal adenoids present. On examination of the larynx the epiglottis was seen to be sharply folded and incurved on itself. The aryteno-epiglottic folds seemed to extend from the tip of the epiglottis to the tips of the arytenoids as thinned bands, which were closely approximated to one another. Thus the upper aperture of the larynx was reduced to a narrow slit with two small openings, the one at the tip of the epiglottis and the other between the arytenoids. The thin folds seemed quite flaccid and flapped to and fro on respiration. There was some slight œdematous swelling over the arytenoids. The child died suddenly two months later, apparently from laryngeal spasm. A post-mortem examination had been obtained. The larynx gave appearances much the same as seen during life except that there were evidences of considerable relaxation of the mucous membrane over the arytenoids. The case was brought forward as one of interest on account of the comparative rarity of the disease, the possibly fatal issue, and as corroborative by means of post-mortem evidence of the views put forward by Dr. G. A. Sutherland and Dr. Lack. From the post-mortem appearances it was impossible to consider otherwise than that the stridor was partly mechanical, produced by the valvular action of the upper aperture of the larynx, depending partly on the peculiar configuration and partly on the flaccidity of these parts in infants. If post-nasal adenoids affected it at all it was only by rendering the tissues more liable to relaxation and thus greatly increasing the rarity of the upper form of the stridor. Dr. HERMANN TITZE pointed out that Avellis (Berlin) had stated that in some cases congenital laryngeal stridor was due to pressure on the trachea by an enlarged thyroid.

[illegible]

gland. The condition was (in such cases) at once relieved by removing portions of the gland or stitching it forward on the sternum, or by performing tracheotomy and inserting a long tube which passed beyond the obstruction.—Dr. LACK said that the specimen was an extremely interesting one to him as it was a further proof of the correctness of the views which Dr. Sutherland and he had expressed as to the pathology of this disease, and quite fatal to the hypothesis of those who had ascribed the disease to adenoids.—Replying to Dr. TILLEY Dr. MCILRAITH stated that the thymus gland was of the usual size and that in a case of pressure on the trachea by an enlarged thymus which he had seen the character of the stridor was quite different and was both inspiratory and expiratory, chiefly expiratory.

Dr. HERBERT TILLEY showed a large Cholesteatoma removed from the Mastoid Antrum of a boy, aged 14 years. The main symptom was an intractable purulent discharge from the auditory meatus. On examination a small mass of granulation was seen at the inner end of the posterior meatal wall, through which a curved probe could be passed into a large cavity in the mastoid. The ordinary radical operation was performed and the whole mastoid bone was found to be hollowed out so that no cells existed, while posteriorly the situation of the lateral sinus was easily seen. The bridge of bone between the attic and the antrum was removed and the large cavity disinfected with pure carbolic acid and then packed with iodoform gauze, the wound being stitched up at the close of the operation. The patient made an uneventful recovery. These masses when freshly removed were of a pearly lustre externally and were made up of layers of epithelium so that they somewhat resembled an onion. Cholesterin crystals could be found in them and this, combined with the waxy nature of the epithelial layers, possibly accounted for the name given to the condition. Dr. Tilley could offer no satisfactory explanation of the pathogenesis of cholesteatomata.—Dr. ALFRED EDDOWES said he believed the change in the epithelium thrown off was waxy. He supposed the mother-of-pearl lustre was due to the same cause as in the case of the little pearl of milium in the skin. He was inclined to theorise that the changes taking place in the mastoid cells were slowly inflammatory, probably on account of the micro-organisms being checked in their growth by the accumulation of their products. The bacteriology of discharges from the ear and other orifices of the body was of great interest, as such discharges frequently set up and maintained skin eruptions.

Dr. SIDNEY PHILLIPS showed a case of a man suffering from Bradycardia. The pulse frequently fell to 30 and drugs had practically no effect on the rate.—The case was discussed by Dr. L. GUTHRIE, Dr. J. BROADBENT, and Mr. F. JAFFREY.

Mr. STANSFIELD COLLIER showed a case of Intra-Uterine Injury to the Skull and a case of Congenital Dislocation of the Hips.—Mr. PEYTON BEALE and Mr. EDMUND ROUGHTON discussed the cases.

Mr. HUBERT C. PHILLIPS showed a case of Hypospadias with complete Absence of Urethral Aperture. On the second day after birth Mr. Phillips made an incision at the apex of the glans penis and after some difficulty he succeeded in passing a probe into the urethra. The aperture was very small but would be enlarged later. There was absolutely no opening elsewhere in the urethra. Urine had passed normally since the operation.—Mr. JAFFREY considered this case one of the first degree as the corpus spongiosum was well developed and that only some slight plastic operation was necessary to relieve the binding down of the penis to the scrotum. As the meatus was very small dilatation would be beneficial.—In answer to Dr. EDDOWES Mr. PHILLIPS stated that there was no specific history in connexion with the case.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

Difficulties in the Administration of Fever Hospitals.

A MEETING of this society was held on April 13th, Dr. NEWSHOLME, the President, being in the chair.

Dr. E. W. GOODALL, medical superintendent of the Eastern Hospital of the Metropolitan Asylums Board, read a paper on Difficulties in the Administration of Fever Hospitals, which he divided into those arising with the public, the general practitioner, and the sanitary authority, and those incident to the special character of the hospital itself. These were becoming fewer every year as the hospitals became more popular and the ratio of admission to cases notified increased. But as they were used by a more intelligent and critical class the responsibilities became greater. One essential difference between these and other hospitals was that in these only could a patient be admitted or detained, especially after recovery, without his consent or that of his parents, while the prohibition of visits was often a cause of dissatisfaction, the majority of the patients being children. In most instances it was easy to explain the necessity for these restrictions, but a frequent and not unreasonable ground of complaints was the occurrence of "return cases," the contracting by the patient in hospital of other diseases than that for which he was admitted, or the recurrence of the same. To prevent return cases careful examinations should be made, nasal and pharyngeal, of every patient before discharge, and instructions issued to the parents as to symptoms of infectivity and of probable sequelæ. The difficulties with the medical profession arose almost exclusively from alleged errors of diagnosis, for the detention of a non-infectious case exposed the patient to risk of infection, while his prompt discharge discredited the practitioner in the patient's opinion. Dishonest notification deserved no consideration, but otherwise every allowance should be made for the difficulties incident to early diagnosis. Misunderstandings were most frequent in rural districts where the medical officer of health who attended the hospital was engaged also in private practice. Those with the sanitary authorities arose only when a hospital received cases from other districts, where different views were held as to the evidence of diphtheria, the period of detention in particular cases, &c. The most trying and responsible duties of the medical officer were, however, those connected with the management of the staff, and the appearance of infectious diseases other than those for which the patients had been admitted, especially if occurring just when they were about to be discharged. Much might be done by isolation and observation, though where the occupied beds were counted by hundreds such second infections would occur. Another and more embarrassing class of cases were those of diseases not received into the hospital. He admitted scarlet fever, diphtheria, and enteric fever, but apart from the few cases of measles sent in as scarlet fever through errors in diagnosis, measles, whooping-cough, and mumps broke out from time to time among patients already in hospital for a week or a fortnight; these were all diseases of long incubation and had doubtless been contracted by the patient before his admission, an accident that could not be avoided, though the spread of the disease to other patients might be prevented if the medical officer were informed of the existence of cases of such diseases in the same or adjacent houses, when he might put the patient in an observation ward for the requisite time. But it was not rare to find a case admitted with diphtheria develop scarlet fever some days, or even a week, later under circumstances excluding the supposition of infection in the hospital. Here two explanations were possible, either that the symptoms of the one masked for a time those of the other, or that the appearance of the latter was delayed by the former and its incubation period prolonged. Cases of diphtheria had communicated scarlet fever to others in the ward, the diseases having co-existed, but the angina had been concealed by the exudation and the rash had been absent. 80 such cases were admitted last year as diphtheria and a very few as scarlet fever only. To guard against such contingencies every fever hospital should be constructed with numerous small wards, not only for isolation and observation, but for the separation of different diseases, irrespectively of the ages of the patients; the greater cost was the sole difficulty in the way of carrying out this arrangement, but there was no advantage in providing separate hospitals for different fevers, for other diseases would always creep in. A large proportion of the patients were infested with pediculi on admission and the parents of clean children were naturally annoyed if they became infected. The best plan he had found to be that of cutting off the hair, ostensibly on account of the fever, to which no objection was made, and there was ample time for it to grow again before the child returned home. Lastly, there were the difficulties connected with the larger staffs and the stricter discipline requisite in fever hospitals than in others. The social ostracism from fear of infection deterred ladies

and it was not easy to obtain a sufficient number of really highly trained nurses. He found it best to keep up a full establishment, giving the nurses holidays during the slacker months, the necessity of which was evident when one considered that in some years no fewer than 25 per cent. were ill not so much from infectious diseases as from overwork.

Dr. W. G. WILLOUGHBY allowed parents to see their chi[illegible] converse by telephone, and in [illegible] dulgence the admissions at [illegible] of the notifications.

Dr. MERLDITH RICHARDS was in the habit of keeping all new cases of scarlet fever at one end of the ward until time proved that they were incubating no other disease.

Dr. H. R. KENWOOD had printed instructions respecting continued infectivity and the occurrence of sequelæ given to the parents of every child discharged from the hospital at Finchley, where he was very lenient as to visits. In Stoke Newington he had dealt successfully with an unscrupulous notifier of alleged cases of diphtheria by referring them to the Asylums Board, until the frequent exposure of his misrepresentations at their hospitals compelled him to exercise more discretion.

Dr. W. A. BOND, Dr. E. GWYNN, Dr. O. FIELD, and others having taken part in the discussion, the PRESIDENT, referring to some of the points under discussion, said that as medical officer of health and hospital superintendent he learnt much respecting the origin of infectious outbreaks from the patients themselves and from the parents, &c., whom he saw at the Town Hall. When cases of doubtful tonsillitis were admitted he always gave a prophylactic dose of anti-diphtheritic serum. He had never found these cases contract scarlet fever in hospital; more often they had begun to desquamate when about to be discharged as cases of simple sore-throat. He believed that in many supposed to be post-scarlatinal the infection of diphtheria had been present from the first but its manifestation had been delayed, and, on the other hand, that some of Dr. Goodall's cases of post-diphtheritic scarlet fever had really been scarlet fever alone, the intensity of the angina simulating diphtheria; but he examined all throats alike, and if the Klebs-Loeffler bacillus were found in any scarlatinal case it was sent to the "mixed" ward.

Dr. GOODALL, in reply, expressed his belief that the danger of visiting had been exaggerated, though it was necessary to put some limits in hospitals with 500 beds. He required every visitor to put on a clean white cloak and used his own discretion in each case. He kept doubtful scarlet fever cases in isolation wards for three weeks, discharging them then if no desquamation appeared. There was absolutely no doubt as to the Klebs-Loeffler bacillus being the actual cause of diphtheria, though it might persist in the throat for months after recovery, alike in and out of hospital, and negative evidence was of no real value. He kept diphtheria cases from four to six weeks after convalescence. He had advised the Metropolitan Asylums Board to notify to the medical officer of health the return home of patients in their respective districts.

LIVERPOOL MEDICAL INSTITUTION.

Exhibition of Specimens.—The Use of Agglutination of Red Corpuscles for Diagnostic Purposes.

A MEETING of the Pathological and Microscopical Section of this institution was held on April 19th, Dr. T. B. GRINSDALE being in the chair.

Mr. W. THELWALL THOMAS showed three specimens of Undescended Testicles removed for various causes. The first specimen, from a man aged 35 years, consisted of a rudimentary epididymis with radiating tubules in a flattened mass which caused great pain. The second specimen, an undeveloped testicle removed from a man aged 33 years, had herniated through a hole in the omentum, which in contracting had gripped the groove between the body of the epididymis to such a degree that the body of the testicle could not be drawn back again without lacerating the omentum. The patient complained of almost persistent painful chronic erections of the penis. The third specimen was removed in the course of an operation for radical cure of a large hernia complicating it. The sac of the hernia lay behind the complete testes as usually in the groin, necessitating to efforts to reduce the original hernia a lacerated communication existed between the sac and testicle vaginalis and a spermatocele existed. The patient was aged 50 years.

Mr. W. THELWALL THOMAS also showed a Fibroma removed from the Inguinal Canal of a woman, aged 56 years. Symptoms suggestive of strangulated hernia had led to its removal. The growth was of the size of a small hen's egg; it had a small cyst in its centre and was considered to be a fibrous thickening around a cyst of the peritoneum (processus of Nuck).

Mr. W. THELWALL THOMAS also showed a Cæcum, Vermiform Appendix, and Spermatic Cord and Testicle removed from a patient, aged 56 years, during an operation for radical cure of an irreducible hernia. Growths were found involving the cæcum and spermatic cord, and the whole was therefore removed. Microscopically the growths appeared to be fibrous and cellular but not carcinomatous. The patient made a good recovery.

Mr. KEITH W. MONSARRAT showed a case of Imperforate Septum at the Ileo-cæcal Junction illustrated by microscopic specimens and lantern slides.

Dr. HUBERT ARMSTRONG showed a specimen of Double Tongue, illustrated with microscopic and lantern slides.

Mr. R. W. MURRAY exhibited a specimen of Papilloma of the Larynx from a boy upon whom thyrotomy had been performed three times.

The CHAIRMAN showed a Papilloma of the Vagina removed from a woman aged 65 years. Two years previously a growth had been removed from the cervix uteri which was said to have been clinically very suspicious but was pronounced innocent by the microscopist. The present tumour had given rise to blood-stained discharge for about six months. It was a bright-red rounded swelling of about the size of a strawberry protruding through the vaginal orifice. In appearance it resembled an urethral caruncle. It bled easily on touch. It grew from the anterior vaginal wall close to the meatus urinarius but did not involve it.—Dr. R. J. M. BUCHANAN made the sections of the tumour which were shown.

Dr. W. GRAHAM showed a specimen of Innominate Aneurysm of the size of a Small Orange associated with Dilatation of the Aorta. The sac was intimately adherent to the inner end of the clavicle. The aortic valves were healthy but there was acute endocarditis of the tricuspid valves. The trachea was flattened, causing death from asphyxia. The specimen was from a man, aged 54 years, who had a syphilitic history.

Dr. W. GRAHAM also showed two cases of Dilatation of the Aorta associated with Aortic Regurgitation. In the first case the heart weighed 39 ounces. There was great thickening of the aortic valves and calcareous plates in the aorta. In the second case the aortic valves were affected with fusion of the anterior and right posterior cusps. The coronary arteries were narrowed with atheroma causing frequent and progressive attacks of angina pectoris, in one of which the patient died. Both cases were males, aged 52 years, and both had had syphilis before 30 years of age.

Dr. J. HAY showed five specimens of Atheromatous and Dilated Aortas. One was a rare example of marked dilatation of the ascending arch of the aorta associated with phthisis, the whole of the left upper and lower lobes forming one quiescent cavity. There was no aortic regurgitation and no hypertrophy of the heart. The patient, a woman, died at the age of 50 years from hæmoptysis. The second case presented, in addition to irregular dilatation of the ascending aorta, aneurysmal dilatation of each subdivision of the aorta of the size of a walnut at the origin of the thyroid axis. There was no history of syphilis in either case. The other three cases were marked examples of dilatation of the aortic arch associated with regurgitation. There was a syphilitic history in two of these cases. The specimens were illustrated by numerous photographs.

Mr. G. P. NEWBIGGIN showed a case of Hydatids of the Liver.

Dr. J. H. LOGAN showed specimens of Muscle in Pseudo-hypertrophic Myopathy in the Early Stage, also Vermiform Casts of the Intestinal Mucous Membrane.

Dr. W. H. WADDINGTON, in continuation of previous studies on the relation existing between the fine and structure of some cells, showed some sections of the spinal Cord: (1) chromatolysis in the anterior central cells after extra-dural section of the afferent roots in a puppy; also (chromatolysis) in Purkinje's cells (quality of stained the afferent roots); (2) after section of the anterior nerve roots; and (3) after [illegible] of the medial nerve.

Dr. C. A. [illegible] showed a series of [illegible] produced artificially [illegible].

Dr. G. G. STOPFORD TAYLOR showed specimens of Monilethrix (hair), Trichorrhexis Nodosa, Leptothrix (hair), and Sclerodermia.

Dr. W. MURRAY CAIRNS showed a specimen of a Monster which had given rise to difficult labour necessitating evisceration.

Dr. A. S. F. GRUNBAUM made a preliminary communication on the Use of Agglutination of Red Corpuscles for Diagnostic Purposes. After referring to the work of Bordet, Landsteiner, Shattock, and others, he pointed out that so far as his experiments at present went, while the serum from a case of typhoid fever (or a guinea pig immunised against typhoid fever) would clump the corpuscles in blood from another disease, it did not clump the corpuscles from the same disease. The same held good for scarlet fever. The absence of reaction might be used as an aid to diagnosis and it was hoped that it would prove of more general application than the method of serum diagnosis described four years ago, since no bacteria were required. The observations were not yet complete and Dr. Grünbaum reserved to himself the further investigation of the subject.—In the discussion which followed Dr. W. B. WARRINGTON hoped that Dr. Grünbaum would be recognised as a pioneer in relation to this research, as he had been in the serum reaction for typhoid fever.—Dr. R. J. M. BUCHANAN asked Dr. Grünbaum if he had made any experiments to investigate whether the serum of an individual in normal health would clump the corpuscles from another healthy individual. He could not find any record of this having been done in recent communications on the subject of agglutination.—Dr. J. HAY and Dr. J. C. M. GIVEN also entered into the discussion and Dr. GRUNBAUM replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF PATHOLOGY.

Polycoria.—Thyroidectomy.—Actinomycosis.—Spinal Dislocation.

A MEETING of this section was held on March 23rd, Professor A. C. O'SULLIVAN, the President, being in the chair.

Mr. ARTHUR BENSON showed a case of Congenital Polycoria in Both Eyes in a man, aged 40 years. In the right eye there were, in addition to the normal pupil, eight other openings, and in the left eye one extra opening in the iris. The openings were, for the most part, slit-like defects, through which the fundus could be illuminated. The man had also chronic glaucoma, for which (and not on account of the polycoria) he sought relief.

Dr. R. C. B. MAUNSELL showed the Right Lobe of a Thyroid Gland which he had removed from a girl, aged 18 years. A moderate uniform enlargement of both lobes had existed without marked symptoms for 18 months, but within the last month the right lobe rapidly enlarged and became tense, causing paroxysms of dyspnœa on exertion and stridor on deep inspiration. The specimen contained a very tense blood cyst as large as a goose egg. The growth was removed by Kocher's transverse curved incision, and the result was most satisfactory.

Dr. H. E. LITTLEDALE gave a report of a case of actinomycosis admitted into Sir Patrick Dun's Hospital, under the care of Professor E. H. Bennett, on March 8th, 1899, with swellings on the back of the neck and at the angle of the left jaw. There were several discharging sinuses as well as a fluctuating abscess which was opened subsequently and the pus from which was examined. Streptothrix threads, like convoluted chains of streptococci were found in the pus, but no clubs. There were no results from aerobic cultures; anaerobic cultures were not made. Microscopically the lesions were granulomata breaking down into pus which contained ring-like masses 0·15 of a millimetre in diameter, composed of streptothrix threads, but no clubs were present. The lung apices were also affected with the streptothrix and with tuberculosis, but tubercle bacilli, although found post mortem, could not be detected during life. The lungs were affected from the skin, as during life there was communication between the skin of the back and the right lung. There were no further lesions, except extensive amyloid change in all of the abdominal viscera. The patient died on Nov. 28th from prolonged suppuration, which all surgical treatment, such as scraping out the sinuses and irrigation, failed to control. The patient positively stated that, though in attendance on cattle, there was no disease of any kind in the cattle of the district.—The PRESIDENT said that he had examined the pus in this case microscopically and had discovered nothing in the way of clubs or threads. In the only other case which he had seen the clubs were very obvious structures. He thought it probable that there were various types of this organism and that this was not the type described in most text-books. In this case he tried cultivation twice, and in the first attempt nothing grew, while in the second almost everything grew.—Professor BENNETT said that the suppuration as presented to him clinically was unlike anything he had seen before, and the only loophole by way of exclusion was the suggestion of actinomycosis. There was another element in the diagnosis—namely, that the patient was a cattle man, but he insisted, however, that none of the cattle in his district were ever known to have been diseased. Compound tincture of benzoin diluted with water was passed into the area between the scapulæ, and the diluted tincture, which could not be mistaken, was expectorated by the patient, so that there was no doubt in this case of communication with the thoracic cavity. The suppuration extended to both sides of the sacrum, to the very lowest attachment of the spinal muscles.—Dr. WALTER SMITH congratulated Professor Bennett on diagnosing the first case which had occurred in the human subject in Ireland. Considering that on the continent 40 or 50 cases had been recorded, its rarity in the United Kingdom was peculiar, and it was extremely unlikely that the disease could be overlooked.

Mr. R. B. MCCAUSLAND read notes of a case of Spinal Dislocation. A man, aged 50 years, previously healthy, except for bronchitis and asthma, was admitted to Dr. Steevens's Hospital, on Feb. 12th, having fallen a distance of 14 feet from a ladder on to his back and shoulders. On examination there were complete paralysis and anæsthesia and loss of the reflexes in the lower limbs; the abdomen was distended and tympanitic; respiration was diaphragmatic, inspiration short, and expiration lengthened. There was typical musculo-spinal paralysis on both sides, but the organs of sight, hearing, and smell were normal, and the tongue could be protruded. There was no difficulty in swallowing and there was no swelling or irregularity in the pharynx. Rotation and movement of the head from side to side caused no pain or crepitus. Examination of the back showed no irregularity or prominence or depression, and no crepitus could be heard over any of the vertebral spines. The upright position was most easy for the patient, as he became breathless and cyanotic on lying down. There was no priapism, emission of semen, or involuntary passage of urine or fæces. The urine, which was acid, had a specific gravity of 1022 and contained abundant lithates with a trace of albumin and phosphates. The treatment consisted in complete rest, easily-digested nourishment, an icebag to the spine, attention to the bladder and the rectum, and the administration of belladonna and ergot internally. The patient died 20 hours after the accident. The necropsy showed a dislocation forwards of the cervical vertebræ, with laceration of the cord and membranes. The bones were so locked that reduction would have been utterly impossible.

SOCIETY OF ANÆSTHETISTS.—A meeting of this society was held on April 6th, Dr. J. F. W. Silk, the President, being in the chair.—Dr. Percy Noble made a communication upon a case of Paralysis of the Respiratory Centre under Chloroform with recovery after the relief of intracranial pressure due to disease. The child, aged three and a half years, was suffering from basal meningitis and was operated upon on three occasions at short intervals. At the third operation he stopped breathing before the operation was commenced and no attempts to resuscitate him were successful, although the heart continued to beat regularly. The operation was then rapidly performed, a large quantity of cerebro-spinal fluid escaped, and the child quickly recovered consciousness. Death occurred four days later and at the post-mortem examination a small cyst was found in the third ventricle. Dr. Noble was of opinion that owing to the presence of this cyst "the dependent position of the child's head had produced undue pressure of the cerebro-spinal fluid upon the respiratory centre, which pressure was relieved when the cerebro-spinal fluid was

allowed to escape."—The President referred to a somewhat similar case in which death had occurred after a considerable interval following an operation for caries of the atlas and axis.—Mr. Edgar Willett read a paper on the Administration and Choice of Anæsthetics for Young Children. The limit of age for the cases to which he referred he fixed as being under six years, and he did not include cases of operations for adenoids. He thought that the general rule which laid down that patients under six and over 60 years should not have ether was too arbitrary as there were many exceptions. On the other hand, he had heard of cases where ether given to infants had been followed by severe bronchial and intestinal irritation. In his opinion chloroform alone did not give the best results in children. Among other objections to the use of ether was the terrifying aspect of the apparatus. In cases of cleft palate, &c., or eye operations he thought that chloroform was undoubtedly the best, but with these exceptions he thought that children under six years of age might advantageously be anæsthetised with a mixture of equal parts of chloroform and ether dropped on to lint or given by a Skinner's inhaler. Though this mixture was rather slower in its effects than pure chloroform the anæsthesia which ensued was on the whole most satisfactory; the colour remained good, the respirations were if anything quickened, recovery was rapid, and there was very little sickness. Another question raised by Mr. Willett was, Did shock ever occur from insufficient anæsthesia? Personally he did not think that it did.—Mr. H. C. Crouch thought that the feelings of the parents should always be considered and that every effort should be made to induce anæsthesia quietly. With regard to shock he cited cases in which it had appeared to him that death had occurred from insufficiently deep anæsthesia. He thought that chloroform produced less strain on the heart.—Mr. C. G. Burton said that the majority of the patients over two years of age who had been anæsthetised at the North-Eastern Hospital for Children were given A.C.E. and that the results were better than those from chloroform. He had never been able to attribute "shock after operation" to insufficient anæsthesia; in fact, he hardly believed in shock occurring in children from pain alone.—Mr. E. F. White thought that with the exception of cleft palate and similar cases ether was the best anæsthetic at all ages. He thought that "shock" was a very complicated phenomenon and that it occurred both with light and profound anæsthesia.—Dr. R. T. Bakewell had tried both ether and chloroform for young children, but on the whole he preferred chloroform. He thought it a drawback to ether that if there was much shock the anæsthetist had no stimulating anæsthetic to fall back upon. In short operations he thought that the degree of anæsthesia might be less profound than in longer operations.—Dr. W. J. McCardie always preferred to give ether wherever possible, very often commencing the inhalation with a small quantity of A.C.E. To children over four or five years of age he gave gas and ether, and recently he had given gas and oxygen even to small children.—Dr. Noble had used the mixture of equal parts of chloroform and ether with better results than with chloroform alone. He had not seen a case of shock due to insufficient anæsthesia.—Mr. Carter Braine had been very pleased with the A.C.E. mixture in these cases. Under two or three years of age he administered the mixture on a Skinner's frame, beyond that age he used a mask.—Dr. C. O. Fowler said that he had always been interested in this question, but had had some difficulty in obtaining an authoritative statement on the subject. He had tried both ether and A.C.E. but generally came back to chloroform. He thought that those who were sensitive to pain would also be sensitive to shock; sensibility to pain was a very variable factor.—Dr. Dudley Buxton thought that no rigid line of procedure should be adopted but that every case in which an anæsthetic was given to a child should be regarded as a separate problem. He considered that shock was an interference with the vaso-motor mechanism of the body. Chloroform also interfered with the vaso-motor mechanism. He did not think, therefore, that surgical shock could be prevented by profound chloroform anæsthesia, especially in children whose vaso-motor mechanism was extremely unstable. His experience was that children took ether and gas remarkably well and that A.C.E. was better for weakly children than chloroform. Chloroform was by no means absolutely safe for children and if given it should be remembered that when anæsthesia had been induced very little more of the drug was necessary to maintain it.—Dr. Probyn-Williams thought that a [illegible] apparatus was too necessary for the administration of ether to young children, but he had found that it might well be given upon a small felt cone. In 1118 cases of anæsthetics given to children up to the age of six years at the London Hospital ether was given in 42 per cent., A.C.E. in 27 per cent., and chloroform in 31 per cent.—Mr. Grant Morris had used the mixture advocated by Mr. Willett for some years and was very pleased with the results. The children were less likely to pass into a condition of sleep and so it was easier to tell when the child was ready for operation.—The President agreed with the dictum [illegible] age did not take ether [illegible] of "shock" was such an [illegible] as to be worthy of a [illegible] experience went shock certainly did not depend upon light anæsthesia.—Mr. Willett, in reply, said that he thought that one advantage of the mixture he proposed was that the ether in it stimulated the breathing and the child did not merely go to sleep. When giving the mixture for operations on the eye he was prepared to add a little more chloroform if the patient was not sufficiently anæsthetised.

BRITISH GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on April 19th, Dr. W. J. Smyly, the President, being in the chair.—Mr. F. Bowreman Jessett [illegible] as: 1. Two cases of Vaginal [illegible] the Cervix Uteri. 2. A case [illegible] Myoma of the Uterus and Broad Ligament. 3. A case of Sub-peritoneal Hysterectomy for Myoma Uteri.—Dr. Macnaughton-Jones showed a specimen of Uterine Myoma removed by supra-vaginal hysterectomy, he also read the notes of a case of Hydro-salpinx and the pathological report on a specimen of Ovarian Sarcoma shown at the previous meeting.—The President showed three specimens of Uterine Myoma removed by pan-hysterectomy, two of them being removed by the abdominal route by Doyen's method and the other by vaginal hysterectomy.—In the discussion on the cases of myoma Dr. Frederick Edge (Wolverhampton) remarked that in view of the fact that some of these supposed myomata turned out to be in reality sarcomata he did not think that the leaving of the cervix was justified, especially since no one could tell beforehand whether the tumour would prove to be sarcomatous or not.—Dr. Macnaughton-Jones asked the President what he thought of the value of Doyen's angeiotribe. Inasmuch as Doyen's operation consisted essentially in the employment of this instrument he thought that it would be useful if every fellow of the society who might use it were to report its result. It was being much used in Vienna, Berlin, and some other places.—Dr. William Duncan said that up to the present time he had had 63 cases of intra-peritoneal hysterectomy, of which an account would be found in THE LANCET of April 21st. Of these patients four had died; but one of the fatal cases occurred suddenly from embolism when the patient had so far recovered that she was about to leave the hospital. This case could not therefore be attributed to the operation, and he might reckon his mortality at three in 63, or 4·4 per cent. He did not agree with Dr. Edge that they ought always to perform pan-hysterectomy, for in the vast majority of cases they had to do with a true myoma and not with a sarcoma; he preferred to leave the vagina unopened whenever that was possible.—Dr. Herbert Snow also took exception to Dr. Edge's views; the malignant degeneration of myomata was quite exceptional, occurring in certainly not more than 5 per cent. of cases. If the cervix alone were left he could not see that there could arise any danger from return of myomata; so it did not seem to him that the small risk of malignancy rendered it worth while to incur the increased risk of danger to the sufferers involved in pan-hysterectomy.—After some remarks by Mr. Jessett the President said that by "Doyen's operation" he did not understand any one method of hæmostasis, but rather the plan of opening first the posterior vaginal vault and then drawing up the cervix, which would be found to shell out very easily from its bladder connexions. In this process the uterine arteries were separated from the cervix until they could be secured [illegible] in the upper part [illegible] of the broad ligament, where they were very small, instead of at the base of the broad ligament where they were large [illegible] close to the ureter [illegible] for both. He thought that if Dr. William Duncan [illegible] show a mortality of only three in 63 cases [illegible] he had had very [illegible] from pan-hysterectomy —

A paper by Dr. Ralph Worrall, of Sydney, N.S.W., on Pregnancy complicated by Uterine Myoma and Ovarian Cyst was read.—Dr. Inglis Parsons read a paper on the Treatment of Cancer based on the Parasitic Theory. He pointed out that the mortality of cancer in England and Wales was still over 20,000 annually. Their present methods of treatment could not be considered satisfactory in the light of this fact. San Felice's discovery of a definite parasite opened up a possibility of treating the disease through the medium of the circulation, eradicating it entirely. The investigations of Pasteur done more than 20 years ago showed that the saccharomycetes could obtain everything required for their nourishment in the human body, while Schutzenberger had demonstrated that they could extract oxygen from the red corpuscles through a thin membrane. The human body, therefore, was quite a suitable habitation for these fungi, except that their main food, sugar, could only be obtained in small quantities. This served to explain the slow growth of the parasites as compared with their rapid growth in fermentation with abundance of sugar. He thought that the two methods of propagation, by budding and sporing, would explain the great variations observed in the periods of recurrence, because when spores were formed they might remain quiescent for years before commencing active growth. The rapidity of growth in cancer of the liver and in stout persons could be explained because the liver was the storehouse for sugar and in stout persons there was often an excess in the circulation which might even be found in the urine. They could now understand why the disease was more prevalent in the watersheds and along the courses of rivers, because the saccharomycetes flourished in moisture and damp atmosphere. Judging from Pasteur's work there was no toxin formed by the yeasts. This would account for the clinical symptoms of cancer being different from the microbic group of diseases; in fact, he considered that San Felice's statement explained nearly everything in connexion with the disease and was probably correct. He then indicated the lines on which treatment might be successful. Various bacilli were hostile to these fungi, and some toxin might be found which would kill them without doing harm to the cells of the body. Various drugs and salts destroyed these saccharomycetes; a selection of those that might be safely administered could be tried. As phagocytosis did not take place further knowledge might show us how to induce it. A diabetic diet, so as to reduce the sugar as much as possible, was worth trying.

KIDDERMINSTER MEDICAL SOCIETY.—A meeting of this society was held at the Kidderminster Infirmary on April 20th, Mr. J. Lionel Stretton, the President, being in the chair.—The President showed a specimen of Malignant Mass involving the Rectum and a Saccule of the Bladder which contained seven calculi. The patient, a man, aged 50 years, was admitted to hospital with symptoms of cystitis. On examining the abdomen the colon was found to be considerably dilated and malignant disease involving the bladder and the rectum was suspected. The bladder was washed out three times a day with weak nitrate of silver solution for two months with marked improvement. On March 31st uremic symptoms developed and there was a constant discharge of blood from the urethra. The bladder was drained suprapubically under ether and three pints of saline solution were transfused. An opening into the saccule was discovered, but not explored, owing to the patient's grave condition. The patient rallied considerably after the operation, the uremic symptoms abated, but death occurred from exhaustion five days later.—The President read notes of a case of Double Empyema in a young man, aged 20 years, who was admitted to hospital on Jan. 27th. He had had influenza followed by a large gluteal abscess, which was opened. On admission the patient was very thin and looked ill. There was a sinus in the left buttock which was discharging slightly. The house surgeon found nothing abnormal in the lungs. The sinus healed in a fortnight, and the patient was improving in health and was gaining weight. On March 7th on examination dulness was found at both bases posteriorly with absence of breath sounds and vocal fremitus and the exploring needle drew pus. On the following day the right side of the chest was drained by making two openings and threading a drainage-tube through; 16 ounces of pus escaped. Eight ounces of pus were removed at the same time from the left side with the aspirator. Five days later the left side was drained in a similar way to the right and 12 ounces of pus were removed. The patient was now making satisfactory progress. Mr. Stretton considered the case to be worthy of record on account of its rarity. A doubt having been expressed as to the wisdom of operating on both sides at once at the time of the first operation, he postponed the second operation for a few days; but in future cases he would not hesitate to operate on both sides at once.—Dr. O. C. P. Evans showed a girl, aged 18 months, on whom he had operated for Radical Cure of Hernia some three months ago. The child had a double inguinal hernia and the two operations were performed at the same time. The wounds healed by first intention and the child left the infirmary quite well three weeks after the operations and had had no return of the rupture since. No truss was worn.—The President read a very interesting paper on Details in Surgery and a discussion followed.

SOUTH-WEST LONDON MEDICAL SOCIETY.—A meeting of this society was held on April 11th, Dr. W. G. Dickinson, the President, being in the chair.—Dr. J. T. Richards showed a case of Persistent Branchial Cleft in a girl.—Mr. C. Ryall showed (1) a case of ovarian Tumour that had been removed, and (2) a patient having an Anus produced by the Trans-sacral Operation for the more Complete Removal of Malignant Growths of the Rectum and which appeared to be in a very satisfactory position.—Dr. R. H. Barkwell showed a Skiagram and read notes of a case of Recovery from a Bullet Wound of the Thorax without Operation.—A practical demonstration on the Production of Roentgen Rays was given by Mr. J. H. Gardiner, F.C.S., illustrating the production of cathode and Roentgen rays by means of a powerful induction coil and highly exhausted vacuum tubes. The different appearances of the discharge were shown, in air between a ball and point, in moderately exhausted vacuum tubes known as "Geissler tubes," and in highly exhausted Crookes's tubes. With an experimental tube in this latter state the cathode rays were shown to travel in straight lines from the surface of the cathode, to possess mechanical power, and to be capable of deflection by a magnet. The action of cathode rays in giving rise to Roentgen rays was explained and by means of diagrams the early forms of Crookes's tubes and the modification by Mr. Herbert Jackson of King's College, now exclusively used for the production of Roentgen rays, were illustrated. The effects of the rays were shown with the aid of a luminescent screen.—Mr. James Wimshurst, F.R.S., then showed his very beautiful "Influence" Machine, consisting essentially of a series of six pairs of circular glass plates with lead foil slips at intervals near their circumferences, rotated by hand, the plates of each pair in opposite directions. Very long sparks could be produced but the current appeared to be quite harmless and the hand could be placed in the line of discharge without injury. Using this machine instead of an induction coil and battery, with a modified Crookes's tube, Roentgen rays were produced of great power, with the advantage that the apparatus needed no preparation and the rays could be produced at any moment by merely turning the handle.—After the demonstration an opportunity was given for the examination by the aid of the rays of several cases of interest to the members.—A vote of thanks was accorded to the demonstrator.

BIRKENHEAD MEDICAL SOCIETY.—A meeting of this society was held on April 6th, Mr. S. H. Nazeby Harrington, the President, being in the chair.—Dr. Riddell read clinical notes on the following subjects: (1) Lead Poisoning; (2) Rupture of the Lung; (3) Acute Nephritis; and (4) Rupture of the Facial Artery.—Dr. R. Owen Morris read a paper on Dilatation of the Stomach, distinguishing a pathologically enlarged stomach (gastrectasia) from the large stomach (megalogastria) of gross feeders and those who lived on bulky food. The latter might exist without any functional fault or dyspeptic symptom, whereas in the former there was deranged activity as well as abnormal dimension. Although mention had been repeatedly made of dilated stomachs during the last 240 years, to Widman belonged the credit of remarking upon stenosis as a cause of gastric dilatation. In 1833 Duplay discussed the causation and symptoms of the disease; but not until Kussmaul first used the stomach-pump in 1867, and published his famous work in 1869, followed by Penzoldt in 1875, and in this country by Allbutt in 1887, in his paper published in the Transactions of the Medical Society of London, did the subject receive

universal attention, from the profession and occupy a separate section in the text-books. After discussing the various classifications of the causes of the disease and enumerating the symptoms Dr. Morris said that the differential diagnosis of the cause of the dilatation was a matter of supreme importance both from the point of view of prognosis and of [illegible] early surgical treatment. V[illegible] usually due to stenosis, but w[illegible] non-malignant must be determined by the presence or absence of hydrochloric acid, the presence or absence of a tumour and blood, the character of the pain, &c., whereas atonic dilatation was generally not so extensive. As to the treatment of the disease when fully developed Ewald stated that the practitioner should have two objects in view and these two comprehensive objects were clearly expressed by Burney Yeo under four heads—viz.: (1) to remove the decomposing residue of food and to cleanse the stomach; (2) to prevent putrid [illegible] and by other means such as c[illegible] tone to the feeble muscular wal[illegible] gastric digestion, and to supply nourishment if necessary in other ways; and (4) to relieve constipation.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 12th, the President, Dr. D. Burgess, being in the chair.—Dr. C. H. Cairns exhibited (1) an Anencephalus showing also Umbilical Hernia and Talipes Varus; (2) a case of Abnormality in the Distribution of the Tendons at the Wrist—Mr. N. Milner read the notes of a case of Progressive Pernicious Anæmia in a boy, aged 12 years, and showed specimens.—Dr. Sinclair White showed a Myomatous Uterus.—Dr. R. Gordon read notes of a case of Cirrhosis of the Liver in an Infant, aged 14 months. He first saw the case last December, when slight enlargement of the liver was present. The liver increased in size until it could be felt below the umbilicus. In February ascites was present and on April 2nd it was necessary to tap, when five pints of clear, straw-coloured fluid were withdrawn. On the following day the liver was found to be considerably contracted, the edge being felt beneath the ribs. The spleen was not enlarged and there was no jaundice. The fluid was now collecting again, and the present condition was such that the child could not live much longer. The parents were both healthy and there was no history of alcoholism or syphilis. There had been four children; the first child suffered from curvature of the spine, the second was healthy, the third suffered similarly to the patient in the present case, and the illness pursued a similar course and ended fatally in about six months, post-mortem examination revealing cirrhosis of the liver. These children were reared in different parts of Sheffield and the last-mentioned patient was brought up entirely on sterilised milk for six months. Having, after careful examination, excluded alcoholism and syphilis, it was difficult to assign a cause for the cirrhosis in these cases.—Dr. Arthur Hall read a paper on Hysteria in Boys. A short account of six well-marked cases was given, in all of which, during some part or other of their existence, the diagnosis of cerebral or cerebellar organic disease was made. In the different cases cerebral injury, tumour, or meningitis were simulated and the persistency with which symptoms were kept up day after day and week after week was quite surprising. Unhappiness in surroundings either at school or at work was the common factor and a slight injury or illness was the immediate starting-point. The diagnosis and exposure of the true condition by no means removed the symptoms at once.

FORFARSHIRE MEDICAL ASSOCIATION.—An ordinary meeting of this association was held on April 6th in the University College, Dundee, Dr C. Templeman, the Vice-President, being in the chair.—Professor D. MacEwan showed a Private of the Royal Highlanders who was suffering from the effects of a Minnie Bullet wound received at Magersfontein. The wound of entrance was to the right of the seventh cervical vertebra and the wound of exit was between the tenth and eleventh ribs on the right side. There were some wasting of the scapular muscles, the right trapezius, the supra- and infra-spinatus muscles, some atrophy over the right shoulder, and also some difficulty in deep breathing, with slight cough.—Professor Kynoch showed: (1) Two Multilocular Ovarian Cysts removed by Abdominal Section; (2) a Papillomatous Ovarian Cyst of the size of a child's head, showing resection of intestine, which was removed by section through the post-vaginal fornix; (3) a Uterus with a Calcified Fibroid in the Anterior Wall simulating vesical calculus which was removed by vaginal hysterectomy; and (4) an Adeno-carcinoma of the Body of the Uterus which was removed by vaginal hysterectomy.—Dr. J. S. Y. Rogers read the notes of a case of Labour complicated by a Dermoid Cyst. He dealt with the difficulty experienced in this case and the prognosis.—Dr. R. C. Buist read further notes of the case and the treatment adopted—namely, the removal of the cyst after delivery. He showed the cyst and made some remarks on the specimen.—Mr. Steele Moon and Professor Kynoch spoke on the case.—Dr. Rogers briefly replied.—Dr. C. Templeman gave a short summary of the 70 cases of Typhus Fever which he had had under his care in the Fever Hospital during the last two years. Dealing first with the ages, 21 patients were between five and ten years of age. There was none between the ages of 15 and 20 years, and only one above 60 years of age. The time of the year when most cases occurred was next referred to. The incubation period in a large number of cases was longer than 12 days. The clinical features and the worst complications which occurred were next dealt with.—Dr. Steele Moon, Professor Kynoch, and Dr. Husband (of Rajpootana, India) spoke on the paper.—Dr. Templeman replied.

ÆSCULAPIAN SOCIETY OF LONDON.—A meeting of this society was held on April 20th, Mr. A. W. Galloway, the President, being in the chair.—Mr. O. A. Wickham read a paper in which he advocated the Rotation of the Head by Forceps in Persisting Occipito Posterior Positions when the head had reached the pelvic floor, then removal of the forceps, and their re-application as to a first or second vertex and traction.—Mr. W. Campbell M'Donnell reported an uncommon Cranio-thorax Relation. The child's back lay on the edge at the mother's left, the occiput at the right, the nose at the left pelvis, and the anterior fontanelle at the left. The maximum intensity of the heart-sounds were five centimetres to the left of the mid-pubo-umbilical point. Restitution rotation was slightly to the right. The right shoulder was born anteriorly.—Dr. B. G. Morison read notes of a series of cases of Pseudo-diphtheritic Throat. Six of these seemed to follow definitely frequent communication from another similarly affected. The incubation was not constant. In two of the cases diphtheria was excluded bacteriologically and the staphylococcus and streptococcus longus were isolated. Dr. Morison thought the appearance of these throats suggested erysipelas and he pointed out the greater pain, inflammation, cervical lymphadenitis, and the yellow-white points or patches in this disease rather than the thicker kid leathery appearance of diphtheria. Attention was also directed to the higher pyrexia and the less nervous and general depression in cases of this type than in true diphtheria. All the patients in this series recovered in a variable time.

MANCHESTER PATHOLOGICAL SOCIETY.—A meeting of this society was held on April 11th at Owens College, Mr. W. Thorburn, the President, being in the chair.—The President, in opening a discussion on the Pathological Relations of the Thyroid Gland, after referring to the general functions of the thyroid gland, considered athyroidism or deficiency of thyroidin as produced in animals by extirpation, and in man by surgical removal of the gland, mental, and in man by surgical, removal of the gland. Myxœdema and cretinism were considered and the relationship of goitre to athyroidism was discussed. Hyperthyroidism was described under four headings—namely: (1) poisoning by injection of Gyrod; (2) "chronic iodism"; (3) exophthalmic goitre; and (4) acute thyroid auto-infection as observed after various operations upon the gland. Thyroidin as an antidote was illustrated by reference to certain conditions observed in pregnancy and to some recent processes. The treatment of lupus and syphilis by thyroid extract was also mentioned in this connection. Genesis of the hypertrophy, the type might be regarded as a compensatory hypertrophy of [illegible]. The effects of thyroidism in [illegible] also referred to.—An interesting discussion followed, in which the following took part: Dr. R. [illegible], Dr. T. Harris, Dr. J. J. C[illegible], Dr. A. T. W[illegible], Dr. [illegible], Mr. J. [illegible], Mr. W. [illegible], Dr. W. H[illegible], Dr. T. [illegible], and Dr. F. W. Earl[illegible].

A paper by Dr. Ralph Worrall, of Sydney, N.S.W., on Pregnancy complicated by Uterine Myoma and Ovarian Cyst was read.—Dr. Inglis Parsons read a paper on the Treatment of Cancer based on the Parasitic Theory. He pointed out that the mortality of cancer in England and Wales was still over 20,000 annually. Their present methods of treatment could not be considered satisfactory in the light of this fact. San Felice's discovery of a definite parasite opened up a possibility of treating the disease through the medium of the circulation, eradicating it entirely. The investigations of Pasteur done more than 20 years ago showed that the saccharomycetes could obtain everything required for their nourishment in the human body, while Schutzenberger had demonstrated that they could extract oxygen from the red corpuscles through a thin membrane. The human body, therefore, was quite a suitable habitation for these fungi, except that their main food, sugar, could only be obtained in small quantities. This served to explain the slow growth of the parasites as compared with their rapid growth in fermentation with abundance of sugar. He thought that the two methods of propagation, by budding and sporing, would explain the great variations observed in the periods of recurrence, because when spores were formed they might remain quiescent for years before commencing active growth. The rapidity of growth in cancer of the liver and in stout persons could be explained because the liver was the storehouse for sugar and in stout persons there was often an excess in the circulation which might even be found in the urine. They could now understand why the disease was more prevalent in the watersheds and along the courses of rivers, because the saccharomycetes flourished in moisture and damp atmosphere. Judging from Pasteur's work there was no toxin formed by the yeasts. This would account for the clinical symptoms of cancer being different from the microbic group of diseases; in fact, he considered that San Felice's statement explained nearly everything in connexion with the disease and was probably correct. He then indicated the lines on which treatment might be successful. Various bacilli were hostile to these fungi, and some toxin might be found which would kill them without doing harm to the cells of the body. Various drugs and salts destroyed these saccharomycetes; a selection of those that might be safely administered could be tried. As phagocytosis did not take place further knowledge might show us how to induce it. A diabetic diet, so as to reduce the sugar as much as possible, was worth trying.

KIDDERMINSTER MEDICAL SOCIETY.—A meeting of this society was held at the Kidderminster Infirmary on April 20th, Mr. J. Lionel Stretton, the President, being in the chair.—The President showed a specimen of Malignant Mass involving the Rectum and a Saccule of the Bladder which contained seven calculi. The patient, a man, aged 50 years, was admitted to hospital with symptoms of cystitis. On examining the abdomen the colon was found to be considerably dilated and malignant disease involving the bladder and the rectum was suspected. The bladder was washed out three times a day with weak nitrate of silver solution for two months with marked improvement. On March 31st uræmic symptoms developed and there was a constant discharge of blood from the urethra. The bladder was drained suprapubically under ether and three pints of saline solution were transfused. An opening into the saccule was discovered, but not explored, owing to the patient's grave condition. The patient rallied considerably after the operation, the uræmic symptoms abated, but death occurred from exhaustion five days later.—The President read notes of a case of Double Empyema in a young man, aged 23 years, who was admitted to hospital on Jan. 27th. He had had influenza followed by a large gluteal abscess, which was opened. On admission the patient was very thin and looked ill. There was a sinus in the left buttock which was discharging slightly. The house surgeon found nothing abnormal in the lungs. The sinus healed in a fortnight, and the patient was improving in health and was gaining weight. On March 7th on examination dulness was found at both bases posteriorly with absence of breath sounds and vocal fremitus and the exploring needle drew pus. On the following day the right side of the chest was drained by making two openings and threading a drainage-tube through: 16 ounces of pus escaped. Eight ounces of pus were removed at the same time from the left side with the aspirator. Five days later the left side was drained in a similar way to the right and 12 ounces of pus were removed. The patient was now making satisfactory progress. Mr. Stretton considered the case to be worthy of record on account of its rarity. A doubt having been expressed as to the wisdom of operating on both sides at once at the time of the first operation, he postponed the second operation for a few days; but in future cases he would not hesitate to operate on both sides at once.—Dr. O. C. P. Evans showed a girl, aged 18 months, on whom he had operated for Radical Cure of Hernia some three months ago. The child had a double inguinal hernia and the two operations were performed at the same time. The wounds healed by first intention and the child left the infirmary quite well three weeks after the operations and had had no return of the rupture since. No truss was worn.—The President read a very interesting paper on Details in Surgery and a discussion followed.

SOUTH-WEST LONDON MEDICAL SOCIETY.—A meeting of this society was held on April 11th, Dr. W. G. Dickinson, the President, being in the chair.—Dr. J. T. Richards showed a case of Persistent Branchial Cleft in a girl.—Mr. C. Ryall showed (1) a case of ovarian Tumour that had been removed, and (2) a patient having an Anus produced by the Trans-sacral Operation for the more Complete Removal of Malignant Growths of the Rectum and which appeared to be in a very satisfactory position.—Dr. R. H. Barkwell showed a Skiagram and read notes of a case of Recovery from a Bullet Wound of the Thorax without Operation.—A practical demonstration on the Production of Roentgen Rays was given by Mr. J. H. Gardiner, F.C.S., illustrating the production of cathode and Roentgen rays by means of a powerful induction coil and highly exhausted vacuum tubes. The different appearances of the discharge were shown, in air between a ball and point, in moderately exhausted vacuum tubes known as "Geissler tubes," and in highly exhausted Crookes's tubes. With an experimental tube in this latter state the cathode rays were shown to travel in straight lines from the surface of the cathode, to possess mechanical power, and to be capable of deflection by a magnet. The action of cathode rays in giving rise to Roentgen rays was explained and by means of diagrams the early forms of Crookes's tubes and the modification by Mr. Herbert Jackson of King's College, now exclusively used for the production of Roentgen rays, were illustrated. The effects of the rays were shown with the aid of a luminescent screen.—Mr. James Wimshurst, F.R.S., then showed his very beautiful "Influence" Machine, consisting essentially of a series of six pairs of circular glass plates with lead foil slips at intervals near their circumferences, rotated by hand, the plates of each pair in opposite directions. Very long sparks could be produced but the current appeared to be quite harmless and the hand could be placed in the line of discharge without injury. Using this machine instead of an induction coil and battery, with a modified Crookes's tube, Roentgen rays were produced of great power, with the advantage that the apparatus needed no preparation and the rays could be produced at any moment by merely turning the handle.—After the demonstration an opportunity was given for the examination by the aid of the rays of several cases of interest to the members.—A vote of thanks was accorded to the demonstrator.

BIRKENHEAD MEDICAL SOCIETY.—A meeting of this society was held on April 6th, Mr. S. H. Nazeby Harrington, the President, being in the chair.—Dr. Riddell read clinical notes on the following subjects: (1) Lead Poisoning; (2) Rupture of the Lung; (3) Acute Nephritis; and (4) Rupture of the Facial Artery.—Dr. R. Owen Morris read a paper on Dilatation of the Stomach, distinguishing a pathologically enlarged stomach (gastrectasia) from the large stomach (megalogastria) of gross feeders and those who lived on bulky food. The latter might exist without any functional fault or dyspeptic symptom, whereas in the former there was deranged activity as well as abnormal dimension. Although mention had been repeatedly made of dilated stomachs during the last 240 years, to Widman belonged the credit of remarking upon stenosis as a cause of gastric dilatation. In 1833 Duplay discussed the causation and symptoms of the disease; but not until Kussmaul first used the stomach-pump in 1867, and published his famous work in 1869, followed by Penzoldt in 1875, and in this country by Allbutt in 1887, in his paper published in the Transactions of the Medical Society of London, did the subject receive

universal attention, from the profession and occupy a separate section in the text-books. After discussing the various classifications of the causes of the disease and enumerating the symptoms Dr. Morris said that the differential diagnosis of the cause of the dilatation was a matter of supreme importance both from the point of view of prognosis and of treatment—more especially of early surgical treatment. Very extensive dilatation was usually due to stenosis, but whether malignant or non-malignant must be determined by the presence or absence of hydrochloric acid, the presence or absence of a tumour and blood, the character of the pain, &c., whereas atonic dilatation was generally not so extensive. As to the treatment of the disease when fully developed Ewald stated that the practitioner should have two objects in view and these two comprehensive objects were clearly expressed by Burney Yeo under four heads—viz.: (1) to remove the decomposing residue of food and to cleanse the stomach; (2) to prevent putrid fermentation by antiseptics and by other means such as careful dieting; (3) to impart tone to the feeble muscular walls of the stomach, to promote gastric digestion, and to supply nourishment if necessary in other ways; and (4) to relieve constipation.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 12th, the President, Dr. D. Burgess, bei[illegible] exhibited (1) an Anence[illegible] Hernia and Talipes Varus [illegible] the Distribution of the [illegible] Milner read the notes of [illegible] Anæmia in a boy, aged 12 years, and showed specimens.—Dr. Sinclair White showed a Myomatous Uterus.—Dr. R. Gordon read notes of a case of Cirrhosis of the Liver in an Infant, aged 14 months. He first saw the case last December, when slight enlargement of the liver was present. The liver increased in size until it could be felt below the umbilicus. In February ascites was present and on April 2nd it was necessary to tap, when five pints of clear, straw-coloured fluid were withdrawn. On the following day the liver was found to be considerably contracted, the edge being felt beneath the ribs. The spleen was not enlarged and there was no jaundice. The fluid was now collecting again, and the present condition was such that the child could not live much longer. The parents were both healthy and there was no history of alcoholism or syphilis. There had been four children; the first child suffered from curvature of the spine, the second was healthy, the third suffered similarly to the patient in the present case, and the illness pursued a similar course and ended fatally in about six months, post-mortem examination revealing cirrhosis of the liver. These children were reared in different parts of Sheffield and the last-mentioned patient was brought up entirely on sterilised milk for six months. Having, after careful examination, excluded alcoholism and syphilis, it was difficult to assign a cause for the cirrhosis in these cases.—Dr. Arthur Hall read a paper on Hysteria in Boys. A short account of six well-marked cases was given, in all of which, during some part or other of their existence, the diagnosis of cerebral or cerebellar organic disease was made. In the different cases cerebral injury, tumour, or meningitis were simulated and the persistency with which symptoms were kept up day after day and week after week was quite surprising. Unhappiness in surroundings either at school or at work was the common factor and a slight injury or illness was the immediate starting-point. The diagnosis and exposure of the true condition by no means removed the symptoms at once.

FORFARSHIRE MEDICAL ASSOCIATION.—An ordinary meeting of this association was held on April 6th in the University College, Dundee, Dr C. Templeman, the Vice-President, being in the chair.—Professor D. MacEwan showed a Private of the Royal Highlanders who was suffering from the effects of a Mauser Bullet wound received at Magersfontein. The wound of entrance was to the right of the seventh cervical vertebra and the wound of exit was between the tenth and eleventh ribs on the right side. There were some wasting of the scapular muscles, the right trapezius, the supra- and infra-spinatus muscles, some anæsthesia over the right shoulder, and also some difficulty in deep breathing, with slight cough.—Professor Kynoch showed: (1) Two Multilocular Ovarian Cysts removed by Abdominal Section; (2) a Pedunculated Ovarian Cyst of the size of a child's head, causing retention of urine, which was removed by section through the post-vaginal fornix; (3) a Uterus with a Calcified Fibroid in the Anterior Wall simulating vertical calculus which was removed by vaginal hysterectomy; and (4) an Adeno-carcinoma of the Body of the Uterus which was removed by vaginal hysterectomy.—Dr. J. S. Y. Rogers read the notes of a case of Labour complicated by a Dermoid Cyst. He dealt with the difficulty experienced in this case and the prognosis.—Dr. R. C. Buist read further notes of the case and the treatment adopted—namely, the removal of the cyst after delivery. He showed the cyst and made some remarks on the specimen.—Mr. Steele Moon and Professor Kynoch spoke on the case.—Dr. Rogers briefly replied.—Dr. C. Templeman gave a short summary of the 70 cases of Typhus Fever which he had had under his care in the Fever Hospital during the last two years. Dealing first with the ages, 21 patients were between five and ten years of age. There was none between the ages of 15 and 20 years, and only one above 60 years of age. The time of the year when most cases occurred was next referred to. The incubation period in a large number of cases was longer than 12 days. The clinical features and the worst complications which occurred were next dealt with.—Mr. Steele Moon, Professor Kynoch, and Dr. Husband (of Rajpootana, India) spoke on the paper.—Dr. Templeman replied.

ÆSCULAPIAN SOCIETY OF LONDON.—A meeting of this society was held on April 20th, Mr. A. W. Galloway, the President, being in the chair.—Mr. O. A. Wickham read a paper in which he advocated the Rotation of the Head by Forceps in Persisting Occipito Posterior Positions when the head had reached the pelvic floor, then removal of the forceps, and their re-application as to a first or second vertex and traction.—Mr. W. Campbell M'Donnell reported an uncommon Cranio-thorax Rotation. The child's back lay on the edge at the mother's left, the occiput at the right, the nose at the left pelvis, and the anterior fontanelle at the left. The maximum intensity of the heart-sounds were five centimetres to the left of the mid-pubo-umbilical point. Restitution rotation was slightly to the right. The right shoulder was born anteriorly.—Dr. B. G. Morison read notes of a series of cases of Pseudo-diphtheritic Throat. Six of these seemed to follow definitely frequent communication from another similarly affected. The incubation was not constant. In two of the cases diphtheria was excluded bacteriologically and the staphylococcus and streptococcus longus were isolated. Dr. Morison thought the appearance of these throats suggested erysipelas and he pointed out the greater pain, inflammation, cervical lymphadenitis, and the yellow-white points or patches in this disease rather than the thicker kid leathery appearance of diphtheria. Attention was also directed to the higher pyrexia and the less nervous and general depression in cases of this type than in true diphtheria. All the patients in this series recovered in a variable time.

MANCHESTER PATHOLOGICAL SOCIETY.—A meeting of this society was held on April 11th at Owens College, Mr. W. Thorburn, the President, being in the chair.—The President, in opening a discussion on the Pathological Relations of the Thyroid Gland, after referring to the general functions of the thyroid gland, considered athyroidism or deficiency of thyroidin as produced in animals by experimental, and in man by surgical, removal of the gland. Myxœdema and cretinism were considered and the relationship of goitre to athyroidism was discussed. Hyperthyroidism was described under four headings—namely: (1) poisoning by injection of thyroid; (2) "chronic iodism"; (3) exophthalmic goitre; and (4) acute thyroid auto-infection as observed after certain operations upon the gland. Thyroidin as an antiseptic was illustrated by reference to certain cases that had served in pregnancy and to some septic processes. The treatment of lupus and syphilis by thyroid extract was also mentioned in this connection. Some of the hypertrophic types of goitre were considered as a compensatory over-production of antitoxin. The effects of thyroidin on glycosuria and on epithelial cells were also referred to. An interesting discussion followed, in which the following took part: Dr. H. D. Jones, Dr. T. Harris, Dr. J. J. Carr, Dr. A. T. Williams, Dr. Hopkinson, Mr. J. J. Berry, Mr. W. P. Montgomery, Dr. W. H. Brook, Dr. W. E. Fothergill, Dr. T. C. Minton, and Dr. F. W. Eurich.

Reviews and Notices of Books.

A Text-book of Physiology: By M. FOSTER, M.A., M.D.Lond., F.R.S., assisted by W. H. R. RIVERS, M.A., M.D.Lond. Sixth Edition Revised. Part IV. The Senses. London: Macmillan and Co., Limited. 1900. Pp. 322. Price 10*s.* 6*d.*

In the preceding editions of Sir Michael Foster's excellent treatise the present volume, the fourth, contained the special muscular mechanisms, such as voice, speech, and locomotion, and also included an account of the male and female organs of generation. It is now restricted to the senses and so many of the additions have been made by Dr. W. H. R. Rivers, the University of Cambridge lecturer in physiological and experimental psychology, that his name appears on the title page with that of Sir Michael Foster. If the subjects now omitted are dealt with in another volume and Dr. Sheridan Lea's Physiological Chemistry be regarded as an integral part of the work Sir Michael Foster's Text-book of Physiology in one volume will have expanded in the course of 24 years into six volumes and is still defective in omitting the large topic of embryology.

This part has been very carefully revised and though many pages are reprinted with scarcely any alteration yet most of the recent additions to our physiological knowledge have been introduced. In the section on the accommodation of the eye to objects at varying distances it is pointed out that according to some observers the curvature of the anterior surface of the lens does not increase uniformly during accommodation, and on the next page it is added that there are several points in the whole action of accommodation which still require to be cleared up. We should have been glad to have had the opinions of the authors on Professor Tscherning's theory to the effect that accommodation is effected by compression of the lens changing its form to one remotely resembling an hour-glass.

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In the section on the Auditory Sensations the same care in the revision of the work is everywhere observable, and the structure both of the middle ear and of the labyrinth is very completely given. The treatise, as it now stands, is a very satisfactory epitome of the present state of physiological knowledge, and must be regarded as the text-book to be read and consulted wherever physiology is seriously pursued as a branch of science and not for the mere purpose of enabling a student to answer a few questions at an examination for a diploma.

Lessons in Elementary Physiology. By THOMAS H. HUXLEY, LL.D., F.R.S. Enlarged and Revised. London: Macmillan and Co., Limited. 1900. Pp. 611.

SIR MICHAEL FOSTER and Dr. Sheridan Lea, who have undertaken to edit the present edition of this well-known manual, state in their preface that their task has been one of great difficulty. The work was originally written by a master of exposition for beginners and therefore contained but little of a controversial character, but aimed at giving a clear and connected account of the fundamental truths of physiology. When it first appeared it obtained a ready sale from the accuracy of its statements, the excellence of the style in which it was written, and the high position of its author. But after the lapse of 34 years, in a progressive science like physiology, some well-assured advances have been made, some errors have been corrected, and some doubtful points have been cleared up. The author himself, as long as he lived, kept the work abreast of the knowledge of the day, and now that he has passed away the long experience of the editors into whose hands the recasting of the volume has fallen may serve to assure the student that if he renders himself thoroughly familiar with the contents of this volume he will possess such knowledge that he will not only have nothing to unlearn, but will be well prepared to understand and appreciate the larger treatises of Michael Foster, Waller, and Stewart. The early editions of the work were but little altered from the first edition published in 1866. The present edition is nearly double the size of the second, third, and fourth, whilst the number of woodcuts has increased from 103 to 185. The editors have striven to retain as far as possible the language employed by the late Professor Huxley, but in such additions as they have found it necessary to make—as, for example, in the subject of blood-pressure and vaso-motor nerve influence, the structure and functions of the spinal cord, and other subjects—they have endeavoured to present the student with an account of recent work written in the same easy and perspicuous style that is so characteristic of the original. The subject of Reproduction is omitted. There is an excellent index. It is a work eminently adapted for the higher classes in schools.

LIBRARY TABLE.

Lessons on Prescriptions and the Art of Prescribing. By W. HANDSEL GRIFFITHS, Ph.D., L.R.C.P.E., Professor of Chemistry in the Ledwich School of Medicine, Dublin. New and revised edition. London: Macmillan and Co. 1899.

life, after a student has become qualified, he frequently experiences difficulty in writing prescriptions at full length. He has become so accustomed to write "Mist. Gent. Alk.," or "Hadst. Ipecac. Co.," that he forgets the exact ingredients of the mixtures. Again, some of the examining boards require that prescriptions should be written in unabbreviated Latin, and the student naturally wishes to obtain in as small a compass as possible information on this point. The above difficulties are well met in the little work before us. It is arranged in a convenient manner for reference. The chapter on Incompatibility should prove especially valuable. Numerous examples and exercises are given which would yield good practice to students about to enter for their examinations.

The Use of the Sphygmograph in Clinical Medicine. By GRAHAM STEELL, M.D. Edin., F.R.C.P. Lond., Physician to the Manchester Royal Infirmary, Lecturer in Clinical Medicine, and in Diseases of the Heart, Owens College, Manchester: Skerratt and Hughes. 1899. Pp. 57.—This little book gives a good account of the use of the sphygmograph in clinical medicine. The study of the working of this instrument is a fascinating one, but requires a considerable amount of time and attention. Moreover, there is a good deal of the personal element in the results obtained, which makes the interpretation of the tracings obtained by different observers rather uncertain. Not that we would disparage its use or value. The information that can be obtained from sphygmograms in skilled hands is great; and there is a further advantage that the records are permanent and can be retained for purposes of comparison. Dr. Steell maintains that the sphygmograph is of greatest value as an aid to treatment, of less value in prognosis, and of least value in diagnosis. We quite agree with his statement. The book is freely illustrated with sphygmograms, and we can cordially recommend it to those who intend to make a systematic use of the instrument.

JOURNALS.

Edinburgh Medical Journal.—In the April number Mr. C. W. Mansell Moullin strongly recommends preventive operation in acute inflammation of the appendix. The words "preventive operation" must, he says, be understood in the strict sense and must not be confused with what is called early operation. Gangrene of the whole appendix may make its appearance within 24 hours of the time when the symptoms were first noticed. In such a case an operation to be preventive must be performed before the expiry of this period, but in some other cases it may not be too late after 48 hours. Dr. W. S. Fenwick writes on Perigastric and Pericholecystic Abscess, and Dr. F. W. N. Haultain on Amenorrhœa. Altogether there are seven original articles.

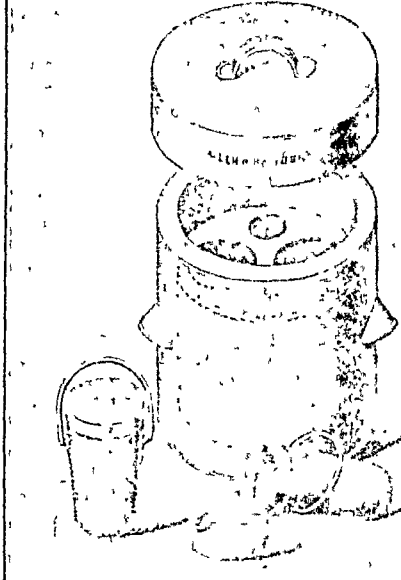
Scottish Medical and Surgical Journal.—The greater part of the April number is occupied by a paper on Heredity in Disease, read before the Edinburgh Medico-Chirurgical Society on March 7th by Professor D. J. Hamilton (Aberdeen); the discussion which followed the reading of the paper is also published. Professor A. R. Simpson (Edinburgh) writes on Levurine, a dried extract of beer yeast which seems to have proved useful in some cases of puerperal septicæmia and in carbuncle. The dose is a teaspoonful given before food until suppuration is arrested and the temperature reduced. There are three other original articles.

Dublin Journal of Medical Science.—The original communications in the April number are as follows: on a fatal case of Congenital Bullous Eruption in an Infant, by Dr. R. H. Hennan; on a case simulating a Perforating Gastric Ulcer, by Dr. W. J. Hoey, and Dr. W. C. Dwyer; and on Heart Disease by Dr. R. C. Peacocke. A further instalment of the clinical reports of the Rotunda Hospital is given.

New Inventions.

THE "ALLENBURYS" MILK PASTEURISER.

THIS apparatus, designed by Dr. R. T. Hewlett for the Pasteurisation of a pint of milk at a time, is extremely simple in its action and does not contain any parts which are likely to get out of order. It consists essentially of a double-jacketed cylindrical tin plate case measuring externally about seven and a half inches both in height and in diameter. Half a pint of milk being placed in each of the two tin cups shown in the illustration, the cups are covered



with their lids and supported in the perforated shelf, and boiling water is then poured in until it begins to flow over the shelf. The lid is now placed on the apparatus and the whole is allowed to stand undisturbed for from 25 to 30 minutes. The milk is then ready for use; it may be cooled, if desired, by filling the outer cavities with cold water. One half pint only of milk may be Pasteurised if one of the two milk vessels be filled with cold water. The apparatus may be used to keep food warm during the night, and if filled with ice it will act as a cooler. The price is 6s. 6d. The makers are Messrs. Allen and Hanburys, Limited, Plough Court, London, E.C.

BATH ROYAL DISPENSARY.—At the meeting of the Bath Royal Dispensary on April 19th Mr. C. Harper, the medical officer of health, presented his annual report. The report showed that [illegible] number of patients registered for the 12 particulars of the [illegible] was as follows: [illegible] to 235, which was [illegible] compared with 1898 [illegible] further the death rate was [illegible] per 1000 [illegible] report. The [illegible] exceptional [illegible] recorded.

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life, after a student has become qualified; he frequently experiences difficulty in writing prescriptions at full length. He has become so accustomed to write "Mist. Gent. Alk.," or "Haust. Ipecac. Co.," that he forgets the exact ingredients of the mixtures. Again, some of the examining boards require that prescriptions should be written in unabbreviated Latin, and the student naturally wishes to obtain in as small a compass as possible information on this point. The above difficulties are well met in the little work before us. It is arranged in a convenient manner for reference. The chapter on Incompatibility should prove especially valuable. Numerous examples and exercises are given which would yield good practice to students about to enter for their examinations.

The Use of the Sphygmograph in Clinical Medicine. By GRAHAM STEELL, M.D. Edin., F.R.C.P. Lond., Physician to the Manchester Royal Infirmary, Lecturer in Clinical Medicine, and in Diseases of the Heart, Owens College, Manchester. Skerratt and Hughes. 1893. Pp. 57.—This little book gives a good account of the use of the sphygmograph in clinical medicine. The study of the working of this instrument is a fascinating one, but requires a considerable amount of time and attention. Moreover, there is a good deal of the personal element in the results obtained, which makes the interpretation of the tracings obtained by different observers rather uncertain. Not that we would disparage its use or value. The information that can be obtained from sphygmograms in skilled hands is great; and there is a further advantage that the records are permanent and can be retained for purposes of comparison. Dr. Steell maintains that the sphygmograph is of greatest value as an aid to treatment, of less value in prognosis, and of least value in diagnosis. We quite agree with his statement. The book is freely illustrated with sphygmograms, and [illegible] those who intend to make [illegible]

JOURNALS.

Edinburgh Medical Journal.—In the April number Mr. C. W. Mansell Moullin strongly recommends preventive operation in acute inflammation of the appendix. The words "preventive operation" must, he says, be understood in the strict sense and must not be confused with what is called early operation. Gangrene of the whole appendix may make its appearance within 24 hours of the time when the symptoms were first noticed. In such a case an operation to be preventive must be performed before the expiry of this period, but in some other cases it may not be too late after 48 hours. Dr. W. S. Fenwick writes on Perigastric and Periduodenal Abscess, and Dr. F. W. N. Haultain on Amenorrhœa. Altogether there are seven original articles.

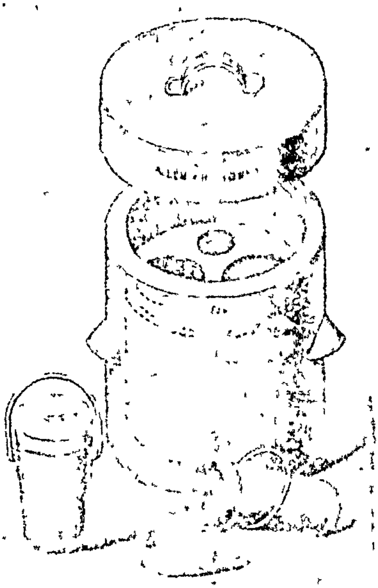
Scottish Medical and Surgical Journal.—The greater part of the April number is occupied by a paper on Heredity in Disease, read before the Edinburgh Medico-Chirurgical Society on March 7th by Professor D. J. Hamilton (Aberdeen); the discussion which followed the reading of the paper is also published. Professor A. R. Simpson (Edinburgh) writes on Levurine, a dried extract of beer yeast which seems to have proved useful in some cases of puerperal septicæmia and in carbuncle. The dose is a teaspoonful given before food until suppuration is arrested and the temperature reduced. There are three other original articles.

Dublin Journal of Medical Science.—The original communications in the April number are as follows: on a fatal case of Congenital Bullous Eruption in an Infant, by Dr. R. H. Kennan; on a case simulating a Peri[illegible] Gastric Ulcer, by Dr. W. J. Thompson and [illegible] F. C. Dwyer; and on [illegible] in [illegible] by Dr. R. C. Peacocke. A further instalment of the clinical reports of the Rotunda Hospital is given.

New Inventions.

THE "ALLENBURYS" MILK PASTEURISER

This apparatus, designed by Dr. R. T. Hewlett for the Pasteurisation of a pint of milk at a time, is extremely simple in its action and does not contain any parts which are likely to get out of order. It consists essentially of a double-jacketed cylindrical tin-plate case measuring externally about seven and a half inches both in height and in diameter. Half a pint of milk being placed in each of the two tin cups shown in the illustration, the cups are covered



with their lids and supported in the perforated shelf, and boiling water is then poured in until it begins to flow over the shelf. The lid is now placed on the apparatus and the whole is allowed to stand undisturbed for from 25 to 30 minutes. The milk is then ready for use; it may be cooled, if desired, by filling the container [illegible] with cold water. One half pint of milk may be Pasteurised if one of the two milk vessels be filled with cold water. The apparatus may be used to keep food warm during the night, and if [illegible] with [illegible] [illegible]. The price is [illegible]. The makers are Messrs. Allen and Hanburys, Limited, [illegible] E.C.

BATH RURAL DISTRICT.—At the meeting of the Bath Rural District C[illegible] held on April 13th Mr. C. Harper, the medical officer of health, presented his annual report. This showed that [illegible] were registered for the 13 parishes of the [illegible] covering an area of 27,2[illegible] acres with a population of [illegible] [illegible] to [illegible], which was equal to a death-rate of 13 [illegible] per 1,000 as compared with 13 [illegible] [illegible] [illegible] [illegible] [illegible] is needed.

Reviews and Notices of Books.

A Text-book of Physiology. By M. FOSTER, M.A., M.D.Lond., F.R.S., assisted by W. H. R. RIVERS, M.A., M.D.Lond. Sixth Edition Revised. Part IV. The Senses. London: Macmillan and Co., Limited. 1900. Pp. 322. Price 10s. 6d.

In the preceding editions of Sir Michael Foster's excellent treatise the present volume, the fourth, contained the special muscular mechanisms, such as voice, speech, and locomotion, and also included an account of the male and female organs of generation. It is now restricted to the senses and so many of the additions have been made by Dr. W. H. R. Rivers, the University of Cambridge lecturer in physiological and experimental psychology, that his name appears on the title page with that of Sir Michael Foster. If the subjects now omitted are dealt with in another volume and Dr. Sheridan Lea's Physiological Chemistry be regarded as an integral part of the work Sir Michael Foster's Text-book of Physiology in one volume will have expanded in the course of 24 years into six volumes and is still defective in omitting the large topic of embryology.

This part has been very carefully revised and though many pages are reprinted with scarcely any alteration yet most of the recent additions to our physiological knowledge have been introduced. In the section on the accommodation of the eye to objects at varying distances it is pointed out that according to some observers the curvature of the anterior surface of the lens does not increase uniformly during accommodation, and on the next page it is added that there are several points in the whole action of accommodation which still require to be cleared up. We should have been glad to have had the opinions of the authors on Professor Tscherning's theory to the effect that accommodation is effected by compression of the lens changing its form to one remotely resembling an hour glass.

The afferent path conducting impressions that lead to the pupil reflex is stated to consist of fibres that are at first mingled with the visual fibres, but near the corpora quadrigemina they collect into a fasciculus which leaves the upper median edge of the optic tract and enters the roof of the anterior corpus quadrigeminum. The vexed question of the presence of radially arranged dilator fibres in the retina, which was strongly opposed by Mr. Jessop in his lectures at the Royal College of Surgeons of England, is very fully discussed, but no positive answer is given.

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may be accepted without reserve is that *if the lymph be free from bacteria (especially streptococci and staphylococci) and typical vesicles slow of development with little inflammatory areola and late in coming to maturity be obtained*, there need be no fear that the patient is not properly vaccinated."

THE subject selected by Dr. W. B. CHEADLE for the Lumleian Lectures this year, "Some Cirrhoses of the Liver," is one which will attract unusual attention. Cases of cirrhosis of the liver are of frequent occurrence, but our knowledge in regard to the disease has advanced but little during recent years. The physical condition of the liver can only be examined during life partially by the sense of touch, aided in a minor degree by auscultation and percussion. The state of its complex functions can only be inferred, and, that imperfectly, by the effects of their disorder upon other organs. The difficulties which beset the investigation of the condition of the liver and its functions during life have prevented full knowledge being gained on certain points in its pathology, and the clinical history of its diseases has remained in many respects unsettled. Amongst undetermined questions with regard to disorders of the liver are some relating to the cirrhoses, and Dr. CHEADLE had a large field open to him on which to base his discussion. He entered most thoroughly and effectively into many points connected with the group of diseases of the liver comprised under the term "cirrhosis." He referred at length to the three chief forms of cirrhosis, distinguished as the atrophic, hypertrophic, and syphilitic respectively, but it is not our intention to dwell at length on this part of the subject, attractive as it undoubtedly is from a pathological point of view; suffice it to say that the lecturer considered that the lines of demarcation between the different forms have been too rigidly drawn. They hold good with regard to typical examples only, but so many cases are met with of an intermediate type that the usual classification mentioned above is not a satisfactory one, and the result is confusing both clinically and pathologically. Dr. CHEADLE'S arguments have been published in full in our columns.[1] We wish to draw attention more especially to his remarks on the prognosis and treatment of cirrhoses of the liver which are replete with interest and instruction, for these subjects are of great value practically and have been only very briefly dealt with by most observers.

The prognosis naturally varies according to the particular form in which the cirrhosis appears and the conditions associated with it, but as set forth in text-books of medicine it is almost universally and absolutely regarded as unfavourable. Its fatality is looked upon as inevitable and the end speedy. Dr. CHEADLE believes that this unfavourable verdict is more positive than the actual facts warrant and he considers that it has arisen partly from the use of the generic term "cirrhosis" when the condition really intended to be indicated is one form of the disease only—viz., the atrophic contracted liver of LAENNEC. Thus the occurrence of ascites, so significant of evil in that condition, has been assumed to be equally serious in hypertrophic or syphilitic cirrhosis, where its import is less grave. Cirrhosis is, of course, incurable; fibrous tissue is a permanent formation, but it is in itself harmless; it injures only by pressure and it may exist within certain limits for long periods without fatal issue. In some degrees of cirrhosis the glandular structure of the liver is not so extensively injured as to render life impossible, and if the obstruction to the direct portal flow is eased by compensatory channels fair health may be maintained for a season. The prognosis in cirrhosis is almost invariably made with regard to the advent of ascites and turns upon this symptom. Dr. CHEADLE maintains that when the cirrhosis is of the atrophic contracted kind traceable to alcoholic excess the prognosis is the least favourable of all forms of cirrhosis, and if ascites has supervened it probably indicates that the disease has reached its final stage. In this opinion he is supported by most authorities, although he quotes several cases in which in spite of the appearance of ascites life has been prolonged for a considerable period. He points out that much depends upon the condition of general nutrition. In proportion as this is satisfactory the prognosis is more hopeful of respite. If emaciation and cachexia have advanced the condition is one of proximate gravity. In hypertrophic cirrhosis the prognosis is less gloomy. In the majority of cases, it is true, the disease progresses to a fatal ending, but far less certainly and less rapidly than in the contracted form. The lecturer considered that the distinctive features of the favourable cases are: 1. When the liver is large and the cirrhosis probably more acute. A certain proportion of these cases are of syphilitic origin and others are of a mixed syphilitic and alcoholic type, but some are to be attributed purely to alcohol. 2. The subjects are on the average younger than in the less favourable cases of contracted liver. 3. The patients are in a condition of fairly good nutrition and are not emaciated, cachectic, alcoholic wrecks. These characteristics all point to the conclusion that the morbid change is of a more active character than in the less favourable contracted form of cirrhosis when the invading tissue is of a more gradual and slower growth. These points were argued with great skill by Dr. CHEADLE and should prove of value in forming a prognosis in cases of cirrhosis.

In the matter of treatment, also, the lecturer brought forward arguments and illustrative cases which would tend to modify the treatment usually adopted for the relief of hepatic cirrhosis. The treatment resolves itself chiefly into an attempt to preserve the *status quo antea* as far as the liver is concerned; to prevent the disease advancing and to relieve any difficulties or imperfections which may arise in the bodily condition as the result of the hepatic insufficiency. Absolute abstention from alcohol and all stimulating ingests must of course be absolutely insisted on, unless the patient be in the last stage of emaciation and exhaustion, when the total deprivation of alcohol may hasten the end. With regard to drugs, mercury, iodide of potassium, and digitalis were advised in appropriate cases. But it is in regard to the treatment of ascites that Dr. CHEADLE'S remarks deserve especial attention. All authorities are agreed that the fluid should be removed, but they differ as to when

[1] THE LANCET, March [illegible] and April [illegible] [illegible]

THE LANCET.

LONDON: SATURDAY, APRIL 28, 1900.

To those who have followed the controversies that have raged around the vaccination question in this country during many years the adoption of measures to secure as pure a vaccine lymph as possible cannot but be welcome. Until quite recently the means at disposal for testing the purity of such lymph were crude and inexact; but now, thanks to bacteriological methods and the knowledge possessed of the nature and character of septic organisms, the determination of the presence or absence of such noxious elements in lymph is rendered comparatively easy. For whatever may be the risks—and they are probably very slight—of the invaccination of disease through the admixture of extraneous matter with vaccine, it is certainly incumbent on those who are concerned with the preparation of such vaccine to reduce the risks to a minimum. The substitution of calf vaccine lymphs for "humanized" lymph has been one step in this direction, since it entirely gets rid of the possibility (remote as this has ever been) of the invaccination of such transmissible human diseases as syphilis and leprosy. A more important change, seeing that it aims at the prevention of the more common complications of vaccination, is that which was first placed on a scientific basis in this country by the investigations of Dr. MONCKTON COPEMAN in 1891—we mean the so-called "glycerinisation of calf-lymph." For although in various quarters the addition of glycerine to vaccine lymph has been long practised, the admixture was mainly made for the purpose of diluting the lymph, the specific efficacy of which was found, within limits, to be unimpaired by the process. Now that, thanks to the researches referred to as well as to others carried on elsewhere, it has been shown that the admixture of glycerine under certain conditions, of which duration in time is an important element, has the effect of virtually destroying the adventitious microbes which may be present in the lymph, a great additional safeguard against inflammatory and septic complications has been obtained. It must not, however, be forgotten that in the great majority of instances, as was clearly shown in the Report of the Royal Commission on Vaccination, these ill-effects are to be ascribed rather to subsequent wound infection than to inoculation with impure lymph. That this is so does not of course render it less needful to secure supplies as free from extraneous contamination as possible, whilst it only serves to emphasise the importance of scrupulous care in the after-treatment of the recently vaccinated subject.

We publish to-day a detailed report of a Special Commission which we appointed to investigate the question of the purity of various glycerinated calf vaccine lymphs at present in use, and we venture to think that its publication will have a very reassuring effect upon the public as well as the profession. In it will be found particulars of some interesting experiments which prove how great is the bactericidal action of glycerine, and how this action is effective in reducing the colonies of growth upon gelatin or agar in proportion to the length of time that the organisms are subjected to it, until a period is reached when most of the non-sporing organisms have disappeared. The glycerine does not get rid of the spore-bearing organisms—which is of small moment, since pathogenic microbes mostly pertain to the non-sporing class. The general result of the inquiry—which, it will be seen, was based on the application of the bacteriological test employed on several occasions and to different samples of the various commercial "lymphs"—is the gratifying one that as regards their purity, i.e., freedom from harmful bacteria, very many of these samples are above the standard of that supplied by the Local Government Board. It shows also the necessity for a systematic testing of these lymphs in order that the standard of purity may be maintained as well as the efficacy of the vaccination obtained by their use. We trust that the remarks made in the report as to "the necessity for preliminary cleanliness and antiseptic precautions accompanying the preparation and collection of lymph" will be carefully noted by those who are responsible for the preparation; and we observe with satisfaction that in most cases the calves are killed and examined with the view to their being declared free from tuberculosis or other infectious disease before the lymph is put on the market.

Nevertheless, satisfactory as the general result of this inquiry may be held to be, it shows that there is still room for improvement, since there is yet much diversity in respect to the degree to which extraneous bacteria are present, and in hardly any case has uniform sterility been established. Considering the chances for accidental contamination such an absolute degree of purity may be unattainable, but certainly it can be often more nearly reached with proper care taken in collection and in the process of glycerinisation. But one thing is clear. The objection to the practice of vaccination on the score that there is risk of concurrent septic inoculation is one which can have absolutely no *locus standi* while lymph properly prepared is capable of passing the strictest bacteriological test. Nor is the efficacy of the vaccine itself at all impaired by the glycerinising process; indeed, it sometimes even seems to be rendered more marked. At the same time, the freer the lymph is from extraneous pyogenic organisms the less marked will be those inflammatory concomitants which are so familiar to all vaccinators. Without entering into the question as to how far the "areola" is an essential part of the vaccine vesicle or not, it does certainly appear as if much that has often been regarded as essential is not so much due to the action of the vaccinal organism itself as to organisms acting as irritants upon the cutaneous tissues. The purer the lymph apparently the longer is the time taken for the formation of the vesicle and the less marked the stage of so-called "maturity" or pustulation. Indeed, there is reason to believe that the immunity conferred by vaccination is just as marked when the local effects practically stop short at the characteristic vesiculation. For as our report says: "One statement that

1 death, at Cape Town; and 2 cases, non fatal, at Fort Pine. The prevalence of enteric fever in the command is stated in the report to be assuming grave proportions, more especially in Natal. The Principal Medical Officer remarks that the disease seems to be endemic in South Africa and to be associated with the rainfall, the subsequent drying of the ground, and the dissemination of polluted soil dust by winds, causing the access of disease germs to water and food supplies. The marked incidence of enteric fever at Ladysmith was supposed to be associated with the presence of polluted soil, inadequate means of preventing continuance of pollution, and want of cultivation to prevent the soil being blown about as dust by the winds that prevail there. Pollution of the Klip river is also noted as a probable cause of the enteric fever in the locality. Ladysmith, which was occupied as a new military station in May, 1897, "has not been a success so far from a health point of view." In explanation of this the Principal Medical Officer reports that the camp is too closely built on a site previously undrained and occupied by tents, that the huts are too hot in summer and bitterly cold in winter (it is noted that in July 16 degrees of frost were registered), and that they are without proper floor or roof ventilation, while during the rains the ground underneath them becomes damp from soakage. The camp ground is bare of trees and grass and in dry weather is covered thickly with dust which, on account of the complete absence of drainage, is considered to be polluted with filth. The reservoirs and filtering beds are uncovered and the cooking is done in field kitchens, so that both water and food supplies are liable to become permeated with this dust. Recommendations have been made with a view to remedying all these defects, and a suggestion has also been made to collect and store rain-water for use during the months when the river water is muddy.

It is sometimes extremely difficult, nay, impossible, to account for the outbreak of enteric fever among troops on active service, just as it is impossible to explain the number of sporadic cases which occur yearly in rural districts and apparently independently of one another. If the disease depends for its cause upon a specific bacillus it can never arise *de novo*. There have been various explanations proffered from time to time as to the possible part played by tramps and unbulant cases of the disease, the agency of foul soil, and so forth. Quite recently Dr. HORTON-SMITH in the Goulstonian Lectures at the Royal College of Physicians of London has, among other things, pointed out how much longer and more persistently than had hitherto been believed to be possible a patient, after having recovered from an attack of enteric fever, may bear about with him the specific and infecting germs of the disease. But in the case of Ladysmith and other stations in South Africa we have apparently no need to have recourse to such explanations, although they have always to be borne in mind, for the typhoid fever bacillus seems to be widely distributed in that country and reproduced in the bodies of its numerous victims.

WE publish to-day the four-thousandth number of THE LANCET. The first number appeared on Sunday afternoon, Oct. 5th, 1823, and consisted of 36 octavo pages. Our present issue contains 103 quarto pages, and between the two numbers, so alike in their aim and so different in their appearance, lies the medical history of three-quarters of a century. THE LANCET at its birth was a paper representing even in its tiny shape the views, aspirations, and knowledge of the medical profession. It was devised to disseminate medical information and to make war on the family intrigues and foolish nepotism which swayed the elections to lucrative posts in the metropolitan hospitals and medical corporations. The spread of scientific knowledge was the first object of the paper, and an excellent clinical lecture by SIR ASTLEY COOPER, which occupied the place of honour, was followed by records of interesting cases in surgery and medicine. The paper was partly addressed to students and it was the design of its founder to make the grievances of students a prominent feature in his agitation for medical reforms, for the education of the student happened 75 years ago to be one of the most burning grievances of the profession. We think that we have a right to record with special pride the fact that the first number of the paper, though so small, was a type of the number which we publish to-day. Then it was as now it is, and now it is as then it was, the aim of THE LANCET to represent completely and fearlessly the best interests of the medical profession, to record scientific progress, to summarise and codify information, and to watch jealously over the social and material well being of its readers. The developments in medical knowledge have become immense and show no signs of ceasing from their vigorous increase, while medical ethics have grown more complicated as the professional life of the medical man takes on fuller and more diversified shapes in its relation with the public; and as a result the number of topics with which THE LANCET is directly concerned has greatly multiplied. And thus the small pamphlet has been changed into the large newspaper—and thus only. The programme of THE LANCET of 1900 is substantially described in the preface to No. 1, Volume I., which appeared 75 years ago, but the range of subjects has enormously increased during the century now closing and the treatment of these subjects has demanded greater space.

And while we have grown step by step with medical knowledge we have, of course, shared in the gigantic development of the world's press during the nineteenth century. Our grandfathers were harassed by an arbitrary censorship, by mechanical difficulties of distribution, by heavy stamp and paper duties, and by an advertisement tax which deprived the medical profession of an obvious source of revenue. Sell's "Dictionary of the Press" for 1839 reminds us that the *Times* when it was started early in the century was a mere pigmy in comparison with the giant of to-day and adds that "notwithstanding its small size and small circulation it was far more troublesome to produce them in its pristine infancy." In this sense we shall be crushed if we refer lightly to the work of the Founder of THE LANCET. The newspaper-reading public of to-day owes a considerable debt to THOMAS WAKLEY among other reforms for his action with regard to the newspaper stamp Act. The tax on newspapers, which, for the first time levied at the beginning of the 18th century, had grown and only by slow and tardy steps could be lost, when WAKLEY advocated its repeal the first time he stood

and how it should be done. Some rely mainly upon diuretics and purgatives and only advise tapping when the symptoms become urgent. Dr. CHEADLE considers that the former class of drugs are "constantly futile," whilst with regard to the latter class he says: "It may be affirmed without hesitation that hard purging is in these cases a pernicious and fatal practice." He considers that purgatives are absolutely ineffectual as a means of reducing the dropsy, whilst they are most effectual in reducing the strength and nutrition of the cirrhotic patient already enfeebled by the difficulty of drawing a minimum of aliment through obstructed vessels. Having thus disposed of the above methods of treatment in no uncertain terms Dr. CHEADLE states that in his opinion the only reliable plan of removing the abdominal fluid is to draw it off by mechanical means; he considers that the postponement of the operation until the vital machinery is seriously embarrassed is a fatal error and he further urges that the patient should be kept under observation and that paracentesis should be repeated until the fluid ceases to collect and health is fairly restored. Several striking cases were described which demonstrated the success of this plan of treatment. Paracentesis is certainly much more freely resorted to now than formerly was the case and the depleting method by means of purgatives is gradually dropping into disuse. Dr. CHEADLE was one of the earliest to advocate prompt and repeated removal of the ascitic fluid by tapping. He urged the employment of this therapeutic measure at the meeting of the British Medical Association at Nottingham eight years ago and subsequent experience has, he states, strengthened him in his opinion. Whether the use of diuretics and purgatives will be universally discountenanced is open to doubt, but Dr. CHEADLE has done good service in advocating so strongly and persistently the routine adoption of paracentesis.

No one who has even glanced at the casualty returns which have been so frequently appearing of late in connexion with the present war in South Africa can fail to have been struck with the very prominent place which enteric fever occupies in them. This fever has proved a veritable scourge of modern wars and of camp life, especially in tropical and subtropical climates. Even in times of peace it may be said to be conterminous with the presence of the British soldier in India and our colonies, and we might even go further and add with that of the European at home and abroad. Confining our attention to recent times it has played an important, and sometimes a disastrous, part in almost every military expedition—whether American, British, or French. In the Afghan wars of 1878-80 cases of enteric fever occurred at almost all the occupied posts, from British territory in India up to Cabul and Kandahar, and the disease appeared at some posts and camps which had in all probability been occupied for the first time during that campaign. Much the same thing happened in the late Indian campaign on the north-east frontier. Surgeon-General TAYLOR, C.B., the Principal Medical Officer, states in the Army Medical Report for 1897 that "the liability of troops on service to catch the fever even when encamped on what appears to be clean ground, or a fort in regard to which almost all observers are unanimous, and a considerable part of the increase in both the admission and mortality rates for 1898 can be accounted for by field service." In the Egyptian war of 1882 and other campaigns in that country, in several of the French expeditions, and in the late Spanish-American war this fever is chargeable with having given rise to a vast amount of inefficiency and to considerable loss of life. And so it is with the present war in South Africa, and it may be pretty safely predicated that so it will be in wars yet to come.

In some cases the origin and occurrence of enteric fever may have been difficult to account for, but in the case of South Africa it is comparatively easy to find an explanation in the fact that the disease was already there and that the conditions favourable to its spread and development were likewise present. In Ladysmith this was apparently the case; none of the factors were absent under the conditions that obtained during the protracted siege of that place, and we ventured to prophesy at the beginning of the war from its past medical history that we might expect the occurrence of a large amount of enteric fever among other diseases at this and other stations—Pietermaritzburg, for example. The special correspondent of the *Times* in Ladysmith sent home not long ago some interesting statistical information respecting the siege, an abstract of which was given in that paper on April 23rd. We learn from this that when the siege commenced on Nov. 2nd the effective strength of the garrison was 572 officers and 12,924 men, The effective strength at the end of the siege (March 1st) was returned as 403 officers and 9761 men; but these, it is significantly added, were "the only troops fit to do even a two miles' march." There were at that date 154 officers and 2624 men in hospital. These figures tally well with information received from other sources. During the siege 18 officers and 193 men were killed, 70 officers and 539 men were wounded, and 10 men were missing. Of the wounded eight officers and 51 men died, and 12 officers, 529 men, and 22 followers died from disease. The total admissions to hospital during the siege were 10,688. Disease, chiefly enteric fever and dysentery, commenced to assume serious proportions towards the end of December and attained its greatest height at the end of January. The death-rate increased at the end of December and from the second week of January averaged over eight deaths per diem.

The Army Medical Department Report for 1898 has just been published and we naturally turned to that part of the volume bearing upon the health of the troops serving in South Africa during that year. We have gathered some interesting and instructive information from this source. Enteric fever caused 273 admissions and 48 deaths, equal to ratios of 32·9 and 5·77 per 1000, which are higher than the previous year's rates and than the average ratios for the 10 years 1888-97 by 20·1 and 3·90 respectively. The percentage of mortality to attacks was 17·6, as compared with 8·1 in 1897, and 14·6, the average of the previous 10 years. The admissions and deaths were distributed as follows: 118 cases, with 21 deaths, at Ladysmith; 114 cases, with 18 deaths, at Pietermaritzburg; 24 cases, with 6 deaths, at Wynberg; 10 cases, with 2 deaths, at King William's Town; 3 non-fatal cases at Simonstown; 2 cases, with

1 death, at Cape Town; and 2 cases, non fatal, at Fort Pine. The prevalence of enteric fever in the command is stated in the report to be assuming grave proportions, more especially in Natal. The Principal Medical Officer remarks that the disease seems to be endemic in South Africa and to be associated with the rainfall, the subsequent drying of the ground, and the dissemination of polluted soil dust by winds, causing the access of disease germs to water and food supplies. The marked incidence of enteric fever at Ladysmith was supposed to be associated with the presence of polluted soil, inadequate means of preventing continuance of pollution, and want of cultivation to prevent the soil being blown about as dust by the winds that prevail there. Pollution of the Klip river is also noted as a probable cause of the enteric fever in the locality. Ladysmith, which was occupied as a new military station in May, 1897, "has not been a success so far from a health point of view." In explanation of this the Principal Medical Officer reports that the camp is too closely built on a site previously undrained and occupied by tents, that the huts are too hot in summer and bitterly cold in winter (it is noted that in July 16 degrees of frost were registered), and that they are without proper floor or roof ventilation, while during the rains the ground underneath them becomes damp from soakage. The camp ground is bare of trees and grass and in dry weather is covered thickly with dust which, on account of the complete absence of drainage, is considered to be polluted with filth. The reservoirs and filtering beds are uncovered and the cooking is done in field kitchens, so that both water and food supplies are liable to become permeated with this dust. Recommendations have been made with a view to remedying all these defects, and a suggestion has also been made to collect and store rain-water for use during the months when the river water is muddy.

It is sometimes extremely difficult, nay, impossible, to account for the outbreak of enteric fever among troops on active service, just as it is impossible to explain the number of sporadic cases which occur yearly in rural districts and apparently independently of one another. If the disease depends for its cause upon a specific bacillus it can never arise *de novo*. There have been various explanations proffered from time to time as to the possible part played by tramps and ambulant cases of the disease, the agency of foul soil, and so forth. Quite recently Dr. HORTON-SMITH in the Goulstonian Lectures at the Royal College of Physicians of London has, among other things, pointed out how much longer and more persistently than had hitherto been believed to be possible a patient, after having recovered from an attack of enteric fever, may bear about with him the specific and infecting germs of the disease. But in the case of Ladysmith and other stations in South Africa we have apparently no need to have recourse to such explanations, although they have always to be borne in mind, for the typhoid fever bacillus seems to be widely distributed in that country and reproduced in the bodies of its numerous victims.

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and definite, it amounted to a tax upon knowledge. The first tax on newspapers was imposed in 1712, when it was enacted that all papers containing public news or intelligence were to be taxed at the rate of a ½*d.* if printed on half a sheet of paper and 1*d.* if on a whole sheet. The same Act imposed a tax of 1*s.* on any advertisement that appeared in a paper published weekly or more often. In 1776 the newspaper stamp duty was 1½*d.* and in 1789 it had risen to 2*d.* The advertisement duty of 1*s.* was doubled in 1757 and in 1789 PITT increased it by 6*d.*, making the duty 2*s.* 6*d.* on each advertisement. Again, in 1804 the newspaper stamp duty was raised to 3½*d.* and the duty on advertisements to 3*s.* 6*d.* In 1815 the newspaper stamp duty had become 4*d.*, the advertisement duty remaining unabated, while the duty on paper (before printed) varied from 1½*d.* to 3*d.* per pound. In 1833, in consequence of agitation within and without Parliament, in which WAKLEY played a characteristically vigorous part, the advertisement duty was reduced to 1*s* 6*d.* Three years later a new and highly successful movement against the impost was carried on, and with the story of this again WAKLEY'S name is closely associated with the names of GROTE, MOLESWORTH, BULWER LYTTON, and DANIEL O'CONNELL. The results of their labours, as seen in the reforms of the next 25 years, can be set out in a few words. On Sept. 5th, 1836, the newspaper stamp duty was reduced to 1*d.* on papers containing 1530 square inches, 1½*d.* if above that and under 2295 square inches, and 2*d.* if of the latter size or above. Again in 1853 the stamp duty was reduced to 1*d.* for every sheet under 2295 square inches; but the advertisement duty was entirely abolished by an Act passed on August 4th, 1853. In 1855 the newspaper stamp duty was entirely abolished. In 1861 GLADSTONE completed the work of removing all taxation from knowledge by doing away with the paper duty. In this story of increasing taxation and gradual remission by far the most important episodes were the two in which WAKLEY was actively concerned—viz., the agitation of 1833 which produced the reduction in the tax upon advertisements, and that of 1836 which resulted in an important and substantial remission of the stamp duty The taxation had all been on the ascending scale before, but these two occasions marked the feeling of the country that a highly taxed press was not creditable to a free nation.

We are glad to enjoy the confidence of the medical profession that was extended to the Founder of THE LANCET, as we are proud to record his share in the prosperity of the national press. A little garrulity and a little pride in past exploits are universally allowed to old age, and we trust that the egotism of these remarks will be condoned inasmuch as they have been made upon the date of our four-thousandth number.

FREEMASONRY IN THE TRANSVAAL.—At the last meeting of the Kendal Franks Lodge, I.C., held at Jeppestown Masonic Temple, Dr. J. Taylor-Brown was elected W.M. for the ensuing year, the installation to take place as soon as possible after the termination of the war. Dr. Kendal Franks, I.P.M., was elected director of ceremonies.

Annotations.

"Ne quid nimis."

THE REWARD OF GALLANTRY.

WE have all read with pride of the devotion to duty and conspicuous courage exhibited by Major William Babtie C.M.G., of the Royal Army Medical Corps, at the battle of Colenso and it is now our pleasant duty to have to congratulate that officer upon the fact that the Queen has been graciously pleased to signify her intention to confer the decoration of the Victoria Cross upon him. The announcement appeared in the *London Gazette* of April 20th, 1900. The following is the act of courage for which he was recommended. At Colenso, on Dec. 15th, 1899, the wounded of the 14th and 66th Batteries Royal Field Artillery were lying in an advanced donga close in the rear of the guns without any medical officer to attend to them, and when a message was sent back asking for assistance Major W. Babtie, R.A.M.C., rode up under a heavy rifle fire, his pony being hit three times. When he arrived at the donga, where the wounded were lying in sheltered corners, he attended to them all, going from place to place exposed to the heavy rifle fire which greeted anyone who showed himself. Later in the day Major Babtie went out with Captain Congreve to bring in Lieutenant Roberts who was lying wounded on the veldt. This also was under a heavy fire.

THE THIRTEENTH INTERNATIONAL CONGRESS OF MEDICINE, PARIS, AUGUST, 1900.

THE near approach of the International Medical Congress which is to be held at Paris from August 2nd to 9th makes it necessary for everyone who intends to be present to provide himself with a ticket of membership as soon as possible. Application forms can be obtained from the secretaries of the National Committee for Great Britain and Ireland, Dr. A. E. Garrod, 9, Chandos-street, or Mr. D'Arcy Power, 10A, Chandos-street, Cavendish-square, London, W. Each form should be returned to the secretaries duly filled up and signed, together with a visiting card attached and a cheque or postal order for 20*s.* The application forms are then sent to Paris and in due course the applicant receives a card of membership which entitles the holder to attend the meetings of any section of the Congress and to obtain from the office of the secretary-general at Paris (21, rue de l'École de Médecine) badges and the various publications two days before the official opening of the Congress. After the conclusion of the Congress each member will receive an abstract of the proceedings in all the sections and the detailed proceedings of the section in which he is especially interested, as shown by his placing it first upon his form of application. The ticket of membership is further accompanied by a non-transferable form securing to the bearer a free return journey from Paris to the frontier by the same route and in the same class of carriage as that in which he entered France. This order is available for the return journey from July 20th to August 20th, 1900. It must be *visé* at the departure station, certified in Paris, and exchanged for a ticket on the return journey. The English railway companies are willing to issue tickets at reduced rates to members of the Congress who present their cards of membership at the time of booking. The South-Eastern and Chatham and Dover Railways charge 58*s.* 4*d.* first-class and 37*s.* 6*d.* second-class for return tickets available for 14 days by the 2.45 P.M. service *viâ* Folkestone and Boulogne and by the 9 P.M. service *viâ* Dover and Calais. Each ticket will entitle the holder to a free allowance of 56 lb. of luggage

and will be available to return from Paris by the 3.45 P.M. or 9 P.M. services. The London, Brighton, and South Coast Railway have made arrangements to issue 14-day excursion tickets from London or any station on the Brighton Railway to Paris and back at 39*s.* 3*d.* first-class or 30*s.* 3*d.* second-class to members of the Congress. These tickets can be extended to 25 days if desired and they allow the journey to be broken at Brighton, Lewes, Newhaven, Dieppe, and Rouen, both going and returning.

ÆSCULAPIUS AND HIS SANCTUARY.

A PAPER by Dr. W. S. Colman, read before the Medical and Physical Society of St Thomas's Hospital and published in vol. xxvii. of the St. Thomas's Hospital Reports, gives some interesting particulars relative to the great temple of Æsculapius at Epidaurus and the strange combination of religious worship, medical treatment, and charlatanism which formed the occupation of the priests. The dormitory or abaton in which the cures took place was a great Ionic colonnade, 250 feet long and 32 feet wide, divided into an eastern and a western section; in the western there were two stories. Benches of limestone extended along the side walls like a divan, and there were similar slabs to serve as couches placed transversely in the intervals between the pillars. In these wards and in the temple inscriptions were placed recording the ailments of some of the patients and the means by which they were relieved. Dr. Colman's map of the locality shows that the surroundings of the temple included baths, a gymnasium, a racecourse, and a temple of Artemis; there was also in the immediate neighbourhood a temple of Aphrodite, a divinity whose cult is not recognised in modern health resorts. Many surprising cures are recorded in the inscriptions, and with reference to this circumstance Dr. Colman says that there is a curious difference between the ancient and the modern methods, for patients on their discharge do not now put up a tablet in the chapel recording their gratitude to St. Thomas, but it is the physician or the surgeon who puts up the votive inscription for the information of other sufferers, not in the chapel, but in the columns of THE LANCET.

THE VARIOUS FORMS OF TETANUS.

JEAN BINOT (Thèse de Paris, 1899) made a large number of experiments at the Pasteur Institute to determine clearly the nature and character of the various forms of tetanus. Tetanus toxins obtained from pure cultures were injected into the peritoneal cavity, stomach, trachea, lungs, liver, kidneys, bladder, uterus, testicles, and lymphatic glands of the body, and the symptoms were carefully noted. As a result of these experiments it appeared that a special form of tetanus followed the injection in every case, and these forms were symptomatically different also from cerebral tetanus as well as from ordinary tetanus with convulsions such as followed wounds. The fatal dose of tetanus toxin was almost the same when injected into the various organs above mentioned as when given hypodermically, but the symptoms of splanchnic tetanus (following injection into the peritoneal cavity) appeared later—i.e., in from 40 to 43 hours instead of from 16 to 22 hours after the injection—and its course was more rapid after the first symptoms appeared. The initial manifestations were peculiar generalised vibratory tremors, extreme dyspnœa with hiccough and convulsive yawnings, and spasmodic contractions (opening) of the jaws. These phenomena presented irregular remissions; permanent contractures were never present, and trismus was never permanent. The condition preceding death was characterised by extreme lowering of bodily temperature (hypothermia) and complete muscular flaccidity of the animal. The administration of the toxin by the mouth was followed by little or no toxic effect, while the bladder could tolerate as much as one cubic centimetre of the toxin without serious result. On the other hand the injection of a few minims of the toxin into the unwounded respiratory tract (trachea) produced a tetanus resembling the splanchnic variety which was attended invariably with fatal results. M. Binot expresses his belief that as the viscera are innervated principally or exclusively by the sympathetic system of nerves it is probable that there are corresponding types of tetanus the starting-points of which are in the sympathetic system and the manifestations of which differ from those primarily due to disturbances of the cerebro-spinal system. Both experiments and clinical observations appear to support this view. Thus after inoculating the tetanus toxin into the lumbar spinal cord a clinical form of tetanus with marked persistent contractures followed, together with tremors, which passed into clonic convulsions, and a special tetanic attitude. When the injection was made into the carotid artery the symptoms were very irregular and inconstant, and the results of injection merely into the cavity of the spinal canal closely resembled those of intra carotid injection. The free application of the toxin to the raw skin after scraping and scarification was without result and the toxin introduced into the internal auditory canal also produced no effect. On the other hand, the nasal mucous membrane absorbed the poison readily and a typical splanchnic tetanus resulted. Injections into the various striated muscles of the body and limbs gave very constant results. The diaphragm responded very readily to the poison and one-tenth of the ordinarily fated dose injected into its substance produced a permanent localised contracture followed by extreme dyspnœa, syncope, and death. In cases of splanchnic tetanus death could be prevented by an injection of antitoxic serum administered in time, but if the symptoms of tetanus once appeared it was impossible to save the animal. By the intra cerebral injection of the antitoxic serum all animals inoculated in the limbs with toxin could be saved even if some hours had elapsed after the appearance of tetanic symptoms.

DEATH FROM LIGHTNING STROKE.

DEATH from lightning-stroke is so rare an occurrence that a careful report of any case where this fatality has occurred is of great interest. Upon Easter Monday, April 16th, a football match was played at St Mary Cray, Kent. The match was witnessed by spectators from the upper portion of the pavilion and several of the players were at the time of the thunderstorm in the dressing-rooms, which are situated in the lower portion of the building. Some 23 persons were struck but only one was killed. The pavilion is a wooden building with a corrugated iron roof. The upper portion serves as a stand and the lower as dressing rooms. The height at the back of the stand from floor to ceiling is something over six feet. At the right hand front corner of the building is a [illegible] 25 feet in height which touches the iron roof [illegible] by an iron [illegible]. This flagstaff was struck and split as far as the roof. The man who was killed [illegible] was Davis, was over six feet in height and would [illegible] he been standing upright. A man who was standing next to Davis, named Johnson, felt an electric shock and was hit a little dazed, while another [illegible] Parks who was standing about a yard in front of Davis when the latter was killed felt a shock [illegible]. Some persons to the right and in front of Mr Davis stood [illegible] in the dressing-room [illegible] Two players who were in the dressing-room were also affected, but not very seriously, and one of them [illegible] who was standing [illegible] Parks stood was [illegible] the building at once. Interestingly the man who was found [illegible]

way to earth by the flagstaff, along the roof, through the body of Davis, and so to the dressing-room. The body of Davis was much burned. The accident shows very well how curiously local are the effects of a lightning discharge. Dr. C. G. Battiscombe, who has sent us an account of the case, mentions that Davis was quite dry, but it would be interesting to know whether the player Lee was wet. If so he would, or rather his clothes would, conduct better, which might account in part for his escape. The other persons who were struck all suffered from shock and many exhibited "tree markings" of the skin which, however, soon disappeared. They were treated by Dr. Battiscombe and Mr. T. W. Bailey and some of them were still under care on April 24th.

ŒSOPHAGOSCOPY AND GASTROSCOPY.

THE mind of the people has decided that "seeing is believing," and even in medicine diagnosis is hardly complete until the diseased tissues have been seen. Many endeavours have been made from time to time to investigate the interior of the œsophagus and the stomach by the aid of sight, but there are peculiar difficulties in the way. The use of a straight, rigid tube is practically necessary, but such a tube cannot with safety be introduced. An ingenious expedient has been adopted by Dr. Georg Kelling of Dresden to overcome this difficulty. The tube when passed into the œsophagus is flexible, but it is subsequently straightened and made rigid. In this way, with a minimum of danger to the patient, a fairly satisfactory view can be obtained of the interior of the œsophagus and of the stomach. We publish in this issue of THE LANCET a full account by Dr. Kelling of the construction and use of his ingenious instruments, the œsophagoscope and the gastroscope, to which we refer our readers. The practical employment of the œsophagoscope and the gastroscope will probably always be limited to those who accustom themselves to them by frequent use, and practice on the cadaver.

THE BIRMINGHAM UNIVERSITY.

THE new Birmingham University, as was to be expected, is to be concerned largely with commercial and industrial training. The report of the Advisory Committee appointed to inquire into the best methods of providing such training has recently been issued and deals with a visit of inspection paid to various universities in the United States and Canada. Industrial science as taught at universities in Great Britain was also examined, but the committee came to the conclusion that no teaching upon such points likely to be useful exists in any college of Great Britain. It is proposed to supplement the teaching already provided in Mason College by chairs of mining, metallurgy, engineering, and applied chemistry. The deputations appointed to go to the United States and to Canada report that subdivision of subjects and specialism are carried much farther there than with us. It must be remembered, however, that specialism in commercial and industrial occupations may easily develop into over-specialism, and we might almost say has already done so in some instances. It undoubtedly cheapens labour and capital, but we are not sure that these are invariably advantages. For instance, a pair of boots made by one man, hand-made that is to say, is far superior to a pair made in bits partly by machines and partly by clickers, closers, and finishers who are severally confined to one branch of the trade. The craftsman of old days made a thing himself and it bore the stamp of his own individuality; the "hand" of to-day is a mere machine and a very cheap one at that. However, we wish the new university all success and without doubt the Faculties of metallurgy and of applied chemistry will have plenty to do. The problem of the economical and cleanly production of electricity other than by water power still remains to be solved and if solved would add enormously to both the comfort and health of the populace.

ROYAL ARMY MEDICAL CORPS FUND.

IT will be remembered that in our account of the meeting of the Central Committee of this Fund, which was held at 11, Grafton-street, W., on Feb. 5th, we mentioned the suggested formation of local committees in the provinces which should work with the Central Committee. Some weeks ago a local committee for Birmingham and the neighbouring district was formed to assist the Central Committee in London and as a result of the local appeal nearly £265 have been received, the bulk of which has been sent to the London committee for distribution, but the sum of £23 collected in Lichfield has been sent direct to Surgeon-General Wilson in Cape Town. In addition to the money collected, garments of various kinds numbering nearly 4000 in all have been sent to the London committee. The Birmingham committee will still remain in existence in case further demands are made by the prolonged stay of the troops in South Africa.

DISCHARGE OF CEREBRO-SPINAL FLUID FROM THE NOSE.

IN the *New York Medical Journal* of March 31st Dr. W. Freudenthal has published a case of this very rare condition. The patient, a woman, aged 50 years, was seen in June, 1899. In October, 1898, she had "fever which left her with a cough." Since that time her nose had been steadily dripping. A year before the dripping commenced she began to complain of pain in the forehead above the nose. She suffered from it by night and by day and thought that she would go out of her mind and she became mentally dull. When the dripping began her senses—for example, hearing—became acuter. When she came under observation she was using more than 20 pocket-handkerchiefs a day. There was constant dripping of watery fluid from the nose throughout the day and the night. It increased when she leaned her head forwards; when she lay on her back the discharge ran into the throat. In the morning her pillows generally were saturated. On examination by Killian's method with the head bent slightly forward the discharge was observed to collect between the middle turbinate bone and the septum and thence to run down into the vestibule. In December, 1899, there was an intermission in the escape of fluid, which was followed by symptoms of brain pressure. She became dull and apathetic, though she was generally talkative. When the flow began again her condition improved. The fluid was watery, of specific gravity 1007, it contained 1·3 per cent. of solids, 0·39 per cent. of salts, a reducing substance which calculated as glucose was equal to 0·05 per cent., and a trace of phosphorus. Mucin was entirely absent. There were "receding neuro-retinitis in the left eye and a mild degree of papillitis in the right." The sense of smell was completely lost. Polypi were twice removed from the nose. Dr. Freudenthal regards the constancy of the flow of fluid by day and by night as most important in the diagnosis of this condition from nasal hydrorrhœa. In all the cases of the latter which he could find recorded the flow stopped at night, while in all undoubted cases of cerebro-spinal discharge the flow persisted. The pathology of cases of escape of cerebro-spinal fluid is very obscure; only very few necropsies have been made. In one case, according to Dr. StClair Thomson, the fluid escaped through a small hole in the dura mater alongside the crista galli. In other cases no communication could be found. The formation of polypi is supposed to be due to irritation of the nasal mucous membrane by the discharge. Dr. StClair Thomson

warns against any attempt to restrain the flow as well as against intra-nasal medication.

THE STATE CHILDREN'S ASSOCIATION.

ALTHOUGH this society has now entered upon the fourth year of its existence the aims of its work cannot be too well known and we therefore repeat them from the third annual report which has just been issued. They are:—

To obtain the dissolution of large aggregated schools, so that the children
groups,
activile
with the workhouse and the officials who have to deal with a pauper class; and to obtain for the State further powers of control over neglected children.

It is unnecessary to dwell upon the importance of this work which must be obvious to everyone, and it is satisfactory to know that the Poor-law Act which was passed last year was almost identical with the Bill which was drafted by the association in 1897. This Act gives to boards of guardians control over the children of paupers of the permanent class whose character or mental deficiency renders them unfit to have the care of their offspring, and also over children of habitual tramps and of the "in" and "out" class, as well as an extended control over orphan children chargeable on the rates. With a view to facilitate the emigration of State-supported children the association has called the attention of the Local Government Board to the matter and is now endeavouring to interest boards of guardians in the subject and urging them to make further use of the powers which they possess. The report deals with other important work of the association and concludes with an appeal for still further activity on the part of its members in inducing others to consider children's needs—"freedom and change, the power to choose and to dare, and the sense of being loved and wanted." Reason, sentiment, and economy are on the side of its members, says the report, and they are certain to find allies in the heads and hearts of those people who, having themselves been happy children, preserve the memory of a free child life as a bright spot in the past. The report can be obtained (price 3*d.*) from the office of the association, 59, Old Broad-street, E.C., or from Messrs. P. S. King and Son, 2 and 4, Great Smith-street, Westminster.

EPIDEMICS OF MENINGITIS.

BRIDDACH[1] records an epidemic of meningitis of exceptional extent, occurring in Trifail, a town with a population of 8500 (February to September, 1893), and involving altogether about 72 cases. In addition to these from 26 to 30 abortive cases were met with, producing a total of about 100 patients. 45 cases ended fatally, which is the average mortality. As regards age and sex it was observed that the majority of the patients were young, between the ages of 20 and 25 years, and the next largest group was composed of children below the age of 10 years. The youngest patient was a baby three weeks old, and the oldest a man aged 58 years. The majority of the patients—43 out of the 72 severe cases—were workers in a mine. A map appended to the paper shows the distribution of the disease and the probable path which it pursued from house to house in the town, sometimes a number of houses along the probable route escaping. Infection of several members of a household was occasionally found. The majority of the cases occurred in the spring (March and April), the epidemic being milder in the summer and autumn. In two fatal cases where death resulted on the third and fourth days bacteriological examination showed the presence of the diplococcus meningitidis of Weichselbaum in cultures from the pus in the meninges. Headache was usually observed to affect the occipital region in the milder cases, and the temperature was moderate and only rising in the prodromal stage. The pupils were usually widely dilated and they failed to react to light. Continual vomiting was a feature in one case. Stiffness of the neck was not an early feature. Among the disturbances arising from cerebral irritation and paresis, facial paresis were the most frequent, and among the trophic disturbances herpes was present in nearly every case. The abortive form was characterised clinically by sudden or rapidly developed unconsciousness, and severe headache and nuchal pain, followed by rapid improvement. The treatment followed was, as usual, symptomatic.

[1] Deutsches Archiv für klinische Medicin, July 1899.

THE VICISSITUDES OF WEATHER AND OUTBREAKS OF FIRE.

THERE can be little doubt of the relation existing between the condition of the weather and the occurrence of outbreaks of fire. Invariably, for example, when a sharp "snap" of cold weather suddenly sets in big fires are reported in London, and the relationship is not very difficult to trace. It may be that fabrics are more easily combustible in keen dry weather than when the atmosphere is heavily laden with moisture, while accessory to this is the fact that artificial heat is more resorted to when cold weather sets in and so the risks of the firing of inflammable material are increased. Similarly it is recorded that fires happen with a certain onset of hot weather, but in this case the cause is quite different. Thus during the few days which we have recently experienced, when summer weather suddenly (and temporarily) set in, in fact when a heat-wave passed over this country, a series of accidents happened which were due to the explosion of certain chemicals. The chemicals were bisulphide of carbon and ether, which are both volatile and both explosive when mixed with air. There can be little doubt that the short and sudden spell of hot weather accounted for these accidents. Considerable damage was done and some personal injury was reported, but happily no loss of life occurred. These incidents only teach how careful a watch must be kept upon exceptional changes of weather, especially when explosive substances are concerned, but even in everyday life the action of weather is undoubtedly a factor which must be taken into account as likely to be responsible for disasters due to the outbreaks of fire. The exceedingly wide and sudden variations of temperature in this country are indisputably responsible for accidents of the kind just described.

THE PLAGUE IN AUSTRALIA.

LETTERS received from Sydney state that four cases of plague remained under treatment at the end of the week ended March 16th. During the week ended March 17th the figures were 12 cases admitted and three deceased, leaving 13 remaining under treatment. Up to March 17th the total cases were 22, with eight deaths. Of the fatal cases three were discovered only just before or after death, but were reckoned as admissions for convenience. The total contacts traced were 117 in number; there were two cases of plague among the contacts. These cases occurred in two families. In one family the second case occurred the day after admission. In the other family two attacks occurred on the day of admission, one on the third, and one on the fifth day after admission. With the exception of the cases mentioned in THE LANCET of April 14th and the attacks (17 in all) occurred among persons living in the infected area or coming in and out in connection with such area. One case only of the second kind was met with: it occurred in a girl, aged 14 years, and ended within 48 hours. One attack here and the number

buboes were observed, all others having been femoral or inguinal. The majority of the patients under treatment seemed likely to recover. Vomiting and more or less epigastric pain were common signs of attack; interference with speech was definitely present in but two or three cases; the same might be said of anxiety, though a pinched expression and pallor about the root of the nose were more often noticed; the bubo was excruciatingly tender in a few cases only. Municipal efforts in the immediate neighbourhood of the infected area are now more energetic and more practical. Steamers engaged in the coastal trade are probably free from rats now owing to the efforts made by companies under direction of the Department of Public Health; a disinfecting and fumigating staff has been organised under which this work will be carried on more thoroughly and more systematically, and to be set in motion only awaits the issue of a proclamation requiring all vessels trading between Sydney and other ports in New South Wales to produce a certificate of such treatment before being allowed to communicate with the shore. Nothing short of practical stoppage of trade can prevent carriage of rats from the shore to the ship in various kinds of cargo; however, a measure of protection will be thus furnished which, supplemented by the strenuous efforts now being made to destroy the wharf rats, may be effectual. Inoculation of all persons living on, or working in, the infected area was systematically pressed, an ample supply of prophylactic for present needs being at hand. Five medical men were housed in a separate establishment for plague duty. In some quarters there was a demand for "plague experts," but for practical clinical purposes this kind of help was not needed, while as to management it seemed likely that a stranger might find himself even more embarrassed by political conditions of general and local government—which can hardly be distinguished from each other—than was the central health authority itself. The authorities in New Caledonia alleged that their infection came from jute-bags imported from India and distributed at Sydney, a point which, however, was doubtful. More recent information as to the plague in Australia is given by Reuter's telegrams in the *Times* of April 23rd which show that up to that date 129 cases of plague with 46 deaths have occurred in Sydney.

PERFORATING ULCER OF THE FOOT IN ALCOHOLIC NEURITIS.

AT the meeting of the Société Médicale des Hôpitaux of Paris on March 16th Professor M. Boinet related two cases of this condition. A man, aged 32 years, had been addicted to alcohol since the age of 14 years; sometimes he took as many as 25 glasses of absinthe in the day. For several years he had walked with difficulty and sensibility had been defective in the feet. The feet and the lower thirds of the legs were almost completely anæsthetic. Acute pains were felt at times in the sciatic nerves. There was no notable muscular atrophy. Walking was performed in an indecisive and incoordinate manner. The knee-jerks were exaggerated. On the posterior part of both heels were two symmetrical perforating ulcers. On the left side the ulcer was red, granular, and deep. It measured two centimetres in diameter and its borders were punched out. Surrounding it was a zone of whitish epidermis. The ulcer was conical in shape and at its apex exposed the plantar fascia. There was complete anæsthesia to temperature and pressure in all parts of the ulcer. On the right side was a similar but slightly smaller ulcer. There was some œdema in the region of the malleoli and numerous drops of sweat covered the feet even in cold weather. After six months, during which the patient did not take alcohol excessively, the ulcers had nearly healed; they were only five millimetres in diameter. The anæsthesia of the feet had disappeared, the sweating had almost ceased, and the œdema was scarcely perceptible. In the second case a man, aged 36 years, had for several years been drinking daily a large quantity of rum, three glasses of absinthe, and two litres (three and a half pints) of wine. Ten months before he came under observation a small blister developed on the sole of the foot over the head of the fifth metatarsal bone. An ulcer followed which had attained a depth of one centimetre. It was surrounded by a ridge of thickened epidermis. This area and the posterior part of the great toe were anæsthetic. In both cases no other cause of the ulceration than alcoholic neuritis could be found.

THE CHAIR OF MEDICINE IN THE UNIVERSITY OF EDINBURGH.

THAT Dr. Osler should decline the candidature for the chair of the Practice of Physic in the Edinburgh University cannot be a matter of surprise. He may well think twice before leaving the land where he is so much at home, in which he has achieved wide fame, which gives a great scope for his genius and his art and which, after all, is only another centre of the great Anglo-Saxon world. Dr. Osler's decision only enhances the interest of the selection to be made by the Curators. Edinburgh is prolific in the production of medical professors and her only difficulty is the *embarras de richesses*. She has one candidate at least whose work in several branches of medicine is recognised throughout Europe and America as lucid and able, as it has been long and laborious, and whose fame as a clinical and practical teacher is indelibly associated with the Edinburgh School of Medicine. We are not disposed to indicate further our forecast of the choice of the authorities of the University of Edinburgh, who are not likely to allow any outside suggestion to interfere with their own sense of what is for the good of their great university.

RECOVERY FROM GLANDERS AND IMMUNITY.

PROFESSOR NOCARD has recently been interesting himself in the above question, particularly with a view to arrive at a definite conclusion as to whether an animal that has recovered from an attack of glanders receives any degree of immunity. The observations made to decide the point are very valuable and interesting. In 1895 an alarming outbreak of glanders occurred amongst the horses of a large omnibus stud in Paris and injections of mallein revealed that no less than 2037 animals were glandered, although there were no clinical symptoms manifest. These horses were carefully isolated and were kept under rigid supervision until visible symptoms appeared, when they were destroyed and carefully examined post mortem. In some of them periodical tests with mallein eventually gave no reaction and the post-mortem examinations of these revealed the lesions to be fibrous or calcified. Cultures made from these lesions remained sterile and animals inoculated from them did not take glanders. Three horses which had ceased to react, together with a perfectly healthy animal (for control purposes), were given water containing virulent glanders material to drink. Some days later the temperature of all four animals went up and for several days it rose and fell alternately, eventually becoming normal again. The mallein test was applied and in each case a marked response occurred. Only one horse showed any visible token of glanders, the submaxillary gland becoming swollen in the usual characteristic manner. All the subjects of the experiment were killed and in each case glanders lesions were found, there being the noticeable difference that whilst in the control animal all the nodules were clearly in the

early stages, those found in the other horses consisted both of fresh lesions and of those which were old, fibrous, or calcified. From this Professor Nocard naturally inferred that recovery had taken place from the original attack, but that the fact of the animals having once had glanders by no means gave them protection against re-infection, the fresh reaction to mallein and the condition of the nodules proving clearly that they had become infected again by the virulent material administered in the drinking-water. Experimental evidence has before been brought forward to show that in the dog one infection with glanders does not confer any degree of immunity, and now the same point has been definitely cleared up with regard to the horse. Professor Nocard's researches on this disease are as much appreciated by veterinarians in England as in France, and it is to be hoped that the time is not far distant when this scourge of the equine race will be absolutely eradicated or at all events be as rare in horses as it fortunately is in man.

THE APPOINTMENT OF MEDICAL OFFICERS OF HEALTH.

SEVEN years ago the corporation of Crewe decided that owing to the rapid increase of the town it was desirable to entrust the sanitary administration to a medical officer of health holding the diploma in public health who should devote the whole of his time and energies to the duties. The wisdom of this step has shown itself in many ways, for during the period named a steam disinfector has been provided, a well equipped isolation hospital has been erected, many hundreds of insanitary cesspits have been abolished, and water-carriage has been introduced, while the general comfort of the inhabitants has been increased not only in their dwelling-houses but in the huge railway works which extend from one end of the town to the other. The medical officers of health to whose energy and administrative capacity these good results were due have been two in number—viz., Mr. Herbert Jones, who held office from 1893 to 1897, when he became medical officer of health to the Rhondda Urban District Council, and his successor, Dr. Meredith Young, who in the present year has accepted a similar appointment at Stockport. It is difficult to believe that so much good work could have been accomplished if the medical officer of health had been engaged in private practice, however able he might have been and however independent of conflicting interests. We are at a loss, then, to understand the mental attitude of a portion of the municipal council of Crewe, for in spite of the fact that experience is altogether in favour of medical officers of health confining themselves to their public duties and taking no part in ordinary practice, 11 councillors recently voted in favour of reverting to the former system of appointing a medical officer of health at a very small salary and permitting him to engage in private practice. This retrograde step would have the effect of practically entrusting the sanitary administration of the town, with its population approaching 50,000, to one inspector of nuisances. Fortunately, however, the advocates of this course were a minority of the council, and the motion was defeated.

ON a contemporary the *Sanitary Record* has inaugurated a personally conducted seven days' trip to Paris. The terms are low and the programme (under the special sanction of the Paris municipal authorities) has been especially arranged to appeal to those interested in public health problems. For full particulars application should be made to Secretary, "Paris Excursion," *Sanitary Record*, 5, Fenchurch-buildings, London, E.C.

THE annual meeting and May dinner of the Aberdeen University Club, London, will be held at the Trocadero Restaurant on May 17th, at 7 P.M. Sir James Westland, K.C.S.I., LL.D., will take the chair, and intending diners should communicate with the honorary secretaries, Mr. J. Gerard Laing and Dr. James Galloway, at 54, Harley-street, W.

THE Colonial Office has received a telegram from the Governor of Mauritius, Sir Charles Bruce, stating that during the week ending April 19th there had been one fresh case of bubonic plague and no deaths.

AN International Anti-Tuberculosis Congress was opened in the San Carlo Theatre, Naples, on Wednesday, April 25th, in the presence of the King and Queen of Italy.

THE *Graphic* this week contains some interesting views of the Imperial Yeomanry Hospital at Deelfontein.

A GENERAL SURVEY OF THE PARIS UNIVERSAL EXHIBITION.

(FROM OUR SPECIAL CORRESPONDENT.)

EVERY day now there is an inauguration at the Exhibition. It may be said that on April 15th the main thoroughfares and the outside of the buildings were officially inaugurated, but since this grand and general ceremony there have been small functions held whenever some one section or separate building is able to open its doors to the public. At the beginning of the week there was a very scream inauguration by the President of the Republic of the Siberian Section. A few days afterwards M. Millerand, Minister of Commerce, inaugurated the magnificent hothouses of the Horticultural Section and the Governor-General of Algeria opened the doors of the beautiful Algerian Pavilion. Many of the colonial palaces and buildings are now open to the public and the Moorish bazaar is already in full activity. Indeed, the slopes of the Trocadéro will be the best object lesson in geography ever given. The specimens of buildings, trade, life, and amusements of many far-off countries give a better idea of the colonies than could be obtained from the mere reading of books, and all this part of the Exhibition is very nearly complete. In the great galleries of the Champs de Mars confusion still prevails. The exhibitors are busy unpacking and displaying their exhibits inside the glass cases. In the medical and surgical classes a few cases are stocked and ready, but the greater part are still empty. Beyond and near to the ancient machine gallery greater confusion prevails. The sound of many hammers striking metal vibrates through the vast space, workmen are carrying in all directions, some carrying heavy loads pushing their way with difficulty through gazing and dazed spectators. It is an interesting sight, but suggests a hard, unsatisfactory in fact, work rather than an exhibition. On the present occasion heavy machinery will be found in the smaller machinery gallery that precede the great gallery for machinery which was built for the Exhibition of 1889. Within this heavy gallery and in its centre has been built the great festival hall where the ceremony of the grand opening was held. The roof of the latter finds ample space under the roof of the gallery and has been so constructed that no pillars are in the way, speaking, it will seat 10,000 persons comfortably. The hall is a perfect circle of close on [illegible] feet in diameter. The roof is like that of a [illegible] and gives a gentle diffused light on the seats below. Pillars support the lateral wall space, and [illegible] together with all the [illegible] stations, have [illegible] the [illegible] of the building. It is the [illegible] are to be seen [illegible] figures in [illegible] engaged on a [illegible] work, such as the [illegible]

painter. Indeed, this hall is well suited for the apotheosis of labour. The results of the labour of all nations as exhibited in Paris were inaugurated here; and here, also, at the end of the Exhibition the individul workers will appear in person to receive from the hands of the President of the Republic the honours, decorations, diplomas, medals, &c., that they may have won. About a third of the entire space of what still bears the name of the gallery of machines is taken up by the hall of festivals. The third of the space to the west of this hall is occupied by foreign exhibits devoted to agricultural and alimentary products. Each nationality has walled off its space by some original form of building, so that these enclosures, when viewed from above, give the impression of a town built under the shelter of the lofty, vaulted roof of the great gallery. The other, or Eastern side, contains the same categories of exhibits, but they are all French. Never will there have been a better opportunity of studying the food supplies of the world; and from the public health point of view this is a subject of primary importance.

From these great lateral galleries of the Champs de Mars main building there are two lengthy wings which, like arms, stretch northwards. These likewise existed at the previous Exhibition, but the demand for space has been so pressing that they have been considerably elongated. The western wing is devoted to chemical industries, civil engineering and means of transport, education general and technical, medicine and surgery, art, sciences, and letters. The eastern wing comprises threads, tissues, mines, and metallurgy. Between the two wings are gardens, the great fountain and waterworks known as the Château d'Eau with the Hall of Festivals behind, while at the other end stands resplendent in a new coat of paint our old and lofty friend the Eiffel Tower. At its feet nestle many pavilions and buildings—the Women's Palace, a panoramic journey round the world, any number of other attractions, one of the most notable being the Palace of Costumes, where the dresses worn during the last 2000 years are exhibited in life-like scenes. Then on the banks of the Seine, on each side of the Pont d'Iéna, which connects the Champs de Mars with the Trocadéro, there is a large palace for all that relates to forestry, fishing, and hunting, and on the western side of the bridge is the Palace of Commercial Navigation. Such is the main disposition of the old Exhibition grounds. But there is also the vast square in front of the Invalides and, as additions to the space occupied by previous exhibitions, both sides of the river right up to the Place de la Concorde and a large piece of the Champs Elysées gardens. From practical experience I have found that to get a general idea of the Exhibition, and without stopping to examine any details, it is necessary to walk incessantly for a good three hours. For this purpose I would recommend that the entry be effected from the summit of the Trocadéro, as at this altitude a grand view can be obtained of the greater part of the Exhibition grounds. Then to get a general idea of the colonies it will be necessary to go down and up each side of the Trocadéro hill several times. After that the Seine may be crossed, the main building entered to the right, and pursued down to the machine gallery. The visitor may then turn to the left for the Hall of Festival and come back to the Eiffel Tower by the eastern wing. If he is not by this time utterly exhausted he will here find the platform on rollers to take him to the Invalides or along the southern banks of the river and past the Avenue of Nations. This Avenue of Nations is certainly one of the most admirable features of the Exhibition. Each country has built a house or a palace in its own national style and thus has been constituted the most interesting and picturesque of avenues. The embankments of the Seine may be divided into four sections. On the southern side is the Avenue of Nations from the Invalides to the Pont de l'Alma. Secondly, from this bridge to the Champs de Mars we find another section. Here is the as yet unfinished palace devoted to hygiene and opposite the smaller buildings for all that relates to heating and ventilation. The other and numerous structures contain naval and military exhibits of all countries. At this point a small foot passenger bridge enables the visitor to cross over to the northern or right bank of the river and participate what I should term the third division of the embankments. This consists of the Old Paris, recalling Old London at the "Healtheries." It has, however, the advantage of being situated on the river side and can therefore be seen from a distance from the neighbouring bridges and opposite embankment. Thus many picturesque effects are obtained which were lost in the closer confinement of "Old London" at South Kensington. The fourth division is on the other side of the Alma bridge and faces and commands a fine view of the Avenue of Nations situated on the opposite bank. The nearest, a very large building close to the bridge, is the Palace of the Congresses and the Political Economy section. Here are a spacious hall for the congresses and smaller rooms for lectures on the first floor, while below the charts and diagrams and other designs show what has been done by different countries to encourage thrift and to raise the condition of the working-classes. There is much to study here that will interest the social and the sanitary reformer. The next important structures are two enormous hot-houses for the botanical exhibits and an aquarium. Finally, there is the very large pavilion or palace of the Town of Paris. These exhibits overlook the river and may be considered as very serious and scientific. In strange contrast and on the inner side of the main road or at the back of these are placed the most trivial of all the many shows comprised in this vast Exhibition. First we find an eccentricity in the form of an old castle which is built upside down, the roof on the ground, the entrance door right up in the air at the top. To judge from appearances visitors should walk on their heads so as to be able to enter. Then there are the dancing palace, elaborate Punch and Judy shows, comic moving figures, various theatres and entertainments—in fact, a sort of fair. At one end of these four divisions of the two embankments are to the west the two great divisions constituted by the Champs de Mars and the Trocadéro, while at the eastern end is the square of the Invalides with its snow-white palaces, where furniture, the ceramic arts, and all that relates to public and private buildings are exhibited; and on the other side of the river, reached by the monumental Alexander III. bridge, there are the gardens of the Champs Elysées, with the smaller palace of retrospective arts and the larger palace of modern art, more especially painting. These palaces are not yet open, but I am assured that the pictures will all be in their places by April 29th. The Exhibition can thus be topographically divided into eight districts. The four divisions or districts, two on each side of the embankment, might possibly be visited in one and a half days. A whole day can be devoted to the Trocadéro and its colonial sections. The Champs de Mars will require at least two days, the Invalides one day more, and the Champs Elysées art palaces another day. It would be thus difficult to do justice to the Exhibition in less than six days, but to enter fully into all the details and to visit all the side shows six weeks might very well be employed.

Starting from the town side the medical practitioner or the sanitary reformer, if seeking only for that which is of technically direct professional interest, should keep on the right bank of the river till he reaches the Pavilion of the Town of Paris immediately after the Pont des Invalides. Then close to the next bridge, that of the Alma, he will find the Palace of the Congresses. After this he should cross over to the left or southern side and just after the bridge he will come upon the hygiene section. Following the embankment up to the Champs de Mars he will pass under the Eiffel Tower and enter the further wing of the main building. Here and at but little distance from the entrance that is nearest to the Eiffel Tower he will find the medical and surgical exhibits. But though these are the classes that interest him most, many other things scattered in all directions will be found to have a technical bearing upon the sciences that relate to the preservation of health. Though these are not yet all ready at this moment the Pavilion of the Town of Paris is almost finished, and this is probably the most thorough and complete section of the Exhibition. Here every local administrative and public health question is fully illustrated. Medical officers of health, county councillors, poor-law guardians, vestrymen, and all concerned in local administration will find that this pavilion is a veritable storehouse of technical information, readily accessible and easy to understand. Besides, there are intelligent caretakers who are most courteous and ready to explain all that is exhibited.

On a future occasion I hope to deal with technical details. For the present enough has been said with regard to the enormous scope and size of the Exhibition, so that the conscientious visitor will be prepared in good time for the great fatigue which he must endure and from which he will not be able to escape. The attractions are so numerous that he will not be able to resist them.

Paris, April 22nd.

REPORT OF

THE LANCET Special Commission

ON

GLYCERINATED CALF VACCINE LYMPHS:

NUMBER AND NATURE OF THE "EXTRANEOUS" BACTERIA FOUND IN THE COMMERCIAL VACCINE LYMPHS.

INTRODUCTION.

SOON after the issue of the report of the Royal Commission on Vaccination our attention was drawn to the great advantages that would accrue to the campaign against small-pox if the use of glycerinated vaccine lymph could, safely, be widely extended. In order to obtain an impartial opinion a Commission was appointed to investigate the different glycerinated vaccine lymphs on the market and to determine, if possible, how far the ideal conditions laid down by Dr. Copeman and afterwards published by him in his Milroy Lectures,[1] delivered in 1898, were being realised by those purveying lymph for the use of medical practitioners.

In the present report what may be spoken of as commercial vaccine lymphs—that is, vaccine lymphs, that can be obtained from vendors who advertise in the medical press—are considered. For the sake of comparison, however, a sample of the Local Government Board lymph has been examined.

In an investigation of this nature a number of side issues arise, with which at a later stage it may be necessary to deal; but for the present the main factor to be considered is the purity of vaccine from the bacteriological point of view. Many of the experiments here recorded were carried out more than a year and a half ago, but in order to see what progress has been made in the interval a complete series of examinations has recently been made and the results obtained are given in the accompanying tables. It has been found necessary to repeat some of the experiments of others who have given attention to the subject in order that a basis for comparison may be obtained and results previously published confirmed.

THE USE OF GLYCERINE AS A PRESERVATIVE AGENT.

As early as 1850 Mr. R. H. Cheyne, according to the correspondence that appeared in our columns,[2] "mixed glycerine with vaccine lymph [illegible] result, better than any theory, of [illegible] to its known property of preventing [illegible] mouldiness in vegetable substances, it had also that of keeping vaccine lymph, an animal product undecomposed in a fluid state for months."[3] To Copeman and to Chambon and St Yves-Menard, working independently, apparently belongs the credit of determining that the addition of glycerine to vaccine lymph not only puts a stop to any multiplication of "extraneous" bacteria but actually in time kills non spore-bearing organisms, the vaccinal organism (probably a spore bearing organism), along with certain spore-bearing organisms, being but slightly and slowly affected. Independent testimony to this preservative and purifying action of glycerine has been offered by Lentz, Klein, Koch's German Commission, and other later observers, but little has been added to the results obtained by Copeman, working alone and with Blaxall, and by Chambon and St Yves-Menard working with Straus. Muller Warlomont, and Stephen Mackenzie appear to have used glycerine as a satisfactory diluent for the purpose of making the vaccine "go further," but no purifying effect appears to have been aimed at.

At the present day the addition of a mixture of equal parts of glycerine and saline to all or [illegible] part of the routine practice in the preparation of vaccinal matter, this being done with the object (1) of preventing the further development of the extraneous organisms which, by their multiplication and products, not only interfere with the constitution, conservation, and proper activity of the lymph, but also set up irritative and inflammatory processes in the patient on whom the lymph is used; (2) of gradually killing off non-sporing bacteria that may have found their way into the vaccine lymph during some stage or other of its preparation or conservation; (3) of increasing the bulk of the vaccinal matter without, apparently, diminishing but rather increasing its typical *vaccinal* activity, although the severity of the local activity may be even markedly diminished, and (4) of preventing coagulation.

PRELIMINARY EXPERIMENTS.

Bearing the above points in mind, it was necessary, in the first instance, to determine what effect this admixture of glycerine would have on such organisms as would be likely to find their way into vaccine lymph during the processes of collection and preparation. The following experiment was therefore carried out. On April 22nd a paste of all the staphylococci and "torula forms" organisms found in the cultures from two throats was made and to this was added about 40 parts of a mixture of pure glycerine and 10 per cent. sterile saline solution in equal proportions. The mixture made was then plated out in agar and gelatin and at the end of four days the gelatin plate was found to have developed about 84,000,000 colonies per cubic centimetre; the colonies on the agar plates were quite uncountable. At the end of a week this mixture was again tested when it was found that the colonies after four days' growth were much fewer in number, the agar colonies now numbering only about 4,500,000 per cubic centimetre, and the gelatin colonies only 180,000. On May 10th the number had fallen to less than 500,000 on the agar plate and to about 6000 on the gelatin plate. On May 20th the number had fallen on the agar plate to 12,000 and on the gelatin plate to 4000, on June 3rd on the agar plate to 2000 and on the gelatin plate to 2000; and these numbers were approximately maintained on June 10th, 17th, and 24th, and July 1st and 8th, when the experiment was stopped. Put in tabular form we have the following:—

TABLE I. *Preliminary Experiments (1st Series).*

Date of examination	Number of organisms per cubic centimetre on agar plate	Number of organisms per cubic centimetre on gelatin plates
April 22nd, Control	Uncountable	[illegible]
" 28th, 1st week	4,000,000	[illegible]
May 10th	500,000	[illegible]
" 20th	12,000	[illegible]
June 3rd to week to July 8th	2,000	[illegible]

Most of the organisms that had survived were of a torula form, but there still remained a few "staphylococci," (1) though these were very few in number. These numbers at the later dates are very much over estimated rather than under estimated, as in the cases where the plates that were made, both agar and gelatin, contained no organisms at all these, however, were not counted in the averages. In no case were fewer than three dilutions made and all plates poured, whilst in some instances especially in the earlier stages of the investigation, six dilutions and in later stages were made. As the numbers of colonies on the plates became a smaller number of plates, of course, the [illegible] accurate results. Although [illegible] over 12 days, a count [illegible] days.

A second and similar experiment was carried out with a mixture of [illegible] the diphtheria bacillus, [illegible] organisms, a staphylococcus, a [illegible] organism, and other non-spore-bearing [illegible] and two spore-bearing [illegible] bacilli. [illegible] of this mixture [illegible] volumes of glycerine and [illegible] material [illegible] intervals of [illegible] days, [illegible] contained [illegible] At the end of [illegible]

[1] THE LANCET, May 7th, 14th, and 21st, 1898.
[2] THE LANCET, March [illegible]
[3] [illegible] May [illegible]

to 2,600,000 in the agar cultures and 213,000 in the gelatin. After the second week there was only a very slight fall in the number of colonies in the agar cultures; the number in the gelatin cultures remained practically the same. At the end of the third week the number in the agar cultures had fallen to slightly under 1,000,000 and on the gelatin plates to about 111,000. At the end of the fourth week the numbers were 750,000 on agar and 100,000 on gelatin. There was then the interval above referred to, and in the subsequent examinations (nine in number) the whole of the estimations were practically the same—i.e., 250,000 on the agar and 100,000 on the gelatin plates. On coming to analyse these results we find that at the end of the fourth week the whole of the non-spore-bearing organisms had disappeared with the exception of an organism which had most of the characters of the bacillus coli, and as the bacillus coli had been introduced we concluded that this was a weakened bacillus coli whilst during the whole of the period at which the number of organisms appeared to remain stationary nothing but spore-bearing organisms could be found, though it is quite possible that some organisms of the bacillus coli group may have been overlooked. It is evident from this experiment that a few of the bacillus coli organisms along with the spore-bearing organisms may persist to the end of the fourth week, but that the spore-bearing organisms may undoubtedly be found at the end of four and a half months.

TABLE II.—*Preliminary Experiments (2nd Series).*

Date of examination.	Number of organisms per cubic centimetre on agar plate.	Number of organisms per cubic centimetre on gelatin plate.
July 18th, Control	51,750,000	96,000,000
" 27th, 1st week	2,600,000	213,000
August 2nd, 2nd week	"	"
" 12th, 3rd "	1,000,000	111,000
" 19th, 4th "	750,000	100,000
Onwards to Nov. 11th	250,000	100,000

From these preliminary experiments it was evident that Dr. Copeman was perfectly justified in drawing a sharp line of distinction between the results obtained with sporulating and with non-spore-bearing organisms when mixed with glycerine, as whenever a glycerinated mixture of organisms was brought down to a "constant" as regards the number it contained nothing but spore-bearing organisms could be found. We took, then, as the standard of the amount of work that the glycerine would do its power of getting rid of everything but spore-bearing organisms, amongst which must be included a white streptothrix which appears to be fairly common wherever a number of calves are kept, and a yellow torula-like organism; these, however, like most of the ordinary sporulating bacteria, appear to exert no pathogenic effects.

EXAMINATION OF VACCINE LYMPHS.

The next step was to make an examination of the various vaccine lymphs that could be obtained. A list of those concerning which we could obtain any information was prepared and samples were obtained in the ordinary course of business. The manufacturers who sent them out could have no idea that they were not to be used for ordinary vaccination, all the samples being obtained through an intermediary agent. At the same time a point was made that as much information as possible should be collected, also through the ordinary channels, but that no direct application should be made for such information as could not be obtained by a general practitioner. Such information as we were able to acquire has been embodied in the following report. The examinations were made as soon as possible after the samples had been obtained and a regular routine was followed in order that the results might be fairly comparable. The tubes, of course, were not all of the same size and therefore the numbers in the following tables are not strictly comparable, but in Table XVI. the exact weight of the contents of one of each batch of tubes used is recorded and the number of micro-organisms in each 0·05 gramme of the lymph is given. With these data at our disposal a strictly accurate comparison may be made. In each case an attempt was made, not to isolate and recognise the individual organisms, for that was unnecessary, but to determine the general characters of the organisms as indicating: (1) their probable source; (2) whether they belonged to the spore-bearing or non-spore-bearing groups; and (3) whether they were aerobic or anaerobic.

PRECAUTIONS TAKEN IN TRANSFERRING VACCINE TO NUTRIENT MATERIAL AND IN PREPARATION OF PLATES.

In making cultivations the agar was heated to the temperature of boiling water and then allowed to cool to 40° C.; the gelatin was melted and allowed to cool to 25° C. When the media were ready and the plates had been prepared for the reception of this material the tubes were carefully washed first in bichloride of mercury, then in sterilised water and were afterwards dried in absolute alcohol. With a pair of sterilised forceps one end of the tube was snipped off, the tube being held in the fingers away from the end that was opened; the tube was then taken in a second pair of sterilised forceps and the closed end was gently heated in a small gas flame; as the enclosed air expanded a vapour was generated the lymph was driven out and was allowed to fall into the gelatin or agar tube the (lip of which had previously been carefully sterilised in the Bunsen flame) that was to receive it. After the lymph had been thoroughly mixed with the gelatin or agar it was poured into a sterilised Petri's dish; the plug was returned to the gelatin tube, the plate labeled, and then tube and plate were laid aside and examined daily for four days, the gelatin plates being kept at a temperature of from 20° to 21° C. and the agar plates and glucose-agar tubes—the latter of which, of course, were not poured into plates—at the temperature of the body.

The results obtained with the agar plates are looked upon as the more important because most of the irritant and parasitic micro-organisms grow more readily at the temperature of the body than they do at the temperature of the room. In many cases in which there were comparatively few organisms on the gelatin plates there were still considerable numbers growing on the agar plates and in the glucose-agar. The glucose-agar results are of importance, because they bring into prominence the anaerobic organisms which do not make their appearance either on agar or gelatin plates. The examination therefore was not considered complete except when all three methods had been used. Twelve samples of lymph obtained on the open market and one sent from the laboratories of the Local Government Board were obtained. Seven were examined on three separate occasions, five twice, whilst of the Local Government Board lymph one sample only was examined. The following are the results obtained with the various samples.

(1)

JENNER INSTITUTE FOR CALF LYMPH,
73, CHURCH-ROAD, BATTERSEA, LONDON, S.W.
(WHOLESALE AGENTS: BATTLEY AND WATTS, ELEPHANT-YARD, CRIPPLEGATE, LONDON, E.C.)

Received five 1s. tubes of aseptic glycerinated calf lymph, No. 2108, on July 5th, 1898. This lymph is said to be "prepared strictly in accordance with the methods advocated by Dr. S. Monckton Copeman" and to be "free from erysipelas and tubercle."

"The lymph is prepared and glycerinated after the method used in the Government Laboratories in Germany and every step in the process is performed under competent professional superintendence.

Specially selected calves only are used and each calf is tested with tuberculin before being inoculated. After the lymph has been taken from the calf the animal is slaughtered and examined, when, if it is found unhealthy, the lymph is rejected.

Calf lymph prepared with pure glycerine under strict aseptic precautions and stored for some time undergoes a gradual process of bacteriological purification, all pus-producing micro-organisms being eventually destroyed.

The lymph of the Jenner Institute is examined from time to time by means of plate cultivations and is only issued when shown by this method to be free from pyogenic microbes.

Vaccinations performed with lymph thus freed from extraneous micro-organisms may take longer to mature than vaccination with humanised lymph or calf lymph containing such microbes. Even as late as the fifth day the skin over the vaccinated area may appear normal, but on the eighth a pearl-like Jennerian vesicle may be observed standing up on the healthy skin without any surrounding inflammation.

It is advised that when the tube has been once opened the whole of the lymph should be employed immediately and the tube never re-sealed.

The tubes should be kept in a cool place and not exposed to the light until required for use."

With a tube of this vaccine lymph an agar plate culture

was made on July 9th, 1898. At the end of four days only four colonies had developed. On July 14th with one of the same batch of tubes a gelatin plate was made. From this ten colonies of actively motile and sporulating bacilli grew, but in addition to this organism 140 moulds developed. It was afterwards found that these moulds did not grow at the temperature of the incubator and therefore would not appear in agar plates. Had these moulds been few in number it might have been argued that they had come in accidentally after the tube had been opened, but they were so numerous that this explanation had at once to be set aside. On Sept. 14th a gelatin plate was made from the same batch of tubes; at the end of four days 13 colonies (Fig. 1) (a yellow torula form organism and a spore-bearing motile bacillus) had grown. Although the spores of the penicillium are quite harmless to the tissues of the patient it is thought desirable to call the attention of those responsible for the collection, preparation, and storage of this lymph to what gives evidence of a flaw at some stage of the proceedings involved in the preparation of an otherwise admirable vaccine lymph.

Another batch of three tubes—No. 2967, dated Nov. 21st, 1898—gave even better results. On Dec. 6th only three colonies had developed at the end of four days on an agar plate; these consisted of a sporulating bacillus. On a gelatin plate not a single organism was found, but two or three anaerobic organisms made their appearance in the glucose-agar tube. This is an excellent lymph.

A third batch of three tubes, No. 1103, sent out on Jan. 30th, 1900, was plated out on Feb. 3rd. Four days later 235 colonies, principally staphylococci, had developed on the agar plate, 145 on the gelatin plate, and about 40 colonies, some of which gave rise to the formation of much gas, in the glucose agar tube. This sample is not equal to the earlier ones, but is still much better than the average lymph supplied, and is above the standard set by the Local Government Board.

TABLE III.—*Experiments with Lymph from the Jenner Institute for Calf Lymph.*

Period of examination after the sample was sent out.	Number of colonies.		
	Agar plate.	Gelatin plate.	Glucose-agar tube
First sample.			
4 days	4	—	—
9 "	—	10 + 140 moulds	—
1 "	—	13*	—
Second sample.			
15 days	3	0	2 or 3
Third sample.			
4 days	235	145	40 + much gas.

* Plate from which Fig. 1 was photographed.

(2)

ANIMAL VACCINE ESTABLISHMENT,

UNDER THE SUPERVISION OF DR. CHAUMIER OF TOULS,

AND 10, RUE DE LATHAN, PARIS.

By Special Appointment to various Departmental Authorities.

GOLD MEDAL OF THE PARIS ACADEMY OF MEDICINE, 1898.

"CALF LYMPH

In the form of Ilpulp glycerinated pulp, concentrated and reinforced prepared under the most minute antiseptic precautions.

The activity of the vaccine from different animals varies greatly and is occasionally nil. This of itself [illegible] to direct calf to arm vaccination. Each sample of vaccine is specially tested before being put up in tubes and samples which do not come up to the required standard of activity are [illegible] from sale. We reinforce the strength of the vaccine by a careful selection of the cultures and by employing for the inoculation of the calves [illegible] from [illegible] with [illegible] activity. For this reason all [illegible] are [illegible] activity [illegible]

[illegible] supplied in tubes for 25 persons. Is 3/- each by Messrs. Roberts and Company, 76, New Bond Street, London, W.

Calf lymph marked No. 20, date 5/7/98. An agar plate containing the contents of one tube was poured on July 8th. At the end of four days 43 colonies of long bacilli had developed. On July 14th a gelatin plate was made from another tube, and from this 40 colonies developed; these consisted of a streptothrix and of sporulating motile bacilli. On Sept. 14th a second gelatin plate was made from the remaining tube, when 41 colonies (Fig. 2) were picked out on the fourth day, these consisted of the same species that were present in the other tube, the streptothrix and the sporulating organisms resisting the action of the glycerine. The vaccine from the bacteriological point of view had become stable or constant.

Another sample from the same source, No. 44, sent out on Nov. 19th, 1898, and plated on Dec. 6th, gave on an agar plate 32 colonies (among these was a staphylococcus); on the gelatin plate 13 colonies, four of them liquefying the gelatin, and in glucose agar three or four colonies had grown. This sample was of good quality; it contained very few organisms, and most of these were spore bearing. The presence of a single staphylococcus colony was probably accidental; indeed, the seed organism may have crept in during the process of plating out.

A third batch from the same source, No. 133, was sent out on Jan. 30th, 1900. This was not so satisfactory as were those examined at an earlier date. It was plated out on Feb. 3rd or four days after it came from the agent. There were developed on the [illegible] yellow sarcina and white cocci, [illegible] plates, and at least 80 anaerobic [illegible] tubes. Here the numbers appear to be larger than they really are, as we are now dealing with an amount of vaccine that is to be used for eight vaccinations (one-third of contents of tube for 25 vaccinations). This batch, though still of fairly good quality, is not so satisfactory as were the earlier samples.

TABLE IV.—*Experiments with Dr. Chaumier's Calf Lymph.*

Period of examination after the sample was sent out	Number of colonies.		
	Agar plate.	Gelatin plate.	Glucose agar tube
First sample			
4 days	43	—	—
9 "	—	43	—
71 "	—	[illegible]*	—
Second sample			
17 days	2	1*	3 or 4
Third sample			
4 days	[illegible]	[illegible]	[illegible]

* Plate from which Fig. 2 was photographed.

(3)

FERRIS AND CO., BRISTOL.

Messrs. Ferris and Co. say that "all the lymph we supply may be relied upon as *perfectly pure*." Received six "half tubes" (*three for 25 Cd.*) "selected calf-lymph, No. C[illegible]" posted from Bristol on May 14th, 1899. On May 20th a gelatin plate was made from one of these small tubes. At the end of the fourth day there was no visible growth of any kind. On May 25th an agar plate was made; on the fourth day there were eight colonies present, three consisting (1) of staphylococci; (2) of short thick rods which were not identified; and (3) a streptothrix. On June 16th two plates were made from a tube, one half being added to gelatin and one half to agar; at the end of the fourth day each plate showed only a single colony. On Sept. 14th a tube was mixed with glycerine and made into a plate culture; at the end of four days four colonies (Fig. 3) were found, these are consisting of a yellow torula. From every point of view, then, the lymph we received was very satisfactory, as it is quite possible that where a single colony was present and where four were present as they were all by [illegible] and were near to [illegible] of the plate [illegible] may have been [illegible] At any rate, it is very to [illegible] the [illegible] of the [illegible] Again, if the [illegible] of a single colony [illegible] was [illegible] of [illegible] limited at the [illegible] of Nov. 19th, 1898, and [illegible] tube was [illegible] to a [illegible]

one to a glucose-agar tube. At the end of four days the agar plate showed nearly 600 colonies, the more important organisms found being staphylococci, a streptothrix, a sporulating motile bacillus afterwards found to liquefy gelatin, and a short bacillus not identified, but which did not liquefy gelatin; on the gelatin plate there were seven colonies; in the glucose-agar tube 20 colonies. This sample is not so satisfactory as the first and, as the methods of preparation are necessarily the same, we must take the period that it has been kept into consideration, for if there is no difference in this period the variation must be due to access of organisms in larger numbers during the process of taking the lymph from the calf. The spore-bearing organisms would not, in any case, disappear.

A third sample of three "half-tubes" (each for one vaccination), No. C 12,196, was obtained. It was sent out on Jan. 30th, 1900, and was plated out on Feb. 3rd. Here the results were very satisfactory, only two colonies making their appearance on the agar plates, none on the gelatin plates, and four on the glucose-agar. This sample of lymph may therefore be looked upon as of excellent quality as regards its bacterial contents.

TABLE V.—*Experiments with Calf Lymph obtained from Messrs. Ferris and Co., Bristol.*

Period of examination after the sample was sent out.	Number of colonies.		
	Agar plate.	Gelatin plate.	Glucose-agar tube.
First sample.			
6 days	—	0	—
11 "	8	—	—
33 "	1	1	—
123 "	—	4*	—
Second sample.			
10 days	600	7	20
Third sample.			
4 days	2	0	4

* Plate from which Fig. 3 was photographed.

(4)

FAULKNER'S PURE RELIABLE GLYCERINATED CALF VACCINE LYMPH,

16, ENDELL-STREET, LONG ACRE, LONDON, W.C.

"Source, W.F.H. No. 627" (three tubes for 2*s.* 6*d.*), sent July 5th, 1893. "Most reliable and pure." "Guaranteed of exceptionally pure quality." "N.B.—The lymph will always be sent as soon as possible after receipt of order and Mr. F. cannot hold himself responsible for its safety after posting it, *nor from failure or any other effects when used.*" On July 9th an agar plate was made from one tube. After four days 500 colonies had developed; these consisted principally of staphylococci, the yellow torula, and of short thick oval bacilli. On July 14th a gelatin plate culture was poured from a second tube; in this there were present 952 colonies and three moulds. On Sept. 14th the third tube was mixed with gelatin and a plate poured; this contained 570 colonies (Fig. 4). These organisms consisted of the yellow torula already described; a red torula and a rose-coloured micrococcus; a leptothrix containing well-formed spores was also found in small numbers just as in the first and second tubes.

A second batch of lymph—also marked "Source, W.F.H."—was received on Nov. 21st, 1898. This was markedly superior to the other samples. An agar plate culture made on Dec. 1st and examined four days later contained only 35 colonies; these consisted principally of a short non liquefying bacillus and one or two staphylococcus colonies. On the gelatin plate poured at the same time from another tube only three colonies developed and in glucose-agar four colonies.

A third sample of three tubes (white glass), marked "Source W. F., 315," was obtained on Jan. 30th, 1900, and plated out on Feb. 3rd. Here the results obtained were, comparatively, very unsatisfactory, no fewer than 4660 colonies developing on the agar plate, though only 29 appeared on the gelatin plates (in four days) and 140 anaerobic colonies in the glucose agar. The number of organisms, however may be their nature, appears to be excessive, especially as so many of them grow at the temperature of the body. This sample is certainly not nearly so good as were the earlier ones. Attention should be given to this matter.

TABLE VI.—*Experiments with Faulkner's Pure Reliable Glycerinated Calf Vaccine Lymph.*

Period of examination after the sample was sent out.	Number of colonies.		
	Agar plate.	Gelatin plate.	Glucose-agar tube.
First sample.			
4 days	500	—	—
9 "	—	952	—
71 "	—	570* +3 moulds	—
Second sample.			
10 days	35	3	4
Third sample.			
4 days	4660	29	140

* Plate from which Fig. 4 was photographed.

(5)

DR. WARLOMONT'S GLYCERINATED CALF VACCINE.

AGENT: MARKT BROS. AND CO., 38 & 39, BEECH-STREET BARBICAN, LONDON, E.C.

Sent July 5th, 1898 (three tubes, No. 7). It is claimed for this preparation that "every antiseptic precaution [is] most carefully observed."

autions are en
is carried on
rilised and accurately closed amber glass tubes or vials.

The medical profession has always greatly valued Dr. Warlomont's glycerinated calf vaccine and consider as one of its chief qualities the absence of the severity of the ordinary calf vaccine.

We always advise to use our vaccine fresh, but we can at the same time guarantee that it will retain its activity for a considerable but indefinite and variable time if kept unopen

The vaccine we supply has always been out which must be considered as a guarantee mild character.'

An agar plate made on July 9th contained 65 colonies, consisting principally of long bacilli, a yellow torula, and staphylococci. A gelatin plate made on July 14th developed 28 colonies. On Sept. 14th a third tube was plated out in gelatin, when only eight colonies (Fig. 5) made their appearance; these colonies consisted of a yellow torula-form organism, of a sporulating bacillus apparently belonging to the subtilis group, and of streptococci.

A second example from the same source—date Nov. 21st, 1898, No. 21—was not of so satisfactory a character. An agar plate poured on Dec. 1st developed 880 colonies, consisting of staphylococci, sporulating bacilli, a leptothrix, a streptothrix, and a short thick motile bacillus; on the gelatin plate there were 32 colonies, every one of which liquefied the gelatin; in the glucose-agar tube six anaerobic organisms made their appearance. It is quite possible that these samples had been well prepared and glycerinated, but that the process had not been allowed to continue for a long enough time.

A third batch of three half-tubes (amber glass), No. 45,

TABLE VII.—*Experiments with Dr. Warlomont's Glycerinated Calf Lymph.*

Period of examination after the sample was sent out.	Number of colonies.		
	Agar plate.	Gelatin plate.	Glucose-agar tube.
First sample.			
4 days	65	—	—
9 "	—	23	—
71 "	—	8*	—
Second sample.			
10 days	880	32	6
Third sample.			
4 days	1950	30	115

* Plate from which Fig. 5 was photographed.

each tube containing sufficient lymph for one vaccination, was obtained on Jan. 30th, 1900, and plated out on Feb. 3rd. The following were the results obtained. On the agar plate 1969 colonies developed, principally a yellow sarcina and a coccus; on gelatin 30, and in glucose agar 115, colonies made their appearance. This, again, is scarcely a satisfactory result.

(6)

ESTABLISHMENT FOR VACCINATION WITH CALF LYMPH,

186, MARYLEBONE ROAD, LONDON, N.W.

Three small tubes, No. 3744 (price 2s. 6d.), sent by Charles Renner, July 5th, 1898, with the request, "Please use it as soon as possible." Along with this lymph is a statement from which the following extracts may be quoted.

"The advantages of calf vaccine over human lymph may be thus briefly stated:

I. The danger of imparting infections and other diseases, the most important and well founded objection to vaccination from human beings, is absolutely avoided.

[illegible]

[illegible] efficient methods of sterilisation of everything coming in contact with it. The result is a pure vaccine culture, free from extraneous germs which can produce nothing but pure vaccinia and [illegible] large quantity of minutely [illegible] it contains. These, and [illegible] the vaccine vehicle. The presence of a little blood is quite harmless.

If once opened the tube should be used forthwith, as after exposure to the air the lymph loses its efficacy.

In unopened tubes the lymph keeps well for a considerable but indefinite time, provided it is kept protected from heat and light.

"* Failures, as reported, have for many years past not exceeded a fraction of 1 per cent."

On July 9th an agar plate was made, when only four colonies made their appearance, these consisting of long bacilli and a torula. On July 14th a gelatin plate was made from one of the tubes; after four days 27 colonies were found, very similar to those above described. On Sept. 14th 13 colonies were found on the fourth day on a gelatin plate, these consisted of a yellow sarcina, a sporulating bacillus, and a streptothrix; here, again, the streptothrix appeared to withstand the action of the glycerine along with the other organisms present.

Another sample from the same source—No. 40150—sent on Nov. 21st, 1898 (three small tubes, price 2s. 6d.), was tested on Dec. 12th. This was a very different lymph from the previous sample, as the organisms which developed from it on the agar plate on the fourth day were uncountable. They consisted of staphylococci and motile sporulating bacilli, the gelatin plate made on the same day contained 45 colonies (similar organisms), all of which liquefied the gelatin; this sample was also unsatisfactory from the fact that the glucose agar tubes with which it was mixed developed 60 anaerobic colonies.

The third sample of lymph (No. 54330) gave excellent results. Only two colonies appeared on the agar plate, two on the gelatin plate, and four in the glucose agar tube. From a bacteriological point of view this sample may be looked upon as being altogether unexceptionable. If such lymph retains its full activity and if such results can be attained regularly the question of pure lymph is one that need no longer trouble the public. This is, of course, in marked contrast to sample No. 2 and affords evidence that greater care is now taken in the preparation and storage of this lymph than was the case even a year and a half ago.

TABLE VIII.—*Experiments with Lymph from Dr. Renner's Establishment for Vaccination with Calf Lymph.*

Period of examination after the sample was sent out.	Number of colonies.		
	Agar plate.	Gelatin plate.	Glucose agar tube.
First sample.			
4 days	[illegible]	—	—
9 "	—	27	—
71 "	—	13	—
Second sample.			
[illegible] days	[illegible]	45	60
Third sample.			
4 days	[illegible]	2	[illegible]

(7)

THE ASSOCIATION FOR THE SUPPLY OF PURE VACCINE LYMPH,

12, PALL-MALL EAST, LONDON, S.W.

Eight whole tubes (amber glass) were received on May 16th, 1898. These were marked: "Date, May 12th, 1898. To be used before 30.5.98. Emulsion of pure calf vaccine." No. 2702. "Pure and reliable."

[illegible] enable us to [illegible] trade mark, [illegible] complaints of [illegible] date. [illegible] be kept in the [illegible] vaccine from [illegible]"

On May 20th a gelatin plate was made from one of the tubes; after four days 3200 colonies had developed on this plate, some of the colonies, mostly of a yellow colour, consisted of rods, others of staphylococci; there were also present a number of moulds (penicillia). On May 25th another tube was mixed with agar and a plate culture poured; only about 120 colonies made their appearance on this plate; the organisms again were staphylococci and flagellated bacilli. On June 16th, or little more than a month from May 12th and a fortnight after the date at which the vaccine was to be used, two plates were made, one on gelatin and a second on agar; the agar culture now contained only six colonies, the gelatin 13, of which three were moulds. On Sept. 14th another tube of the same batch was mixed with gelatin and a plate poured; only five organisms (Fig. 6) were found—one of these was a streptothrix, one a torula, and the others were bacilli.

A second sample from the same source, dated Nov. 21st, 1898, to be used before Dec. 5th, 1898 (No. 6033), was examined on Dec. 6th, 1898. The agar plate at the end of four days contained such an enormous number of organisms that they were uncountable. These organisms consisted of staphylococci and non motile bacilli; the staphylococci were very active, liquefying gelatin somewhat rapidly. On the gelatin plate the number of organisms was very small, only 13. Here the extraordinary number of colonies developed

TABLE IX.—*Experiments with Lymph from the Association for the Supply of Pure Vaccine Lymph.*

Period of examination after the sample was sent out.	Number of colonies.		
	Agar plate.	Gelatin plate.	Glucose agar tube.
*First sample.**			
8 days	—	[illegible]	[illegible]
15 "	[illegible]	—	[illegible]
[illegible] "	[illegible]	[illegible]	[illegible]
[illegible] "	—	[illegible]	—
*Second sample.**			
15 days	[illegible]	[illegible]	[illegible]
Third sample.			
4 days	[illegible]	27	[illegible]

* [illegible]

at the temperature of the body should be noted. In glucose-agar a number of anaerobic organisms developed.

Neither of these samples can be looked upon as satisfactory. Whatever may be the reason of the large number of organisms present to begin with, the bulk of them should have disappeared by the time that these plates were made, as all were made near to or after the time beyond which it was recommended that the lymph should not be used.

A third batch of three half tubes, "P, No. 500, to be used before Feb. 15th, 1900," was obtained on Jan. 30th, 1900, and plated out on Feb. 3rd with the following results. The agar plate contained 1580 colonies, the gelatin plate 37, and the glucose agar tube 64 anaerobic growths or colonies. This is better than sample No. 2, but is still somewhat unsatisfactory from a bacteriological point of view.

SAMPLES EXAMINED TWICE ONLY.

A number of samples were also examined on two occasions only. These were plated out on agar and gelatin and were also grown in glucose-agar in order that we might determine whether any anaerobic organisms were present or not.

(8)

GLYCERINATED CALF VACCINE LYMPH FROM THE INSTITUT DE VACCINE ANIMALE, PARIS.

DIRECTEURS: E. CHAMBON AND DR ST. YVES-MÉNARD.

AGENTS FOR THE UNITED KINGDOM AND COLONIES: THE MEDICAL SUPPLY ASSOCIATION, 12, TEVIOT-PLACE, EDINBURGH.

Sent out from the agency at 228, Gray's-inn-road, London, W.C., Nov. 21st, 1898. "This glycerinated calf vaccine lymph is contained in sterilised tubes. It should be kept in a cool place." "The two-shilling tube contains sufficient for twenty vaccinations." "The whole contents of the tube should be used at one time." With the contents of one tube an agar plate was made and poured on Dec. 6th, with the result that at the end of four days only 16 colonies (or less than one per vaccination) made their appearance and these were all organisms which strongly resist the action of glycerine—a streptothrix, a sporulating bacillus, and sarcina flava; on the gelatin plate similarly prepared three colonies developed; and the glucose-agar tube contained only a couple of colonies of anaerobic organisms. This is a lymph of extraordinary bacterial purity.

A second sample marked as being collected on Jan 9th, 1900, and containing sufficient material for 20 vaccinations was obtained on Jan. 30th and plated out on Feb. 3rd, with the following results. Material for about seven vaccinations mixed with agar gave 378 colonies. On the gelatin plate 433 colonies, principally yeasts with a few white cocci, were developed and in the glucose-agar 32 anaerobic colonies. When it is remembered that here we are dealing with a large quantity of material (sufficient for about seven vaccinations) the results may be said to be very satisfactory though not quite equal to those obtained at the first examination. The fact that so many of the colonies developed at the temperature of the room indicates that they are probably derived from external sources—i.e., they are organisms that are not likely to be pathogenetic.

TABLE X.—*Experiments with Lymph from the Institut de Vaccine Animale, Paris.*

Period of examination after the sample was sent out.	Number of colonies.		
	Agar plate.	Gelatin plate.	Glucose agar tube.
First sample.			
15 days	16	3	2
Second sample.			
4 days	378	433	32

(9)

GLYCERINATED CALF LYMPH, "PURE CULTURE BRAND," S. MAW, SON, AND THOMPSON, 7–12, ALDERSGATE-STREET, LONDON, E.C.

Batch G.L. 58. Date of preparation, Oct. 21st, 1898. Insertion success 100 per cent. Posted Nov. 21st, 1898.

"This lymph is guaranteed to be free from all disease germs and is prepared in the dairy under the supervision of a bacteriological expert ..... and guaranteed to be absolutely aseptic and free from all ... [illegible]

"Glycerinated calf lymph is now strongly recommended by the Local Government Board. It has an additional advantage over other lymph in that it will retain its properties and continue to improve for a period of at least 10 months."

Three 1s. tubes were used. One was added to agar and a plate poured on Dec. 6th. After four days' growth 145 colonies, which consisted entirely of a sporulating bacillus and a streptothrix, both of which resist the action of glycerine, had made their appearance. The gelatin plate contained 45 colonies; of these five liquefied the gelatin; the organisms present consisted principally of a sporulating bacillus. In the glucose-agar tube only three or four colonies could be seen. This sample of lymph had evidently been carefully glycerinated and if any fault at all could be found with it the criticism must be that it might possibly have been collected with somewhat greater care in order that the sporulating organisms, bacillus and streptothrix, which are evidently very numerous wherever calves are housed and their food is stored, might be kept out of the preparation.

The second batch of this lymph, three tubes (yellow glass) marked G. L. 59, was obtained on Jan 30th, 1900, and was used on Feb. 3rd. Agar plates kept under observation showed no fewer than 3410 colonies, gelatin plates 3560 colonies, and glucose agar tubes 340. This sample contained orange cocci in considerable numbers; these developed at the temperature of the body and certainly should not be present in a glycerinated lymph. The sample is not nearly so satisfactory as that obtained more than a year ago and more attention should at once be given to the methods by which it is collected, prepared, and stored. This lymph had a red tinge. Note the number of organisms growing at the temperature of the body and the large number of anaerobic organisms in this sample.

TABLE XI.—*Experiments with Lymph from Messrs Maw, Son, and Thompson—"Pure Culture Brand."*

Period of examination after the sample was sent out.	Number of colonies.		
	Agar plate.	Gelatin plate.	Glucose agar tube.
First sample.			
15 days	145	45	3 or 4
Second sample.			
4 days	3410	3560	340

(10)

BIRMINGHAM CALF LYMPH VACCINATION ESTABLISHMENT, 204, VICTORIA-ROAD, ASTON, BIRMINGHAM.

JOHN ROUND, L.R.C.P. EDIN., DIRECTOR.

Three large tubes each for four [illegible] and one small tube for one vaccination, [illegible], 1,110. Samples sent from Birmingham Nov. 21st, 1898.

"The enclosed vaccine must be kept in a cellar or some other cool place, as *glycerinated calf vaccine* will not stand a temperature equal to summer heat for any great length of time."

The larger tubes were used and an agar plate was made on Dec 6th, 1898, when 345 colonies made their appearance on the agar plate. This in itself is not an excessive number and does not represent the real character of the lymph, but indicates that the period of exposure of the organism to the action of the glycerine was probably too short, or that the glycerine was not strong enough, as a large number of the colonies consisted of staphylococci, which are usually killed off in the glycerine conserves. A short motile bacillus in which spores could but rarely be demonstrated was present in small numbers only, but it would probably have persisted through any treatment. It is important to note that on a gelatin plate made with one of these tubes no growth of any kind made its appearance, whilst in a glucose-agar tube only a couple of colonies of anaerobic organisms developed. With this sample a useful addressed return post-card for the entering up and returning of the results obtained is sent out. On this should be noted "The Source of Lymph," "Date when Used," "Number of Insertions Made," "Number of Vesicles Produced," "Remarks." If the director of the establishment has kept a careful record of these returns he should now have at his command a mass of very valuable data.

A second sample, three large tubes (green), labeled

"Source 1101 [illegible]
out on Feb. 3[illegible]
gave 32 coloni[illegible]
agar tube 72.
taken [illegible]
should [illegible] a number by more
careful [illegible] glycerine appears to
be doing all that it could be expected to accomplish. Most if not all of the organisms that remain are spore bearing organisms or the yellow torula that appears to resist the action of the glycerine.

TABLE XII.—*Experiments with Lymph from the Birmingham Calf Lymph Vaccination Establishment.*

Period of examination after the sample was sent out.	Number of colonies. Agar plate.	Gelatin plate.	Glucose-agar tube.
First sample.			
15 days	345	0	
Second sample.			
4 days	32	91	72

(11)

PURE CALF VACCINE FROM DR. HIME'S CALF VACCINE INSTITUTION,

54, HORTON-ROAD, BRADFORD.

"As supplied to the Government in England, the Government in Ireland, the Egyptian army, boards of guardians, town and county councils, asylums, prisons, public vaccinators, &c. Vaccination of calves and collection of vaccine under strict antiseptic precautions. Tubes, &c., sterilised before use"

The sample used was not dated but was received on Nov. 22nd or 23rd, 1898 Tubes, 1s each. The contents of one tube were mixed with agar and plated out in the ordinary way on Dec 1st, 1898. At the end of four days 192 colonies had made their appearance. Amongst the organisms examined were a streptothrix, a motile sporulating bacillus, and a staphylococcus. On a gelatin plate culture made in the same way 45 similar colonies developed and in the glucose-agar 50 anaerobic organisms developed into colonies. It is possible that in this case the lymph had not been exposed to the action of the glycerine for a sufficiently long period; otherwise no staphylococci should have been present. These staphylococci, however, were decidedly [illegible] igour [illegible] No [illegible] from which colonies developed appeared to be attributable to slight defects in the method of collection of the lymph and to some defect, also slight, probably too short a time, in glycerination.

A second sample (yellow glass) of this lymph was obtained on Jan. 30th, 1900 It appeared to be of good colour and was altogether an excellent-looking sample. It was in all respects superior to the sample obtained more than a year ago except that the number of anaerobic organisms developed in the glucose agar was too high. The process of glycerination has, however, been well carried out, as is evident from the comparatively small number of colonies that made their appearance on the agar and gelatin plates The following were the results obtained: on the agar plate, 14 colonies developed; on the gelatin plate, 4; in the glucose agar tube, 60.

TABLE XIII.—*Experiments with Lymph from Dr. Hime's Calf Vaccine Institution, Bradford.*

Period of examination after the sample was sent out.	Number of colonies. Agar plate.	Gelatin plate.	Glucose-agar tube.
First sample.			
3 [illegible] days	1[illegible]	15	[illegible]
Second sample.			
4 days	14	4	60

(12)

THE REBMAN PUBLISHING COMPANY,

129, SHAFTESBURY-AVENUE, CAMBRIDGE CIRCUS, LONDON, W.C.

A sample of vaccine lymph was received from this firm on Nov. 22nd, 1898, and was marked "No. 567; 3 [illegible] 1/-; 21. XI. 98." With one of the tubes an agar plate was made on Dec 1st After four days' growth 320 colonies, which comprised a rose coloured micrococcus, very small, similar to that seen in other samples, a staphylococcus, a yellow sarcina, along with a number of short non-motile bacilli, had developed. On the gelatin plate there were 15 colonies. In the glucose agar tube 50 colonies had grown. Some of the organisms present in this specimen should have been eliminated by the glycerine.

A second sample of lymph (No. 102), contained in three tubes, was obtained on Jan 30th, 1900, and was plated out on Feb. 3rd with the following results. On the agar plate 4070 colonies developed; on the gelatin plate 48 colonies [illegible], potato bacillus, and cocci; [illegible] colonies of anaerobic organ-[illegible] sfactory; it may be due to imperfect glycerination, to some want of care in collection, or even to both of these causes.

TABLE XIV.—*Experiments with Lymph from the Rebman Publishing Company, London.*

Period of examination after the sample was sent out	Number of colonies. Agar plate.	Gelatin plate.	Glucose-agar tube.
First sample.			
10 days	320	15	50
Second sample.			
4 days	4070	48	720

In order to have some basis for comparison and to obtain a standard which manufacturers might reasonably also be expected to attain to by careful collection and glycerination half a dozen tubes of the Local Government Board lymph were procured on Feb 6th, 1900, and plate and other cultivations were made at once from three of the tubes. On the agar plate 258 colonies developed, on the gelatin plate four, and in the glucose agar tube 70 colonies.

TABLE XV.—*Experiments with Lymph from the Local Government Board Laboratories.*

Period of examination after the sample was sent out.	Number of colonies. Agar plate.	Gelatin plate.	Glucose-agar tube.
One sample only.			
4 days	2[illegible]	4	70

The contents of one of these tubes being found to weigh 0·05 gramme the above numbers and this weight were taken as the standards with which to compare the other lymphs examined. The tubes in which the [illegible] of their lymph vary very greatly in size and the quantity of vaccine lymph contained in each varies in a corresponding degree. In order to obtain [illegible] data for comparison the contents of one of the tubes obtained from each [illegible] agent were weighed and the number of organisms in each unit of weight, 0·05 gramme, calculated. [illegible] are set forth in the following table in which the standard lymph, Local Government Board, is [illegible]. Those who take an interest in this [illegible] for their own use a corresponding table [illegible] examined at the earlier dates. [illegible] with the vaccines as at present sent out, and [illegible] show the point to which [illegible] the various purveyors of [illegible] market.

TABLE XVI.—*Vaccine Lymph. Relative Bacterial Purity of Samples received during the Last Week of January, 1900. Number of Colonies present per 0·05 Gramme are here calculated out for Purposes of Comparison.*

Source of vaccine lymph.	Weight of material used for experiment.	Number of colonies per 0·05 gramme.		
		Agar plate.	Gelatin plate.	Glucose-agar tube.
	Grammes.			
1. Dr. Renner's Establishment for Vaccination with Calf Lymph	0·046	2	1(?)	2
2. Messrs. Ferris and Co., Bristol	0·07	2	0	3
3. Dr. Hime's Calf Vaccine Institution, Bradford ...	0·07	10	3	61
4. Birmingham Calf Lymph Vaccination Establishment	0·042	38	103	85
5. Institut de Vaccine Animale, Paris	0·125	151	173	13
6. Jenner Institute for Calf Lymph	0·05	235	145	40
7. Local Government Board	0·05	258	4	20
8. Dr. Chaumier (Animal Vaccine Establishment), Paris	0·107	576	70	37
9. Association for the Supply of Pure Vaccine Lymph, 12, Pall Mall East	0·053	1490	35	61
10. Dr. Warlomont's Glycerinated Calf Vaccine	0·044	2237	34	131
11. "Pure Culture" Brand, S. Maw, Son, and Thompson	0·06	2841	2966	283
12. The Rebman Publishing Company	0·065	3130	37	169
13. Faulkner's Pure Reliable Glycerinated Calf Vaccine Lymph	0·034	6382	42	206

REMARKS.

Whenever a large number of staphylococci remained in the lymph at the time that the plates were made the period of glycerination had not been sufficiently prolonged. In one case we had ample evidence of this, as on the eighth day there were 3200 colonies, mostly staphylococci, on the gelatin plate; on the thirty-fifth day this number had fallen to 10 and on the one hundred and twenty-fifth day to five, so that, although the lymph was not what could be called a satisfactory lymph at the time that it was sent out, the method of preparation was apparently good and the number of organisms had been brought to what may be held to be a normal level at the end of five weeks and probably before that period. Such a result as this was to be expected, as until the full force of public opinion could be brought to bear on the manufacturers of vaccine the fact that a lymph gave 100 per cent. of successful insertions would carry far more weight in deciding whether a lymph should be sent out or not than the mere presence or absence of a certain number of organisms. As a matter of fact, most of these organisms, or at any rate such as could be examined, were staphylococci, and although they were probably ordinary skin staphylococci we cannot blind ourselves to the possibility that such organisms might be of a noxious character.

SIGNIFICANCE OF VARIATION IN BACTERIOLOGICAL PURITY.

Where the number of organisms in any sample is high it must be assumed, not that they are necessarily so in other samples of the same brand, but that the numbers probably vary in different samples. Certain samples have been tested and found to be free from, or to contain a comparatively small number of, micro-organisms; others treated in apparently exactly the same way, but perhaps not collected with the same amount of care, have been accepted as being equally free from any considerable number of organisms, but they have been found to contain considerable numbers. This is an important point, for where these organisms are present in large numbers it must be assumed that those special samples have not been bacteriologically examined before they were put on the market, and although the organisms themselves may be of insignificant importance and may be quite incapable of acting pathogenically we have evidence that a sufficiently careful look-out is not being kept. Under such conditions slight flaws and irregularities will not be easily detected, and the danger of a bad sample of lymph (from the bacteriological point of view) coming into use will not be fully guarded against. It is from this standpoint that we wish to call attention not only to those lymphs in which the number of micro-organisms is high but also to those in which it varies most, in order that those who are responsible for their production may bring them into line as regards bacterial purity with the best supplies on the market.

IMPORTANCE OF CARE AND CLEANLINESS IN THE PRELIMINARY PROCESSES.

After examining these various lymphs we have come to the conclusion that most of those who are engaged in the preparation of vaccine lymph are fully impressed with the necessity for careful glycerination, but we are not satisfied that the necessity for preliminary cleanliness and antiseptic precautions accompanying the preparation and collection of the lymph is equally fully appreciated or, at any rate, allowing that it is appreciated, that these precautions are always carried out in detail. Where so much has to be left to stable keepers and assistants, who, in the first instance at any rate, can have no idea of the great importance of attending to the minute details essential to success in the preparation of pure lymph, the most constant care is required on the part of managers and directors. Although we are of the opinion that the heads of departments are thoroughly competent to carry out this work themselves we are convinced that in one or two instances, owing perhaps to imperfect supervision, vaccine lymph has been allowed to be put into circulation which, though perfectly satisfactory in its action and probably sufficiently carefully selected to do its work properly, does not come up to the standard of good glycerinated lymph, which should contain none but spore-bearing organisms and these in very small numbers. The bedding of calves, of course, contains numerous spore-bearing bacilli and these may readily find their way into vaccine unless the greatest care is taken in collecting it and in keeping out dust during the process of preparation. Of these spore-bearing organisms a certain proportion are anaerobic and can only be grown under anaerobic conditions, as, for example, in glucose-agar tubes.

THE STANDARDS BY WHICH A LYMPH SHOULD BE JUDGED.

The following are some of the features that should characterise a fairly good lymph. Any lymph which fails in any of these points should be looked upon as not being perfectly satisfactory, and we should suggest that medical men who have trouble with their lymph should make inquiries on the points here suggested. Of course, each vaccinator soon finds out for himself with what brands he obtains the most consistently successful insertions, and on this matter it is easy enough for him to satisfy himself; but for those who are commencing or who desire to determine which is the best vaccine of a series the following notes may be of some assistance.

DO "SEASONAL VARIATIONS" OCCUR?

It has been suggested that the period of the year at which the vaccine is taken has something to do with the activity of the vaccine; it has also been maintained that vaccinations done in hot weather, even from lymph taken during cold weather, are not so efficient as those done in cold weather. We have made inquiries on this point, and although it is exceedingly difficult to get very definite statistics we are satisfied that, given a healthy condition of the animal and an active virus to begin with, there is no difference that need enter into the calculations of those supplying and using vaccine lymph. It should be pointed out, however, that during warm weather calves appear to be much more subject to intestinal troubles and to slight or even marked variations of temperature, and it appears to be the general experience that it is unwise to use the vaccine from animals thus affected: first, because of the altered condition of the tissues during the febrile attacks, and therefore the altered reaction to the vaccine lymph; and secondly,

because under these conditions micro-organisms are not only more rapidly developed in and near the animal; but also because it is more difficult to keep them under control where the secretions are materially altered. These organisms making their way into the lymph cause a rapid deterioration of the vaccine and render its purification much more difficult. The season itself, then, need not be taken into consideration except in so far as it affects the health of the calf. Still dealing with the animal, we should recommend that no vaccine lymph be used until a . . been made by a veterinary these examinations and until l e free from tuberculosis or any other infective disease. Here the injection of tuberculin beforehand might give information as to the presence or absence of tuberculosis, but as these calves are usually killed very shortly after the vaccine lymph has been taken and before it is distributed there is every facility for making, and therefore every reason to insist upon, a post-mortem examination and the definite certification that such an examination has been made.

MACROSCOPIC IMPURITIES.

As it is impossible for any medical man to inspect vaccine establishments for himself and to see that everything is done with antiseptic precautions and under cleanly conditions, he must rely to a very great extent upon the bacteriological examination of the lymph for evidence on these points. A little blood is in itself in the case of calf lymph no impurity, but we should prefer to have the blood absent, not only from the æsthetic point of view, but also from the point of view that the absence of blood indicates a certain amount of care in collection. In one of the samples examined by us hairs of considerable len; indicate that the shaving had well in the first instance, and thorough cleansing is impossible, the alternative interpretation of the presence of hairs being that they came from uncleansed portions of the animal and had—through inadvertence no doubt—been allowed to make their way into the pulp. The hairs in themselves are not harmful, but their presence indicates that certain precautions have not been taken. The number of micro-organisms that may cling to be very great indeed. A point uld insist is that the date of tes between which the makers hould be used should be given with every sample of vaccine lymph which they receive. Of some of the samples examined we should say—from our experience of them at different periods—that when they came to us they had not been subjected to the action of the glycerine for a sufficiently long period; and it should be possible for those who wish to examine the lymph to determine whether the excess of organisms is due to imperfect or insufficiently prolonged glycerination or whether it is due to flaws in the methods of collection and preparation.

METHOD AND INTERPRETATION OF BACTERIOLOGICAL EXAMINATION.

In these days, when most practitioners have a knowledge of the elements of bacteriology, it is practicable for almost everyone to determine for himself whether a lymph is suitable for his purposes or not, receiving a certificate from the maker that the vaccine lymph when fresh or when freshly glycerinated gives from 95 to 100 per cent. of successful insertions, that the glycerination took place on a certain date, and that the calf from which the lymph was taken was free from tuberculosis or other infective disease. All he need do is to test a tube now and again in the following fashion. From any of the bacteriological apparatus makers obtain half a dozen pairs of Petri's flat glass dishes; boil them thoroughly in pairs on two or three occasions, then wrap up each pair in clean hard white paper and put them into the kitchen oven, leaving them there until the paper gets a slightly yellowish tinge, then wrap the whole parcel in another piece of clean paper and put aside until required for use. From any bacteriological supply agent obtain two or three tubes each of nutrient gelatin, nutrient agar, and of 2 per cent. glucose-agar and make cultivations as described on p. 1062. If the vaccine lymph has been carefully collected and the glycerine has been allowed to act for a month, the number of organisms growing in any of these media should be small. If the number growing is very large, that is, if it runs up to anything like 500 to the tube for a single inoculation, we suggest that the maker should be apprised of the fact that the glycerination is not being properly carried out and that any stock of lymph should be returned. When the number is not so large, 200 or 300 say, an examination should at once be made for the presence of spore-bearing organisms; this can very easily be done by heating the tubes containing the mixture of nutrient medium and vaccine to a temperature of 60° C. for one hour or to 80° C. for 10 minutes; this will kill off all but the spore-bearing organisms. The plates should then be poured and examined at the end of four days. If the number of colonies developed on each plate falls very greatly the maker should be communicated with and the practitioner will be wise if he does not use the lymph. It may be sound, and probably is, but he will feel justified in refusing to accept the responsibility of using a lymph in which the presence of non-spore-bearing organisms suggests not only a lack of care, of cleanliness, or of strict antiseptic precautions, but also of imperfect glycerination.

EFFECT OF GLYCERINATION ON VESICULATION AND PUSTULATION.

It has frequently been noted that vaccine lymph that has been subjected to the action of glycerine appears to produce vaccine vesicles which arrive at so-called "maturity" at a somewhat later period than do the vesicles produced by the ordinary lymphs. This appears to us to have a bearing on certain facts that have been put forward in connexion with the production of, or failure to produce, immunity by vaccine lymph. The fact may be recalled that in cases of herpes staphylococci, and even streptococci, have frequently been described as the causal agents of first the vesicles and then of the pustules that are produced in that disease. Of course, it now appears to be fully recognised that the production of a vesicle is due to the rapid action of a stimulating substance which promotes the exudation of a clear fluid, accompanied by a certain number of leucocytes, into the spaces in and immediately under the cuticle. This irritant may be of various kinds. It may consist of the products of micro-organisms or it may be the active principle of cantharides, or, again, it may be, as in the case with which we have here to deal, the specific organisms associated with the vaccine lymph. After a time the lymph becomes more cloudy, from an increase in the number of leucocytes, whilst it is only later, when apparently the micro-organisms of the skin, especially the pus-producing organisms which are so frequently found there, begin to exert their chemiotaxic plus a necrotic effect that the true pustule is formed. In vaccination the pustulation seems to be due entirely to the action of these pyogenic organisms, so that the fewer of these there are in the lymph and the cleaner the vaccinated surface is kept the longer will be the stage of vesiculation (and probably the greater the protection afforded) and the later the appearance of pus-formation. In fact, if the pus organisms could be kept out of the vesicle altogether there is no reason to doubt that true scabbing might occur without the intervention of suppuration of any kind, the vesicle drying up to form a scab which would protect for a time the irritated surface beneath it. We have ample demonstration of the fact that the presence of pus-producing organisms in vaccine lymph may not greatly interfere with the characteristic appearance of the vaccine vesicle, though there is always a tendency to the production both of vesiculation and of pus at a comparatively early stage, the period of vesiculation being somewhat shortened. It must be insisted upon that vesiculation and pustulation—not, of course, with the characteristic appearances of the true vaccination vesicle, but with a superficial lesion that is not always differentiable except by the very careful observer—may lead those who are not on the look out for this appearance to assume that, because they have had such a spurious vesicle and pustule following the scratching of the skin and the rubbing in of a supposed vaccine lymph, they have had a successful insertion, with the result that it has been claimed that cases vaccinated successfully have been shortly followed by successful revaccination in which the results have been perfectly typical, the fact being that the supposed primary vaccination was nothing more than vesiculation and pustulation of the true vaccine lymph but which afforded a potential resistance thereto by the capacity of destroying the germs.

That the pus-producing organisms exert a very distinct

TABLE XVI.—*Vaccine Lymph. Relative Bacterial Purity of Samples received during the Last Week of January, 1900. Number of Colonies present per 0·05 Gramme are here calculated out for Purposes of Comparison.*

Source of vaccine lymph.	Weight of material used for experiment.	Number of colonies per 0·05 gramme.		
		Agar plate.	Gelatin plate.	Glucose-agar tube.
	Grammes.			
1. Dr. Renner's Establishment for Vaccination with Calf Lymph	0·046	2	1(?)	2
2. Messrs. Ferris and Co., Bristol	0·07	2	0	3
3. Dr. Hime's Calf Vaccine Institution, Bradford ...	0·07	10	3	64
4. Birmingham Calf Lymph Vaccination Establishment	0·042	38	103	85
5. Institut de Vaccine Animale, Paris	0·125	151	173	13
6. Jenner Institute for Calf Lymph	0·05	235	145	40
7. Local Government Board	0·05	258	4	120
8. Dr. Chaumier (Animal Vaccine Establishment), Paris	0·107	576	70	37
9. Association for the Supply of Pure Vaccine Lymph, 12, Pall Mall East	0·053	1490	35	61
10. Dr. Warlomont's Glycerinated Calf Vaccine .	0·044	2237	34	131
11. "Pure Culture" Brand, S. Maw, Son, and Thompson	0·06	2841	2966	233
12. The Rebman Publishing Company	0·065	3130	37	169
13. Faulkner's Pure Reliable Glycerinated Calf Vaccine Lymph	0·034	6382	42	206

REMARKS.

Whenever a large number of staphylococci remained in the lymph at the time that the plates were made the period of glycerination had not been sufficiently prolonged. In one case we had ample evidence of this, as on the eighth day there were 3200 colonies, mostly staphylococci, on the gelatin plate; on the thirty-fifth day this number had fallen to 10 and on the one hundred and twenty-fifth day to five, so that, although the lymph was not what could be called a satisfactory lymph at the time that it was sent out, the method of preparation was apparently good and the number of organisms had been brought to what may be held to be a normal level at the end of five weeks and probably before that period. Such a result as this was to be expected, as until the full force of public opinion could be brought to bear on the manufacturers of vaccine the fact that a lymph gave 100 per cent. of successful insertions would carry far more weight in deciding whether a lymph should be sent out or not than the mere presence or absence of a certain number of organisms. As a matter of fact, most of these organisms, or at any rate such as could be examined, were staphylococci, and although they were probably ordinary skin staphylococci we cannot blind ourselves to the possibility that such organisms might be of a noxious character.

SIGNIFICANCE OF VARIATION IN BACTERIOLOGICAL PURITY.

Where the number of organisms in any sample is high it must be assumed, not that they are necessarily so in other samples of the same brand, but that the numbers probably vary in different samples. Certain samples have been tested and found to be free from, or to contain a comparatively small number of, micro-organisms; others treated in apparently exactly the same way, but perhaps not collected with the same amount of care, have been accepted as being equally free from any considerable number of organisms, but they have been found to contain considerable numbers. This is an important point, for where these organisms are present in large numbers it must be assumed that those special samples have not been bacteriologically examined before they were put on the market, and although the organisms themselves may be of insignificant importance and may be quite incapable of acting pathogenically we have evidence that a sufficiently careful look-out is not being kept. Under such conditions slight flaws and irregularities will not be easily detected, and the danger of a bad sample of lymph (from the bacteriological point of view) coming into use will not be fully guarded against. It is from this standpoint that we wish to call attention not only to those lymphs in which the number of micro-organisms is high but also to those in which it varies most, in order that those who are responsible for their production may bring them into line as regards bacterial purity with the best supplies on the market.

IMPORTANCE OF CARE AND CLEANLINESS IN THE PRELIMINARY PROCESSES.

After examining these various lymphs we have come to the conclusion that most of those who are engaged in the preparation of vaccine lymph are fully impressed with the necessity for careful glycerination, but we are not satisfied that the necessity for preliminary cleanliness and antiseptic precautions accompanying the preparation and collection of the lymph is equally fully appreciated or, at any rate, allowing that it is appreciated, that these precautions are always carried out in detail. Where so much has to be left to stable keepers and assistants, who, in the first instance at any rate, can have no idea of the great importance of attending to the minute details essential to success in the preparation of pure lymph, the most constant care is required on the part of managers and directors. Although we are of the opinion that the heads of departments are thoroughly competent to carry out this work themselves we are convinced that in one or two instances, owing perhaps to imperfect supervision, vaccine lymph has been allowed to be put into circulation which, though perfectly satisfactory in its action and probably sufficiently carefully selected to do its work properly, does not come up to the standard of good glycerinated lymph, which should contain none but spore-bearing organisms and these in very small numbers. The bedding of calves, of course, contains numerous spore-bearing bacilli and these may readily find their way into vaccine unless the greatest care is taken in collecting it and in keeping out dust during the process of preparation. Of these spore-bearing organisms a certain proportion are anaerobic and can only be grown under anaerobic conditions, as, for example, in glucose-agar tubes.

THE STANDARDS BY WHICH A LYMPH SHOULD BE JUDGED.

The following are some of the features that should characterise a fairly good lymph Any lymph which fails in any of these points should be looked upon as not being perfectly satisfactory, and we should suggest that medical men who have trouble with their lymph should make inquiries on the points here suggested. Of course, each vaccinator soon finds out for himself with what brands he obtains the most consistently successful insertions, and on this matter it is easy enough for him to satisfy himself; but for those who are commencing or who desire to determine which is the best vaccine of a series the following notes may be of some assistance.

DO "SEASONAL VARIATIONS" OCCUR?

It has been suggested that the period of the year at which the vaccine is taken has something to do with the activity of the vaccine; it has also been maintained that vaccinations done in hot weather, even from lymph taken during cold weather, are not so efficient as those done in cold weather. We have made inquiries on this point, and although it is exceedingly difficult to get very definite statistics we are satisfied that, given a healthy condition of the animal and an active virus to begin with, there is no difference that need enter into the calculations of those supplying and using vaccine lymph. It should be pointed out, however, that during warm weather calves appear to be much more subject to intestinal troubles and to slight or even marked variations of temperature, and it appears to be the general experience that it is unwise to use the vaccine from animals thus affected: first, because of the altered condition of the tissues during the febrile attacks, and therefore the altered reaction to the vaccine lymph; and secondly,

because under these conditions micro-organisms are not only more rapidly developed in and near the animal, but also because it is more difficult to keep them under control where the secretions are materially altered. These organisms making their way into the lymph cause a rapid deterioration of the vaccine and render its purification much more difficult. The season itself, then, need not be taken into consideration, except in so far as it affects the health of the calf. Still dealing with the animal, we should recommend that no vaccine lymph be used until a post-mortem examination has been made by a veterinary surgeon accustomed to make these examinations and until he has declared the animal to be free from tuberculosis or any other infective disease. Here the injection of tuberculin beforehand might give information as to the presence or absence of tuberculosis, but as these calves are usually killed very shortly after the vaccine lymph has been taken and before it is distributed there is every facility for making, and therefore every reason to insist upon, a post-mortem examination and the definite certification that such an examination has been made.

MACROSCOPIC IMPURITIES.

As it is impossible for any medical man to inspect vaccine establishments for himself and to see that everything is done with antiseptic precautions and [illegible] he must rely to a very great exte[illegible] examination of the lymph for [illegible] these points. A little blood is in itself in the case of calf lymph no impurity, but we should prefer to have the blood absent, not only from the æsthetic point of view, but also from the point of view that the absence of blood indicates a certain amount of care in collection. In one of the samples examined by us hairs of considerable [illegible] indicate that the shaving h[illegible] well in the first instance, [illegible] thorough cleansing is im[illegible] tation of the presence of hairs being that they came from uncleansed portions of the animal and had—through inadvertence no doubt—been allowed to make their way into the pul[illegible] their presen[illegible] been taken. [illegible] hairs may, however, sometimes be very great indeed. A point on which all practitioners should insist is that the date of glycerination as well as the dates between which the makers recommend that the lymph should be used should be given with every sample of vaccine lymph which they receive. Of some of the samples examined we should say—from our experience of them at different periods—that when they came to us they had not been subjected to the action of the glycerine for a sufficiently long period; and it should be possible for those who wish to examine the lymph to determine whether the excess of organisms is due to imperfect or insufficiently prolonged glycerination or whether it is due to flaws in the methods of collection and preparation.

METHOD AND INTERPRETATION OF BACTERIOLOGICAL EXAMINATION.

In these days, when most practitioners have a knowledge of the elements of bacteriology, it is practicable for almost everyone to determine for himself whether a lymph is suitable for his purposes or not, receiving a certificate from the maker that the vaccine lymph when fresh or when freshly glycerinated gives from 95 to 100 per cent. of successful insertions, that the glycerination took place on a certain date, and that the calf from which the lymph was taken was free from tuberculosis or other infective disease. All he need do is to test a tube now and again in the following fashion. From any of the bacteriological apparatus makers obtain half-a-dozen pairs of Petri's flat glass dishes; boil them thoroughly in pairs on two or three occasions, then wrap up each pair in clean hard white paper and put them into the kitchen oven, leaving them there until the paper gets a slightly yellow tinge, then wrap the whole parcel in another piece of clean paper and put aside until required for use. From any bacteriological supply agent obtain two or three tubes each of nutrient gelatin, nutrient agar, and of 3 per cent. glucose agar and make a dilution as described on p. 1230. If the vaccine lymph has been carefully collected and the glycerine has been allowed to act for a month, the number of organisms growing in any of these media should be small. If the num[illegible] growth is very large, that is, if it goes up to anything like 500 in the vaccine for a single inoculation, we suggest that the maker should be apprised of the fact that the glycerination is not being properly carried out and that any stock of lymph should be returned. When the number is not so large, 200 or 300 say, an examination should at once be made for the presence of spore-bearing organisms; this can very easily be done by heating the tubes containing the mixture of nutrient medium and vaccine to a temperature of 60° C. for one hour or to 80° C. for 10 minutes; this will kill off all but the spore-bearing organisms. The plates should then be poured and examined at the end of four days. If the number of colonies developed on each plate falls very greatly the maker should be communicated with and the practitioner will be wise if he does not use the lymph. It may be sound, and probably is, but he will feel justified in refusing to accept the responsibility of using a lymph in which the presence of non-spore-bearing organisms suggests not only a lack of care, of cleanliness, or of strict antiseptic precautions, but also of imperfect glycerination.

EFFECT OF GLYCERINATION ON VESICULATION AND PUSTULATION.

It has frequently been noted that vaccine lymph that has been subjected to the action of glycerine appears to produce vaccine vesicles which arrive at so-called "maturity" at a somewhat later period than do the vesicles produced by the ordinary lymphs. This appears to us to have a bearing on certain facts that have been put forward in connexion with the production of, or failure to produce, immunity by vaccine lymph. The fact may be recalled that in cases of herpes staphylococci, and even streptococci, have frequently been described as the causal agents of that the vesicles and then of the pustules that are produced in that disease. Of course, it now appears to be fully recognised that the production of a vesicle is due to the rapid action of a stimulating substance which promotes the exudation of a clear fluid, accompanied by a certain number of leucocytes, into the spaces in and immediately under the cuticle. This irritant may be of various kinds. It may consist of the products of micro-organisms or it may be the active principle of cantharides, or, again, it may be, as in the case with which we have here to deal, the specific organisms associated with the vaccine lymph. After a time the lymph becomes more cloudy, from an increase in the number of leucocytes, whilst it is only later, when apparently the micro-organisms of the skin, especially the pus-producing organisms which are so frequently found there, begin to exert their chemiotaxic plus a necrotic effect that the true pustule is formed. In vaccination the pustulation seems to be due entirely to the action of these pyogenic organisms, so that the fewer of these there are in the lymph and the cleaner the vaccinated surface is kept the longer will be the stage of vesiculation (and probably the greater the protection afforded) and the later the appearance of pus-formation. In fact, if the pus organisms could be kept out of the vesicle altogether there is no reason to doubt that true scabbing might occur without the intervention of suppuration of any kind, the vesicle drying up to form a scab which would protect for a time the irritated surface beneath it. We have ample demonstration of the fact that the presence of pus-producing organisms in vaccine lymph may not greatly interfere with the characteristic appearance of the vaccine vesicle, though there is always a tendency to the production both of vesiculation and of pus at a comparatively early stage, the period of vesiculation being somewhat shortened. It must be insisted upon that vesiculation and pustulation—and, of course, with the characteristic appearance of the true vaccination vesicle, but with a superficial lineage that is not always differentiated except by the very careful observer—may lead those who are not well acquainted with the specific condition to assume that, because they have had such spurious vesicle and pustule following the scratching of the skin and the rubbing in of a suspected vaccine lymph, they have had a successful insertion; with the result that it has been claimed that cases vaccinated unsuccessfully have been shortly followed by successful revaccination in which the operation is to have been perfectly typical, the fact being that the so-called primary vesiculation was neither more than vesiculation and pustulation, not of the true or true type, but only a superficial resemblance thereto to be capable of deceiving the already.

[illegible]

action on the skin—the histological changes are well described in Dr. Copeman's Milroy Lectures[1]—is now fully recognised, and the more active the vaccine the wider the area beyond the scarification in which the reaction and vesiculation take place. It must be remembered, however, that a second factor in [illegible] extent of this vesiculation is the depth of the scarification, and a weak lymph with a deep scarification may in some instances give as extended a reaction and as marked and large a vesiculation as a stronger vaccine applied to a more superficial scarification. Speaking generally, however, the first statement holds good. Moreover, as has already been mentioned, the most typical vesiculation, but one running a somewhat slow course, is obtained by means of vaccine lymph that contains no "extraneous" organisms or only a few of the innocuous spore-bearing organisms above mentioned. In connexion with this statement it must be remembered that many organisms which exert little or no effect on healthy resistant tissues are, under certain circumstances, able through their products or when introduced together with other organisms to set up irritation of the cutaneous or subcutaneous tissues, especially when introduced in large quantities. We therefore consider that the presence of a large number even of so-called innocuous organisms may, quite apart from their action on the lymph itself, exert a deleterious action on weakened or devitalised tissues. Such lymphs may, when perfectly fresh and in healthy people, be relied upon to do their work properly, but if kept for a time and used for the vaccination of unhealthy persons they may give rise to unpleasant and irritating consequences.

One statement that may be accepted without reserve is that *if the lymph be free from bacteria (especially streptococci and staphylococci) and typical vesicles slow of development with little inflammatory areola and late in coming to maturity be obtained* there need be no fear that the patient is not properly vaccinated.

CONCLUSIONS.

1. During the last three years there has certainly been a marked general improvement in the character of the lymph supplied from various sources.

2. The "extraneous" bacteria have not yet been brought down to a constant quantity and very few of the "brands" that were examined, even allowing for accidental contamination in those cases where only three or four colonies were found, were sterile on all occasions. Certain brands, however, were superior in this respect to others.

3. From a consideration of those brands that were examined and re-examined we are compelled to come to the conclusion that in certain instances the process of glycerination had been imperfectly carried out. It may be that the lymph had not been stored sufficiently long after being glycerinated or, on the other hand, that the mixing had not been sufficiently well carried out or too small a quantity of glycerine had been used.

4. In a few cases, as will be readily gathered from the tables, the collection of the lymph had not been carried out under sufficiently strict conditions of cleanliness and with proper antiseptic precautions, the presence of a comparatively large number of sporulating and anaerobic organisms giving evidence of such laxity.

5. The presence of a large number of organisms on the agar plates affords evidence that sufficient precautions had not been taken to remove the organisms usually found on or in the appendages of the skin and we suggest that special attention should be paid to this point.

6. Where the glycerination is properly carried out there appears to be little danger of the occurrence of active tubercle bacilli in vaccine lymph. We are glad to see, however, that most of those who send out vaccine lymph make a point of having a post-mortem examination made of the carcass of the calf before the lymph is distributed for use.

7. The use of calf lymph entirely does away with any danger of the transmission of syphilis through the agency of vaccine matter. The presence of a small quantity of blood, therefore, is not considered to be of any importance except, as we have pointed out, that it indicates that perhaps more care might have been taken in the collection of the sample. It may, however, be pointed out that it has been proved by recent experiments that the presence of blood, even in small quantities, in vaccine lymph exerts a marked deteriorating influence. The lymph rapidly loses some of its potency, the activity falls more rapidly, and extraneous organisms develop more readily than in lymph so collected that it is not tinged with blood.

8. We are strongly of the opinion that no sample of lymph should be sent out from the makers until it has been under the action of glycerine for a month, except for purposes of export or when supplied to those vaccination officers who understand the action of the glycerine and of the necessity for allowing it time to exert its full power of eliminating all "extraneous" organisms.

9. A bacteriological examination should be made of every batch of lymph that is sent out, and not only the percentage of insertion successes should be given, but the number of organisms, both aerobic and anaerobic, spore-bearing and non-spore-bearing, with the time at which the test was made, should be marked on every tube or set of tubes.

10. We are thoroughly satisfied that, so long as the non-spore-bearing organisms are eliminated and the spore-bearing and anaerobic organisms reduced to a minimum, it is not necessary to send out absolutely sterile lymph. These spore-bearing and anaerobic organisms are—except when the lymph is taken from diseased animals, which should never be the case—entirely innocuous, and it is far better to recognise this fact than to make a pretence of sending out sterile lymph which in many cases has never been "plated for organisms at all.

11. It should be recognised that the less there is left for the glycerine to do the better and more permanent will be the quality and [illegible] lymph. With healthy animals, great [illegible] antiseptic precautions in regard to the skin, the hands of the operator, the instruments, and the capillary tubing, the fewer will be, not only the organisms that may be eliminated by glycerine, but also the spore-bearing aerobic and anaerobic organisms.

12. Taking them as a whole the vaccine lymphs, as already stated, are of much greater purity than we expected to find them. Improvements had already been made at the time that the first experiments were systematically carried out, whilst from our later examinations it is evident that still further improvement has been made during the past year.

We shall make periodical examinations until we find that the whole of the vaccine lymphs that remain on the market are equal to the best "brands" now supplied.

We publish these figures with a full sense of the responsibility that we assume in connexion with the future of vaccination. Now that the characters of a good calf lymph are known and that the possibility of obtaining such a lymph free from pathogenic germs and from all but a few spore-bearing organisms has been demonstrated the great objection to vaccination has been done away with. Good calf lymph may be fully utilised and its beneficial effects obtained without any fear of accidental contamination of any kind being introduced—except from the patient or his surroundings—entering into the calculations of the operator.

DESCRIPTION OF ILLUSTRATIONS.

FIG. 1.—Jenner Institute for Calf Lymph. Photograph of gelatin plate made 71 days after it was received which developed 13 colonies.

FIG. 2.—Dr. Chaumier's Animal Vaccine Establishment. Photograph of gelatin plate made 71 days after it was received on which developed 41 colonies.

FIG. 3.—Ferris and Co., Bristol. Photograph of gelatin plate made 123 days after it was received, which developed four colonies.

FIG. 4.—Faulkner's Glycerinated Calf Vaccine Lymph. Photograph a gelatin plate made 71 days after it was received, on which 570 colonie developed.

FIG. 5.—Dr. Warlomont's Glycerinated Calf Vaccine. Photograph of a gelatin plate made 71 days after it was received on which developed eight colonies.

FIG. 6.—Association for the Supply of Pure Vaccine Lymph. Photograph of a gelatin plate made 125 days after it was received on which five colonies developed.

[1] Loc. cit.

NATIONAL ASSOCIATION FOR THE PREVENTION OF CONSUMPTION AND OTHER FORMS OF TUBERCULOSIS.—The Devon and Cornwall branch of this society held its annual meeting at Plymouth on April 19th under the presidency of the Mayor (Mr J. Pethick). An influential committee was appointed to promote the provision of a sanatorium for the treatment of consumption among the poorer classes in Devon and Cornwall. The chairman stated that he hoped the outcome of the meeting would be the establishment of a sanatorium on Dartmoor. The Earl of Mount-Edgcumbe was re-elected president, Dr. R. H. Clay was appointed chairman, Mr. T. Bultcel honorary treasurer, and Dr. F. G. Bashell honorary secretary.

THE WAR IN SOUTH AFRICA.

From a military point of view there is little or no news to be recorded from the theatre of war. What there is points to the movements of three bodies of our troops bearing down to the relief of [illegible] arranged as to envelop [illegible] and cut off their retreat to the north. Whether we shall succeed or not in this manœuvre—and success looks very probable—must be shortly known. As regards Lord Roberts's intentions and strategical plans it is needless to say that we can pretend to no more knowledge than "the man in the street," who has during the present war been credited with an amount of information, and speculative sagacity (to say nothing of foolishness) to which he has not hitherto aspired. Unless we are much mistaken we may surmise, however, that what was understood to be the original plan of the campaign will be soon undertaken—namely, an invasion of the Transvaal in force at more than one point, the advancing columns converging towards Pretoria as a common centre and objective, and with that end in view every preparation is now being made and completed. Lord Roberts's force at Bloemfontein alone must number 70,000 men at least (probably more), and the provisioning of such a force, together with the requisite supply of the munitions of war, hospital service, and all the *et cæteras*, is a more stupendous undertaking than most people can realise. Everything, it must be remembered, has to be shipped from this country to the Cape and then has to be transported across South Africa to the point where needed.

The relief of Mafeking seems, to everybody's great regret, to have dropped out of the calculations, but only temporarily, we earnestly hope. The British army as a whole is healthy and well supplied and all arms of the service are present in due proportions; the men are in excellent spirits and are looking forward to the work before them. What amount of opposition they will have to encounter must soon become apparent. It looks as if there might be some hard fighting; but, on the other hand, it may turn out that, as in the case of the big American civil war, once the Transvaal has been penet[illegible] anticipated and the [illegible]

From the la[illegible] learn that there were some 2000 cases of sickness in the field hospitals (not a high percentage), most of them being due to enteric fever and dysentery. The casualty returns show [illegible] ow apparently widespread [illegible] the kind cooperation of [illegible] as well as through other of our correspondents at the theatre of war, the readers of THE LANCET have been supplied with admirable and most instructive information on the surgical aspects of the war and on numerous points of medical, sanitary, and other interest connected therewith. It is some source of gratification to learn that the Mauser rifle, if a very effective military weapon, nevertheless is a relatively merciful one in [illegible] of the latest and most improved weapons and smokeless powder and the extreme difficulty of scouting except perhaps by balloons, or of ascertaining the way in which entrenchments have been affected by any artillery fire anticipatory to infantry attack. Our experience with the Boers has also shown the great power and strength of a defensive warfare conducted by an enemy knowing every inch of the country and kept well informed by spies in all directions.

THE BELGIAN AMBULANCE FOR THE BOERS.

The efficient treatment of the sick and wounded in warfare is a matter which commends itself to all civilised people without distinction of race, of religion, or of party. The excellence of the Royal Army Medical Corps in the present war in South Africa has deserved and has received unstinted praise. We are sorry to learn that the Belgian ambulance sent out to assist the Boers has been less successful—that is, if we may believe the account given by *Le Matin*, a journal published at Antwerp. According to this paper the management of the Belgian ambulance was by no means ideal and the results obtained have been far from satisfactory. The president of the association, M. Pol de Mont, and the members of the committee are not directly blamed, but it is suggested that there is a doubt as to whether the funds which they were called upon to administer were used to the best advantage. The expedition appears to have started under disadvantageous circumstances and jealousies were aroused on the voyage out. Some members of the corps were treated as second-class passengers, others were relegated to the third class, and on one occasion when the former were treated with champagne the latter were deprived of their accustomed beer because they did not show sufficient respect to the leaders of the expedition. Two members of the corps threatened one another with knives and revolvers; two others fought a formal duel. One medical man constantly quarrelled with a colleague and some of the German members treated three English [illegible] (*britain*) [illegible] Discord [illegible] of the second class. One lady refused to sit at table with other lady members of the ambulance whose proceedings appeared to her to be reprehensible. The members of the corps who travelled as third-class passengers suffered a great deal of discomfort from being crowded with emigrants who came on board at Lisbon, at Naples, at Port Said, and at Aden, and amongst whom a want of cleanliness was a marked and general characteristic. At Lorenzo Marquez some of the German members caused trouble by their imprudence in having introduced into their baggage offensive weapons unfit for the use of peaceful men. The Belgian members of the expedition who started with good outfits were annoyed by the loss of more than half their effects. However, the arrival of the corps at Pretoria in some degree compensated for the discomforts of the voyage. Things began to look better. A banquet was organised, but the gaiety was unfortunately again blighted by the conduct of some of the members. One lady caused offence to the Puritan population by smoking cigarettes at the banquet, at the termination of which there was a general disposition amongst the members of the ambulance to indulge in a free fight. The rest of the story may be briefly told. In the end the corps broke up. The Germans joined the combatants. The ladies dispersed, with the exception of the one who had smoked cigarettes, and she alone remained to carry out her original mission of treating the wounded. On the whole, perhaps, it may be admitted that ambulances are not always managed better on the continent.

CONVALESCENTS RETURNED FROM THE WAR.

The editor of *Guy's Hospital Gazette* sends us a long and interesting communication from Mr. Francis E. Fremantle who is attached as surgeon to No. 1 General Hospital, Wynberg. We abstract the following from the complete paper which will appear in *Guy's Hospital Gazette*:—

"The hospital ship Maria belonging to the British India Steamship Company displaces some 3100 tons, [illegible] was transformed into a hospital ship at Durban within a fortnight at a cost of something under £6000 and was designed to carry some 200 cases in cots and berths—mostly swing cots—and 150 in hammocks. . . . The medical staff consisted of sergeants and orderlies of the R.A.M.C., civilian orderlies and compounders, and of four civilian surgeons, all under the principal medical officer, Major Butterworth, R.A.M.C., who was in charge of the wounded troops on board, as well as of the medical and nursing staffs. The nursing staff consists of six civilian nurses and one nursing superintendent of the Army Nursing Service. . . . The medical officers consisted of the ship's surgeon, Mr. H. Hart Jackson—acting also as civilian surgeon; Mr. J. B. Dell, an old Guy's man and a veteran hospital [illegible]; Mr. Matthews, a prominent senior Uitlander at Johannesburg; and Mr. Fremantle. They divided the cases about equally between them and took it in turns to be on duty as orderly medical officer for the week, for inspection of the sanitary and culinary arrangements, and for visiting the wards at meal-times to hear and to pass into camp a note about the food. In general health, it may be said, the men picked up to a most marked extent on their voyage of [illegible] days, [illegible] a week's rolling and [illegible] Such improvement was due to several causes, [illegible] both in quantity and [illegible] of treating [illegible] received, both medical and [illegible]

first instance are in good health, usually first rate health, and they are all select men.

"The following table analyses the cases with regard to their main cause of being invalided home:—*Surgical:* Gunshot wounds, 83; shell wounds, 13; contusions, 6; venereal diseases, 39; and other surgical affections, 25. *Medical:* Dysentery, 71; rheumatism, 44; enteric fever, 9; heat stroke, 7; and other medical affections, 40.

"This list probably gives a fair idea of the invalidings at the height of a campaign. At an earlier stage there would be comparatively few medical cases; at a later the proportion of medical cases, especially those of enteric fever, would be considerably increased. The proportion of gunshot- to shell-wounds is interesting as indicating to some extent the comparative value of the Boer artillery and small arms. But this proportion, or rather disproportion, is exaggerated in this list, inasmuch as shell-wounds are usually the most ragged and the most extensive and therefore the most fatal. Fewer cases of shell-wounds survive to be invalided home. It is interesting to note that all but one of the 13 officers invalided home were surgical cases and that the only exception was a case of nervous exhaustion. This is probably due to two causes. Firstly, on account of greater care and general cleanliness, and use of filtered and bottled waters when possible, officers are less liable to infection. Secondly, officers convalescent from moderately severe illness are often useful at the base, if not at the front, whereas private soldiers and non-commissioned officers in the same condition are often unfit even for garrison duty. The above classification refers only to the main cause of the invaliding of each patient. But many patients returned as cases of gunshot-wound developed dysentery in hospital; cases invalided for dysentery had often had some slight wound previously and had returned to duty before being taken ill; several had multiple wounds; some had multiple diseases; and thus it comes about that the writer's note-book includes some 150 wounds and 80 cases of dysentery. The wounds are classified as follows:—A. *Head and neck:* (1) Cranium, 8; (2) face, 3; (3) eye, 5; (4) ear, 1; (5) neck, 4. B. *Chest:* (1) Penetrating, 11; (2) non-penetrating, 3. C. *Abdomen*, 5. D. *Extremities:* (1) Bones, 37; (2) joints, 9; (3) large blood-vessels, 5; (4) large nerves, 11; (5) uncomplicated, 52." The paper concludes with brief descriptions of cases which are both interesting and instructive.

ARRIVAL OF THE MAINE.

The American hospital ship *Maine* arrived at Southampton on April 23rd. Within an hour of her arrival the whole of the sick and wounded were removed in the ambulance train to Netley, where they were admitted to the great base hospital. Arrangements had been made by the executive committee for giving a fitting welcome to the *Maine*, but the plans were frustrated as the committee found on arriving at Southampton that the ship had arrived three hours previously. In expectation of the arrival the quay had been decorated with British and American flags. The *Maine* was flying on her mizzen the Union Jack with the Red Cross presented before her departure by the Duke of Connaught, the Stars and Stripes floated from the foremast and the transport flag from the stern. She brought home 151 men and 12 officers. About 50 of the cases were surgical. Nearly all the patients were convalescent. Lady Randolph Churchill said that the *Maine* had returned because the hospitals since the relief of Ladysmith had become congested and all the hospital ships were full. The progress of the cases was most satisfactory during the voyage. On April 24th Lady Randolph Churchill with some of the committee visited the men from the *Maine* at the Royal Victoria Hospital, Netley, and distributed pipes to them, the convalescent men being on the lawn in front of the hospital.

(NOTES FROM SIR WILLIAM MAC CORMAC.)

(Concluded from p. 1135.)

In concluding the series of letters upon the medical arrangements of the South African campaign which I have addressed to you I should like to draw attention to the following criticisms and remarks, and considering the extent and nature of the work that I have personally investigated and assisted in I consider these may be regarded as of interest.

During my four months of service with the army as consulting surgeon I have visited Cape Colony on three separate occasions and Natal the same number of times. I have been intimately associated with the officers and men of the Royal Army Medical Corps and their civilian assistants in the base general hospitals, the stationary field hospitals, and the field hospitals in camp, on the march, in the hospital tents, and in the operating tents. I have been with the wounded as they were brought in from the field; have travelled with them during their journeys in the hospital trains down the lines of communication; have been consulted as regards the more serious cases in all these hospitals and also in respect of those on board the hospital ships, all of which I have visited; have inspected and worked in all of the base hospitals; and I now append a list of the medical units with which I have been associated.

General hospitals—No. 1, at Wynberg, Cape Colony (500 beds); No. 2, at Wynberg, Cape Colony (500 beds); No. 3, at Rondebosch, Cape Colony (500 beds); No. 4, at Mooi river, Natal (500 beds); Maritzburg General Hospital (1200 beds); and the Portland Hospital at Rondebosch (100 beds).

Hospitals on the lines of communication.—Kimberley Civil Hospital (270 beds); Military Hospital at Kimberley (96 beds); Nazareth House College Hospital (96 beds); No. 4 Stationary Field Hospital at Chieveley (500 beds); Estcourt Hospital (School House Convent, 100 beds); Agricultural Hall Hospital at East London (200 beds); No. 3 Stationary Field Hospital at Frere (200 beds); and Intombi Hospital, Ladysmith (1900 beds).

Field hospitals (100 stretchers each, on the move).—Two at Naauwpoort (Jan. 20th); one at Rensberg (Jan. 22nd); four at Chieveley at the battle of Colenso (Dec. 15th, 1899); one at Chieveley (Feb. 11th); and the Cape Volunteer Field Hospital at Orange River (Feb. 17th).

Hospital trains.—Two in Natal (frequently) and one in Cape Colony.

Hospital ships.—The s.s. *Nubia*, 479 beds; the s.s. *Lismore Castle*, 242 beds; the s.s. *Trojan*, 160 beds; the s.s. *Oceana*, 320 beds; the s.s. *Spartan*, 130 beds; the s.s. *Princess of Wales*, 184 beds; the s.s. *Maine*, 136 beds; and the s.s. *Avoca*, 378 beds.

Besides the above there are the Medical Reserve Depot and train at Durban and the German Hospital at Jacobsdal (90 beds).

All the units above enumerated have been described and criticised in detail in my letters, and a few general remarks upon the workers in them may not now be out of place.

ROYAL ARMY MEDICAL CORPS.

The professional surgical effectiveness shown by the officers of the Royal Army Medical Corps during my intimate connexion with them whilst they have struggled with difficulties of location, transit, want of water, and a hundred and one other impediments never experienced in a civil hospital in peace, is, in my opinion, of a very satisfactory character, and everything has been done which one could possibly suggest under the varying circumstances for the comfort and skilful treatment of the wounded.

The rapidity and completeness with which large field hospitals were conveyed by road or rail, unpacked, and re erected, reflect great credit upon the organising powers of the officers and the effective carrying out of their orders by the hard-working and patient non-commissioned officers and men of the corps under them. My letters will have sufficiently illustrated these facts, but attention may be particularly drawn to the letter in THE LANCET of Jan. 20th, p. 184, descriptive of the Battle of Colenso.

JUNIOR CIVILIAN SURGEONS.

The young surgeons at present employed with the army have been of great professional assistance on account of the inadequacy in point of numbers of the officers of the Royal Army Medical Corps. They have been attached to the various stationary hospitals and several have been sent to the front to replace wounded or sick officers of the Royal Army Medical Corps. Many of these surgeons who have held responsible junior hospital appointments have shown that surgical skill which might be expected of them. Others have not shown the same standard of excellence in their work, their experiences in general practice obviously not having qualified them so well for military surgery.

It must be remembered that these gentlemen are employed for very little beyond actual professional work and that, therefore, the total responsibility and onus of the administrative work, which is by no means a minor duty, devolves upon the officers of the Royal Army Medical Corps, in addition to

their professional duties which they perform in a like degree to the attached civilians. The misunderstandings arising from the want of disciplinary training of the civilian surgeons and the training required to familiarise them with the workings of the army and the men of the Royal Army Medical Corps who assist them have naturally increased the responsibility thrown upon the officers of the Royal Army Medical Corps commanding the various hospitals.

CONSULTING SURGEONS.

The value of consulting surgeons can be best shown and in the most effective manner by their work at the large stationary hospitals. During the heat of action and the necessarily hasty nature of the surgical work in the field the opportunities for the employment of special surgical acquirements are less apparent, and the presence of the consulting surgeon, although of much help, is, I submit, of smaller value than in a large base hospital where serious complicated and difficult cases are numerous.

NURSING SISTERS.

The work of the army nursing sisters has been admirable and endless. As soon as one batch of serious cases from the front was comfortably settled and a partial rest seemed possible another batch arrived. The untiring energy and patience shown by these ladies under great difficulties and stress have been beyond praise. The sisters of the Army Nursing Reserve and very many civilian trained nurses have, of course, been also employed and the same remarks in perhaps a somewhat less degree apply to them also. The members of the Army Nursing Reserve have been trained to a certain extent in army work but the civilian nurses proper have to be looked after in official matters by the sisters of the Army Nursing Service. The work has also undoubtedly been hampered in some cases by the interference of ladies who know little of hospitals or nurses and who wish with the best intentions to help, but their inexperience renders them ineffective for good.

CRITICS.

It is astonishing that many of the criticisms of the hospitals, some appearing in influential papers, should receive the attention that has been given to them, considering the want of knowledge and inexperience plainly shown by the critics whose letters prove by internal evidence in many instances that they are unworthy of any serious attention.

GUNSHOT WOUNDS.

It would be alike interesting and instructive if information could be obtained as to the precise character of the injury in the fatal cases of gunshot wounds. This is obtainable in regard to patients who die in hospital some time after the receipt of the injury, but in the case of those—and they are the great majority—who die on the field itself, the record will be of necessity scanty or altogether wanting. After most actions the efforts of the authorities are exhausted in effecting the burial of the dead, and this is sometimes only accomplished with much difficulty. I fear that it is a vain thing to expect the medical officers to obtain information of value as to the nature of the wounds producing mortal consequences.

One must on the whole, as the cases which I have quoted amply illustrate, be much impressed with the large proportion of harmless, or comparatively harmless, wounds which the Mauser bullet inflicts. The head, chest, and abdomen may be, and are, traversed without inflicting mortal injury, and in a considerable proportion of cases without inflicting permanent injury of any kind whatsoever. The rapid healing of the external wound is remarkable. It rapidly closes under a black scab. This characteristic of the external wound in the cases of those injured by the Mauser bullet did not differ in any material degree in the wounds inflicted by the Lee Metford bullet on the wounded Boers whom I saw at Jacobsdal. Yet a good many of these wounds were suppurating, and as the difference between the two bullets is so slight the difference in results must, I believe, be ascribed to a large extent to the fact that our wounded have been treated so specially after the receipt of their injuries with the first field dressing on the field. In one of my previous letters* I commented upon the careful and effective manner in which these indeed on their arrival at the first field hospitals were found to have been dressed. The British soldier has been well drilled by the officers of the Royal Army Medical Corps upon the method of application of the first field dressing which each man carries on his person, and judging by the way in which these dressings were applied by the men themselves or by comrades in the absence of the [illegible] have been by no [illegible] ery appreciable [illegible] being recovered from in a way which never ensued after wounds produced by the heavier bullets employed in previous wars. In this campaign, as in former ones, the comparatively insignificant damage produced by the most formidable artillery is once more apparent, although, I believe, very much was expected from the recent great developments in this arm. It is, after all, the rifle fire, not artillery, which kills and damages men. The Mauser bullet frequently perforates a bone—even the compact tissue of the shaft—without causing complete fracture in a larger proportion than has ever previously been observed.

Nerve injury and damage to blood vessels have occurred in large numbers. A peculiar feature of the nerve wounds is that in many cases the bullet has perforated the nerve without complete severance, leaving strands of tissue on each side intact, as I have seen even in nerves as small as the musculo-spiral and median. In many cases of arterial wound the limited amount of extravasation of blood has been very remarkable and vessels of very large size have often been wounded without any immediately fatal issue.

Wounds of the neck.—I have seen many cases in which bullets have traversed the neck from side to side in almost every direction without any serious consequence supervening, the remarkable fact being that the important structures appear to have so often entirely escaped damage, although apparently directly in the line traversed by the projectile.

Wounds of the chest.—In this region one finds case after case convalescent after a bullet has traversed the lung, and in many instances both lungs. The heart and pericardium have so often been found to lie in the track of the bullet that it seems probable that these highly vulnerable structures must in several instances have been actually pierced. In a few cases both the abdomen and the thorax have been traversed by the same projectile without serious inconvenience to the patient.

Wounds of the abdomen.—In many instances the men were without food or drink for many hours before being wounded. In these cases the wounds of the bowel, like those in the skin, must often, one must suppose, seal up and close before any extravasation of fecal matter can occur. In some, but surely only in a few cases, the projectile may traverse the abdominal cavity without any visceral perforation; but such cases are, I believe, rare and this suggestion does not seem to explain the large number of recoveries which follow traversing wounds of the abdomen, for in the great majority of these the viscera must have been damaged. The liver, kidneys, stomach, and bladder have also been wounded without a fatal issue.

I have seen some cases of unnecessary laparotomy and many more I know of have been unnecessary; the injury has been irreparable in many. In many too long an interval has elapsed and there were other unavoidable hindrances. Be this as it may, I feel sure that the mere fact of a Mauser or Lee Metford rifle bullet traversing the abdomen is of itself no sufficient indication of the necessity for abdominal exploration or operation. I have seen so many cases of this kind in which the patients have recovered without any surgical interference that one may well pause before deciding to expose a wounded man to the inevitable risks attending such an exploration.

In the field hospitals where these operations should be performed under favourable conditions as to nature of the lesion, internal which has intervened since the receipt of the injury, the attendant circumstances are often very unfavourable. In the first place a large number of cases have to be dealt with, affording but little time for detailed examination, and still less for healthy prudence. In many places the fearful dust-storms and the plague of flies render aseptic [illegible] impossible of attainment. On the other hand, if [illegible] have received abdominal wounds are transferred to [illegible] along the lines of communication where a better and more complete [illegible] time [illegible] operations to be [illegible] in all respects as [illegible] do then the chances of [illegible] the length of interval which has elapsed. I [illegible] believe that what [illegible] can have [illegible]

* THE LANCET, March 24, p. 854.

wish it to have, nor can secondary operations have any brighter outlook. In arriving at a decision in any case we must therefore not ignore the fact that there are many abdominal wounds which recover without any surgical interference and from what I have observed the evidence of serious internal hæmorrhage or the advent of symptoms of peritonitis would appear to be the two chief indications for operation. We must also remember that these operations must frequently be performed amidst surroundings very ill calculated to afford a fair chance of success.

Gunshot wounds of bone.—These wounds have already been referred to but I wish to add a few remarks with reference to fractures of the femur. Gunshot wounds of the femur do best in proportion to the shortness of transport. Many patients have been of necessity carried long distances and I expect when the statistics of the war are completed that a considerable proportion of these will be found to have done badly. The ideal treatment for gunshot fracture of the femur, as a medical officer expressed it to me, would be to erect a tent over the wounded man where he fell and not transport him at all. I recollect the veteran Stromeyer, then consulting surgeon to the third German army corps, expressing quite similar opinions to me at a place called Floing, near Sedan, during the war of 1870–71. The Hodgen extension splint appears to have afforded excellent results at Wynberg and is perhaps the least irksome form of apparatus to the sufferer.

In respect of the "stopping power" of the Mauser and Lee-Metford bullet there is no doubt that a man may receive a flesh wound in any part of his body and be thereby none the worse for many hours. He can carry on for a certain time even after receiving a chest wound or a gunshot fracture of the upper extremity, but with these and one or two other exceptions his fighting capacity after being wounded is practically *nil*. In a war like this there is no such thing as a "rush" of a body of men on either side.

——— WILLIAM MAC CORMAC.

WITH THE IMPERIAL YEOMANRY HOSPITAL.
(FROM A SPECIAL CORRESPONDENT.)

THE VOYAGE OUT.

The staff of medical officers and orderlies went out in two divisions. Lieutenant-Colonel A. T. Sloggett, R.A.M.C., and Mr. A. D. Fripp with all the orderlies, set out on Saturday, Feb. 10th, in the *Norman*, whilst Dr. Washbourn and Mr Raymond Johnson with the other medical officers and dressers started on Monday, Feb. 12th, in the *Majestic* from Southampton. On Saturday, Feb. 17th, Miss Fisher with 39 nursing sisters and 10 wardmaids followed in the *Guelph*.

ON THE "MAJESTIC."

About 200 people collected on the quay to bid farewell to the *Majestic*, and as the anchor was being weighed loud cheers were raised again and again by those left on shore and echoed by those on board, and to the strains of "Auld Lang Syne," played by the military band on board, the voyage of the *Majestic* to South Africa was begun. The greatest enthusiasm was shown and tearful partings were almost conspicuous by their absence. The 3rd Welsh Militia (under Colonel Perkins) and the 3rd King's Own Lancasters (under Colonel North), with 250 reinforcements for the Guards, were also on board the ship, which was carrying, with her own crew, 1801 men all told. Every morning and afternoon physical and military drill was held on the officers' deck for the men and their physique and general condition greatly improved during the voyage. Target practice from the stern of the vessel with rifles for the men and revolvers for the officers took place daily, and was much needed, as some of them were raw recruits. The food for officers and men was of the best and everybody's comfort was diligently cared for by Captain Smith, R.N.R. The only untoward event during the passage was the unfortunate death of one of the privates of the Lancasters from pneumonia. He was buried at sea on Feb. 25th. As the *Cheshire* lost four and the *Arcadia* nine men from the same cause the *Majestic* is to be congratulated on having had only one fatality. On all three of our vessels epidemics of sore-throat occurred and several cases of influenza also cropped up, but with few exceptions the attack was a slight one.

Many of the medical officers, as well as military officers at head of the different regiments on board, were inoculated against typhoid fever. In almost all cases the inoculation caused headache, general malaise, with aches and pains, and in many cases on the *Majestic* a rigor more or less severe occurred within a few hours of inoculation. The temperature often rose to 104° F. and pallor and faintness were marked for a day or two, and the patients preferred as a rule to stay in bed. The pulse was weak but not much increased in frequency. In a very few cases very slight constitutional symptoms occurred and, apart from the pain at the seat of inoculation, practically no discomfort was suffered. The patients themselves said that the inoculation brought about a condition closely resembling an attack of influenza. In any case the serum, one cubic centimetre of which was inoculated, seemed to act as a strong cardiac depressant. The iliac region was generally chosen as the seat of inoculation, where invariably redness, œdema, and inflammation occurred with very acute pain. The glands in the groin became enlarged, inflamed, and painful, and rendered walking difficult and painful for several days after all constitutional symptoms had disappeared. In all cases good recoveries were made. It is claimed by Professor Wright, the inventor of the serum, that its protective powers last for two years. The results so far obtained point to the fact that the odds are two to one against inoculated persons taking typhoid fever, and the same against death supervening if an attack of typhoid fever should be contracted as compared with the non-inoculated.

As we passed through the tropics the heat became very great and all the most favourable positions for spending the night on deck and on the more comfortable cushioned seats of the companion hatches were secured early in the evening by those who found the air of their cabins too oppressive to sleep in. Owing to the south-east trade wind blowing steadily against us as a head wind it was a most favourable time for crossing the line, as this breeze did much to lessen the effects of the tropical rays of the sun. On deck one scarcely experienced any discomfort from the heat. But matters were very different for those who had to attend to the fires of the engines, and several cases of heat-stroke occurred amongst the stokers; one very severe case occurred with three relapses and a fatal issue was avoided only by the most careful attention of the medical officer. In bad cases the temperature rises to 107° F. and even higher, faintness quickly comes on, the patient becomes unconscious and even comatose, and in the worst cases there is an entire absence of perspiration. Dr. Mackenzie, the ship's medical officer, said that patients invariably recovered if there was free perspiration. The treatment consists of cold affusion or rubbing with ice until the temperature falls and the administration of stimulants, generally by hypodermic injection, as the patient is unable to swallow. As recovery takes place the temperature becomes normal, consciousness is regained, and perspiration takes place, but relapses may occur without any fresh exposure to excessive heat. About 30 stokers on board the *Majestic* suffered from heat-stroke and some of the privates of the Welsh Regiment volunteered to act in their place.

Whilst in the Bay of Biscay a stiff breeze began to blow on the Tuesday morning and it freshened by the evening to a full gale, necessitating the closing of the hatches, and the few passengers who were not suffering from *mal de mer* were ordered to keep below. Owing to the fact that we were shipping some very heavy seas on to the deck on which the horses were stabled the engines were worked at low pressure. However, by midday on the Wednesday the wind had fallen and most of the passengers were able to appear at lunch. This storm was, no doubt, connected with the blizzard which passed over London a few days after the departure of the *Majestic*. Subsequently calm weather was experienced all the way to Table Bay. The *Guelph*, however, had a very rough passage, the roughest which has been experienced for five or six years.

ST. VINCENT.

On Sunday, Feb. 18th, St. Vincent was reached. Immediately the anchor was cast in the bay the vessel was surrounded by a flotilla of small boats containing native fruit-sellers and native divers. The boys comprising the latter class were most expert divers and swimmers; they dived into the sea after pennies which were thrown in for them and invariably caught them before they had sunk far. For a shilling one of them dived right under the vessel, although she was drawing 26 feet of water at the time, and came up on the other side. The oranges and bananas grown on the island are very luscious and are offered at the rate of eight for 1*d*. The island itself is volcanic in origin and very

barren, and only small portions of it are under cultivation. Its only importance is as a coaling and telegraph station. There is no trade and the English population only numbers about 100; the Portuguese, to whom the island belongs, are in slightly larger numbers. The natives closely resemble the negroes of the West African coast, but many of them have a strong admixture of Portuguese blood in their veins. Besides their own native tongue they speak Portuguese and broken English. It was interesting to see that a new hospital was being built upon the most approved modern principles for the treatment of medical and surgical cases.

The Portuguese prison is well worthy of a visit and is looked upon as one of the sights of the town, just as Bethlem used to be in London. The prisoners rush to their doors and windows and thrusting their heads and hands through their prison doors solicit alms from the visitors to pay their fines or to supplement their dietary of two meals of maize and beans a day. A more curious sight than half a dozen heads thrust through the opening of the gridiron-like doors of the prison cannot be imagined. Many prisoners share the same room; one Englishman had been imprisoned by the English consul for deserting from the cargo ship *Tria* and had to share his quarters with several natives. Most of the native prisoners, both men and women, were imprisoned for fighting, some of them serving terms of from 15 to 18 months.

As soon as we reached St. Vincent one of the officers of H.M.S. *Cambrian* came alongside in a steam pinnace and communicated to us the good news of the relief of Kimberley by General French with 6000 cavalry, of the retreat of General Cronje with his army towards Bloemfontein, and of their pursuit by General Kelly Kenny and General French and others. Two French cruisers were also in the bay, but both left whilst we were coaling, one of them going to quell an insurrection which had occurred in Martinique, one of the islands of the West Indies.

Whilst in the tropics it was interesting to watch the shoals of flying fish rising near the bows of the vessel and flying close to the surface of the water, sometimes as far as 40 or 60 yards. Their size varied from that of a sprat to that of a good-sized herring. Although they as a rule keep close to the surface of the water, one of them flew on to the deck of the ship. The phosphorescence of the sea could generally be seen at night, but it was more brilliant in Table Bay than during any part of the voyage. It is a curious fact that any disturbance of the surface of the water greatly increases its brilliance and duration, such as pouring water into the sea from a height, or even throwing any object into the water will immediately produce an area of phosphorescence where before none was visible. Darwin, in his "Voyage Round the World," speaks of this phosphorescence as "the respiration of the sea," and explains it as due to the decomposition of tiny organic particles held in suspension in the water. He made an experiment which he thought proved that it was not due to the agency of any living organism by drawing up some phosphorescent water in a canvas bucket and allowing it to dry for hours. When quite dry the phosphorescence was still present and hence he concluded that it was due to some chemical change and could not be due to living organisms which would all have been killed by such prolonged drying. But a similar phosphorescence can be observed in England in the summertime on bones and on the fibrous tissues of meat which has been kept for some time in an ice safe. It is well known to English butchers and is no doubt due to commencing decomposition caused by the action of bacteria.

CAPE TOWN.

On March 1st at 10 A.M. the *Majestic* cast her anchor in Table Bay and the news of the surrender and capture of Cronje with some 4000 prisoners was learnt at once. At about 11 A.M. on the same morning guns were fired and rockets sent up and most of the ships in the bay began to dress themselves with bunting, and soon the cause of all this demonstration was heard to be the receipt of the news of the relief of Ladysmith. All Cape Town went mad that night, free drinks and free cigars were offered to all men wearing Her Majesty's uniform. The town was illuminated and a patriotic concert was held in aid of funds for the relief of the wounded.

The population of Cape Town [illegible] at present time. It is estimated upon two [illegible] hot and dust. The streets are [illegible] and many of the [illegible] are very dirty. [illegible] transport [illegible] of the [illegible] to Sydenham of Cape Town. [illegible] shies and give a very irre[illegible] streets. Owing to the large influx of refugees prices in Cape Town are high; it is possible to buy articles out here at Deelfontein for about half the amount charged for them in Cape Town. Whilst in Cape Town we lived on board the *Majestic*, as did all the soldiers also. One medical officer who tried to get sleeping accommodation at one of the hotels was asked £2 to be allowed the privilege of sleeping on a sofa. Before our departure some of our number had the satisfaction of witnessing the arrival of Cronje with his wife and family as prisoners. They arrived at 7 A.M. on Friday, March 2nd, and as they passed through the streets of the town they were hooted and hissed by the crowds collected to greet them. During our stay in Cape Town we were made honorary members of the Senior Civil Service Club by the kind offices of Mr. Fripp.

THE JOURNEY FROM CAPE TOWN.

Our stay in Cape Town was a short one. On March 3rd the whole of the medical staff and the orderlies entrained at a siding in the goods station and started at 4 P.M. for Deelfontein which Lord Roberts had chosen as the site of the hospital. First class sleeping compartments in a corridor train were provided for the medical officers, four of whom occupied each compartment. Two of the banks were cleverly arranged to shut up out of the way during the daytime when not in use. A present of biscuits was sent to the orderlies from the Mayor of Cape Town and given to them just before the train started. Soon after leaving the goods train our carriages were attached to a long train containing our old acquaintances of the *Majestic*, the 3rd Welsh Militia, who were ordered up to De Aar.

For the first 300 miles or so our path crossed the Great Karoo or desert, a wide expanse of sandy, desert like country, with sparsely scattered shrubs and bushes of a stunted growth. A large number of watercourses, sometimes 30 feet across, could be distinctly traced, although their beds were quite dry. As we proceeded we were gradually mounting to an elevation of 5000 feet above the sea-level, and this caused considerable strain upon the engines, which was, however, lessened by the line being built upon a modified switchback plan. The line has to make many curves and detours to escape different [illegible], with which the whole country seems to be thickly covered. For hours we could see Table Mountain in the distance and ahead of us the Hex river mountains of whitish stone formed a conspicuous and picturesque landmark. On Sunday (March 4th) we were overtaken by a heavy thunderstorm which was travelling almost exactly in our direction and which kept up with us for hours, finally either exhausting itself or passing on ahead of us. Owing to the [illegible] the wood of the carriages contracts and this makes them no quite watertight. In some compartments the rain entered very freely, and it was an amusing sight to see different members of our staff sitting in their compartments under their umbrellas. The storm was a heavy one and resembled a very heavy thunderstorm in England with the difference that it lasted for hours. The rain came down with such force that a heavy mist of spray rose from the [illegible] and was blown along by the wind. Fortunately but for that the storm had passed and we were able to dry our carriages and to rest in comfort.

En route we stopped at Wellington for [illegible] and at 8 A.M. at Majestfontein for breakfast, and also at [illegible] Albert road and [illegible] West [illegible] were rather horrified [illegible] the difficulties of providing for such a large number and small [illegible] Hottentots generally acted as waiters, they are [illegible] domestic servants out here.

Every station and [illegible] by an escort of [illegible] Cape Volunteers. The [illegible] duty at every [illegible] West at the [illegible] and passed the [illegible]

We were [illegible] Beaufortes [illegible] were very well [illegible] them. [illegible]

seen yet whether being a prisoner was better than being shot, and remarked that he was not at all pleased to be out of the fighting. One passenger told them that we were going to Pretoria, to which the wily Boer replied, "Well, take care of yourself, for you will have a warm reception." All kinds of carriages and cattle-trucks were used for conveying the prisoners, who were receiving the same food as Tommy Atkins. They were generally a hardy-looking set of men, with splendid teeth, weather-beaten faces, and long beards.

At Fraserberg Road a trainload of refugees from Kimberley passed us on their way to Cape Town for a rest and holiday after all the trials of the siege. One lady told us that they were reduced to eating the flesh of horses, donkeys, and mules, mule-flesh closely resembling veal and being most popular. For those who could not eat horse-flesh, siege soup of unknown composition but containing no horse-flesh was served out. When the Boers began shelling the women's quarters all the women and children were shut down in a mine for a week just before General French relieved them. They did not look very ill considering the hardships which they had undergone, but many children had sickened and died during the siege.

DEELFONTEIN.

At about 8 A.M. on Monday, March 5th, we arrived at Deelfontein, which is situated 29 miles south of De Aar and 471½ miles from Cape Town. There is no town here, the only buildings being the station house, a general store kept by a Jew who sells everything, and a pumping station which is capable of raising 18,000 gallons from the well, which gives an exceptionally pure supply of water and consequently makes Deelfontein an important place where all the trains obtain a supply of water as they pass through. The place is on the direct route from Kimberley and Bloemfontein to Cape Town. Besides these buildings there is a military camp 50 strong of the D.E O.V.R. force and our own hospital encampment, which is pitched at the foot of a line of kopjes which serve as a protection from the wind.

On our arrival at Deelfontein Sergeant Vassey was found to be missing and a telegram was received to say that his body had been picked up on the line. He had unfortunately fallen from the train and had been instantly killed.

One hut and a few tortoise and bell tents were erected as soon as we arrived and a small three-roomed brick cottage was commandeered as the commandant's headquarters. We were hungry and a picnic breakfast of hot sausages and bread was quickly prepared by our cook. We were obliged to eat with our thumbs and fingers as no forks and knives were unpacked. Now something like a dozen huts are erected and 150 patients are under treatment and another batch of 100 patients is expected. Despite the difficulties of transport of goods from Cape Town in ten days we were in a position to receive 200 patients.

The hospital is divided into three divisions under the leadership respectively of Mr. A. D. Fripp, Mr. Raymond Johnson, and Dr. Washbourn. Each qualified medical officer has from 30 to 40 beds allotted to him and treats his patients subject to the supervision of his chief. In my next letter I hope to give a more detailed account of the various divisions and special departments of the hospital with particulars of the patients and their wounds.

WITH BRABANT'S FORCE.

The following interesting letter has been sent to us by Dr. Robert Lee, who received it from a friend with Brabant's force:—

Aliwal North, Orange River, March 24th, 1900.

"I came home at the end of the year just in time to get word of the three reverses—Gatacre's, Methuen's, and Buller's. I had previously offered my services but they were declined. However, I turned straight round and came out and was fortunate in being appointed upon General Brabant's staff and started with him from Queenstown and thence on here. We have had some stiff fighting and I have had my hands full with wounded, only two amputations—one through the middle of the thigh and one through the middle of the upper arm, very simple. The Mauser flesh wounds heal in a most wonderful way, and it is quite rarely one gets suppuration. But we get some bad Martini-Henry wounds and also some from expanding bullets, and these last shatter dreadfully. The Mauser bullet will sometimes (it depends upon the distance it has travelled) traverse the cancellous tissue of the bones without splintering or causing any constitutional disturbance. The segment shell the Boers use causes much shattering if the segment hits a bone and ugly torn flesh wounds. I swear by iodoform gauze and a double cyanide outer absorbent, either gauze, wool, or preferably both, according to the amount of effusion. In many cases huge quantities of blood are effused into a limb or under the skin of the trunk but this all gets absorbed. One drawback is that we cannot get a good and ample diet for our wounded and granulations are apt to get flabby. Preserved vegetables grow to be awfully tiresome after a bit. Meat we have in abundance, milk only in spasmodic fashion. It is raining great guns here and we are only waiting for the roads to be passable for our wagons in order to move forward.

This column (Brabant's) has been very fortunate, for our men fight Mr. Boer after his own method, which is, after all, astoundingly simple and consists in availing oneself of all possible cover. Then as we are a mounted force we can move quickly. Infantry is comparatively useless here; good for storming purposes granted, but then in a country such as this is, consisting of one long series of natural fortresses, the Boers abandon one position only to take up another just behind; and so the loss falls awfully heavily upon the foot soldiers, the Boers all being mounted and fighting as mounted infantry. Their horses are trained to stand and almost never stampede. We have to thank our artillery for driving the brutes out, for so effectually are they always covered that nothing but shell can get at them; they particularly dislike shrapnel. It is quite rarely that our men get a fair slant at them out in the open.

The rebel Boers have been surrendering here and at Dordrecht in great numbers, and a contemptible, unwashed, mean-looking crowd they are; as one looks at them, knowing full well that but a few days ago they were picking off our men, one grieves that our over-lenient Government has not seen fit to string, at any rate, the ringleaders up on the traitor's tree.

Our people were just in time to save the bridge (Frere Bridge, after Sir Bartle Frere) which spans the Orange river here. The river is now partly swollen by the rains and rolls down a good tawny body of water. Had the bridge not been saved we should have had to go round by Bethulie. I fancy our column will march up the eastern side of the Free State, as already a sufficient body of troops is concentrated at Bloemfontein. I fancy the Boers will make their next big stand at Kroonstad as many roads converge there, and I hear the country suits their style of fighting. Sir Alfred Milner has just come down from Bloemfontein, but *unconditional surrender* and nothing short of it must be exacted from the Boers or we shall have them bobbing up again.

All being well Kruger will live to see a united dominion of South Africa, but under English sway, not under Dutch, as he had fondly hoped. His dream, ridiculous as it seemed to English people when war was declared, was not so vain as we thought; the war has proved that. The conceit and arrogance of the Transvaal Dutchman and his brother in the Free State, Cape Colony, and Natal were only adequately known by those who had lived among them, seen it, and suffered from it. To hate the English was a quick passport to any office in the Transvaal, and so it came about that the place has become a wasp's nest of French, Germans, Hollanders, &c., riff-raff of continental Europe, bound only by this one thing (if one excepts lust of gain)—viz., hatred of our nation.

What a home-coming it will be when all is over. All our troops have done awfully well and Britain need not fear that her sons are falling off in stamina. I have seen all sorts of heroic things done, often by mere striplings. Then the wounded are, almost to a man, very plucky, and I have never worked among people less disposed to grumble. They know we do the best possible for them according to means available and they are grateful.

This is a great time for the niggers, they loot all over the place, and no amount of punishment will stop them. Most of them have old long-standing grudges against the Boers."

LITERARY INTELLIGENCE. — Messrs. John Wright and Co. of Bristol will in a few weeks publish a treatise on Operative and Practical Surgery by Mr. Thomas Carwardine, assistant surgeon, Bristol Royal Infirmary. It will consist of about 700 pages and the text will be supplemented by over 500 original drawings by the author and numerous woodcuts. It will be of an essentially practical character and is intended as a guide to clinical work.

THE ETHICS OF DIRECT REPRESENTATION.

DR. TOOGOOD forwards to us the following correspondence with a request for publication —

I

Lewisham Infirmary, April 16th, 1900

DEAR MR HORSLEY,—In reply to your letter to me of 11th instant the general meeting at the Charing cross Hotel on 12th instant, which took the name of "The Joint Committee to oppose Midwives Registration,' hoped that the enclosed draft address of constituents to M P's for their boroughs or divisions would satisfactorily define our position (in accordance with your election addresses and expressions) as not opposing the registration of midwifery nurses but maintaining the principles of the Medical Acts, and resisting the creation of an inferior order of practitioners of midwifery, and that we should have your support both at the proposed conference at the House of Commons and also in an extraordinary general meeting to be at once convened with the same objects by requisition of members British Medical Association Our highest ground for this resistance, which we are sure is not what you would wish to characterise as childish, is the danger to the lying in woman you so well illustrated at the West Ham meeting by the instance of death from post-partum hæmorrhage before medical attendance can be procured With this explanation I am to convey the following "recommendation" in the report of the executive adopted by the meeting "That Direct Representatives be invited to be honorary presidents of the committee" to act on public occasions as may be arranged to their mutual convenience; and to express the earnest hope of the meeting that in this crucial position we shall have the advantage of your influential support

I am, dear Sir, yours very faithfully,

F S. TOOGOOD

25, Cavendish square, W, April 19th, 1900

DEAR TOOGOOD,—After I have waded through the Andersonian effusion which you have sent me and after I have given it the fullest consideration I find that your committee propose to deal with the midwives registration question in the following manner In the first place they have abandoned the barren negative policy of no legislation to which Mr George Brown and others up till a month ago were pledged, and in the second place they propose now to deal with the question by reviving the old matter of midwifery nurses which was brought forward several years ago by others besides myself in the British Medical Association as a solution of the problem, which was very fairly and fully considered by the association and was finally rejected on vote. The same solution of the question was also handled by the General Medical Council I think in a very fair way, and also rejected. The promoters of the present Bill before the House in the Grand Committee on Law, which has just passed the Bill through, have had the point before them, and have emphasised their intention of having nothing to do with the midwifery nurse aspect of it by specifically altering the definition of the term "midwife I really honestly think that to again take up as a method of dealing with the subject that which the British Medical Association and the General Medical Council and now the House of Commons have all said they will have nothing to do with deserves the appellation "childish" For a number of years I have spent a great deal of time on this subject endeavouring to free the various proposed schemes of legislation from objectionable points which would injure the profession and I shall continue to do what I can on behalf of the profession, but I must decline with all respect to spend any time on methods which have already been dealt with and finally put aside.

Yours sincerely,

VICTOR HORSLEY

The Infirmary, Lewisham, S.E., April 12th, 1900

DEAR MR. HORSLEY,—I have written on behalf of the S.E. London meeting and my joint committee You compel me by your remark to infer that an "Andersonian effusion" means unanswerable arguments you prefer to avoid, at least, you do not attempt to deal with mine but make a vague communication and answer your own statement, which now appears an epidemic method of avoiding difficulties

Only two and a half, scarcely "several," years ago, during your candidature for the General Medical Council, you fully and formally approved of the policy of registering midwifery or obstetric nurses provided that such nurses were not to render any medical assistance in any case We do not advocate or promote such a measure, but do not reject it as a compromise, and we cannot correctly be said to "revive" it because, as a compromise, we never relinquished it That you should cite the Council of) the British Medical Association (for the association in general meeting has, I believe, never abandoned registration of midwifery nurses as an acceptable compromise) or the General Medical Council as authorities for giving up any policy or contention is indeed both "new and strange," and is explicable only on the supposition that you are much in need of countenance in a predetermined Acceptance of defeat in Parliament, incurred when we were prepared for no effective resistance, and when that defeat is far from final, would be an abject turning of the cheek to the smiter we should least of all have expected you to advise

What is a "barren negative"? Is it a direct and determined negative to the repeal of the Medical Acts and systematic creation of inferior orders of practitioners? Do you mean by that equivocal stigma that such a direct negative is 'barren' because it cannot succeed? If so the reply is obvious that this cannot be known until it is tried and that it has not yet been tried. If tried by a united moral means it cannot fail with your powerful help, possibly not without it if withheld Our policy, a policy to which when a candidate you fully assented, is not merely "negative We *affirm* the Medical Acts and propose to enforce and amend the law and so to *abate all evil in the force* If, however, you mean that any policy is a "barren negative" which does not recognise and regulate the illicit practice of midwives as a measure of public safety I reply that we object to no measure or name so long as persons not medically educated are not to be recognised as competent and entitled to perform medical functions which would *not* be for the public safety but the reverse

Have you any objection to state explicitly (1) whether or not you consider diagnosis of presentation a medical function, (2) whether you consider it consistent with public safety to entrust that function to persons not medically educated, (3) what remedy, if any, has been found for public dangers such as you detailed at West Ham, instancing that post-partum hæmorrhage "might kill a woman before a midwife could send for a medical practitioner" I hope you will have no objection to give equally plain answers to these plain questions and to satisfy grave misgivings as to whether you are for us or against us upon the principles they involve, and that we may receive your cooperation, which we believe we are entitled to expect, in the further very vigorous and practical measures we are taking to render the maintenance of the Medical Acts very much the reverse of a "barren negative"

I am, dear Mr Horsley, yours very truly,

F. S TOOGOOD

II

The Infirmary, Lewisham, S.E., April 19th, 1900

DEAR DR. GLOVER,—My letters were not personal I could only make such communications on behalf of the S.E. London Meeting and Joint Committee. I fear I could not lessen my offence by admitting that I was correct in my view in the paragraph you object to, for that you clearly prove you do not "know the mind of your constituency" and demonstrate that you do accept your seat on the General Medical Council for the purpose of not expressing "not" the views of your constituents but "your own" Your constituents may perhaps entertain some doubt whether under these hard facts, or the frankness with which you avow them, afford you or them, or represent about first a good dignity or value They have you, in fact and theory, our dictator, or, as you are to fill it for the next five years, an abject dependent, deprived of the highest private privilege of thought to act upon it in our behalf, and represent "a contradiction in terms" for, if you represent us, you should change after we shall know it is your views and not ours, that are to have effect. Instead of expressing what we think the proper thing you first represent your own opinion in order to secure to make something of it when you can appear to defeat

I have not said or [illegible] to obey" of that you are to represent our views of any "change" of the profession It is [illegible] refrain from [illegible] to "[illegible]

representing ..... too indirectly the profession and the medical authorities" which we deplore. *They*, in fact, represent "cliques" some of which, to establish bogus diplomas, would register midwives "educated" or not, would create an inferior order of practitioners of midwifery, and would thus repeal the Medical Acts. From the seductions and influence of representatives of such cliques we would rescue you for the legitimate service of your constituency.

Our case rests upon the facts we have invited you to verify, by seeking re-election, viz.: (1) that "the group of men, well known and defined," indeed, who "are at my back," is practically your constituency; (2) that the views I have put forward of the principles of Direct Representation are the views of that great constituency and afford in its opinion the only conditions which render representation worth preserving or extending, or the election of a "representative" anything but a solemn farce, covering all who take part in it with well-merited contempt. For it would be contemptible to take any part in electing a "representative" who on pretext of whatever grave deliberation, with the overpowering influence of "medical authorities" and "the State,' is to be entitled to modify all his previous opinions and to represent "not the views of his constituents but his own." Of such "representation" our profession has indeed more than enough.

Your quotation from "a great man in a larger electoral sphere" might serve you less well if considered with the context and occasion. Did he relieve his feelings by resigning? If he knew the "mandate" to be that of practically his whole constituency he grievously offended against the accepted usages and the "ethics of representation" if he persisted in retaining his seat and misrepresenting his electors—misusing their "trust" to oppose and defeat their purposes.

The test we have suggested you will not accept. You assume that the electors who voted for you in 1896 are still of the same mind and assert that your views and action are those on which they have returned you. I dispute both assumption and assertion. The votes which returned you in 1896 were the remnant of previous polls nearly double in number, diminished chiefly by conversion on this very question; and partly by dissatisfaction with your observed complacency or openness of mind to the grave arguments of the "representatives of medical authorities and the State" on questions in which the interests of those gentlemen were opposed to the interests of your constituents and profession. Was not this dissatisfaction and the conviction that Direct Representatives are helpless in their small minority unless united the reason why Sir W. Foster and Mr. Wheelhouse refused to come forward with you for re-election? The remnant of votes which returned you may be divided into three classes: (*a*) constituents unhappily only too gravely interested in securing the registration of midwives; (*b*) your undoubtedly numerous personal friends; and (*c*) a large section of old supporters who preferred to continue that support rather than desert you on a question as to which their opinions were not very definite or their convictions very strong.

If you accepted our invitation you would find it justified by the fact that of this last section the views of a large number have since become both definite and strong in opposition to the views you then expressed, and that another large section considers that you are not now acting in accordance with the views you then expressed, so that you would find yourself supported only by [illegible] in securing registration of midwives [illegible] and adherents, probably not, in all, one-tenth of your electorate. I go further. I not only say that your action is not now consistent with your election promises since you now know they are impracticable, but that it has never been, nor your expressions consistent in themselves. I take your own quotation of them in the letter I am answering and I affirm that in those very expressions you juggle with words to deceive or delude your followers until, perhaps, like a certain "great man in a larger sphere," you end, or possibly begin, by deluding yourself. For what is it but to juggle with words to say: "I am fully alive to the importance of maintaining the principle [illegible] that midwifery is one of three branches of the art of medicine and that those who are not qualified in the other two can only act subordinately to members of the medical profession"? These words seem a promise to preserve the principle, whilst they, in fact, in the very act of utterance, betray and abandon its essence. They imply that those who are not qualified in medicine and surgery can be qualified in midwifery; they condition that such singly qualified persons are to practise subordinately, but they conceal mental reservations that they are to be held "qualified" to judge when medical assistance is required, and that the subordination is to be so impracticable as in fact to be a dead letter.

Behind this confusion of ideas you veil the transfer of medical functions to persons without medical education—for instance, the diagnosis of presentation at present recognised by law only in medical practitioners and the transfer of which by law to others is in fact a repeal and reversal of the principle of the Medical Acts which you promised to maintain.

I am, yours very truly,

F. S. TOOGOOD.

We have received the following for publication from Dr. F. S. Toogood:—

At a meeting of the Executive it was proposed by Mr. Parke and seconded by Dr. Henry:—

That this executive of the joint committee to oppose registration of midwives fully endorses Dr. Toogood's letters to Dr. Glover and Mr. V. Horsley, but deeply regrets that such letters should have been called for and appeals to Dr. Glover and Mr. Horsley in their position as Direct Representatives to overlook all other considerations and to afford their valued help to this organised resistance to the registration of midwives and creation of inferior orders of practitioners.

To the Editors of THE LANCET.

SIRS,—On your own maxim, at [illegible] spondence column, "*Audi alteram* [illegible] claim that as you published Dr. G[illegible] others for the resolution at t[illegible] suggesting that he should test the views of his electors by resigning and [illegible] you should also give insertion to my [illegible] self from that attack, justifying the course I took by exposure of Dr. Glover's errors and false position, explaining the spontaneity of my conduct as not being one of the organisers of the meeting, and giving other grounds not covered by Dr. Lorimer Hart's letter which you inserted. Viewed together with the depreciatory tendency of your report of the meeting, especially the grave misleading statement that it was attended by "a small number of medical men," and your presumable predisposition to support your own reports, your implied denial of Dr. Hart's statement of the number remaining when he moved his resolution (not 17, as your report states, but 30), and your exclusion of my letter containing direct and specific personal support of Dr. Hart's statement, point to inferences which could be accepted only with pain and regret. These indications are not weakened when it is remembered that what is in question is Dr. Glover's conduct as a Direct Representative; that he is one of the oldest members of your staff; and that it must be difficult for you to avoid some bias in his favour and tendency to wish his conduct to appear in the best light. I am sure I express the feeling of the great body of the profession in appealing to you, instead of supporting him in his mistaken course of undoing the work of your founder, the Medical Act of 1858, to use your great influence, especially by encouraging public discussion in your columns, and by your powerful advocacy of the rights of the profession for the public safety guaranteed in that Act, to induce him to cooperate in combined action of the public and the profession to maintain that Act in its fullest extent. May I request the favour of insertion of my previous letter with or without this?

I am, Sirs, yours faithfully,

Bath-road, Chiswick, April 24th, 1900. JOSEPH SMITH.

*** Mr. Smith's previous letter was too long to be inserted last week. In view of the above correspondence sent to us by Dr. Toogood this week and seeing that Mr. Smith's letter has already been published by a contemporary we do not think it necessary to do more than print the above letter.—ED. L.

To the Editors of THE LANCET.

SIRS,—Dr. Glover is to be congratulated on the firm and dignified position he adopted in his reply to Dr. Toogood and "The Emergency Committee of Public Safety against Midwives' Registration." Whatever may be the views we hold on this and other questions, it cannot be too emphatically understood that our Direct Representatives on the

General Medical Council are not delegates. No really good [illegible] such a position if he is to be [illegible] particular Bill there is plenty of [illegible] to the details. It seems that legislation for the protection of parturient women of the [illegible] of attempting to wreck [illegible] eminent authorities, it [illegible] our efforts in inducing [illegible] will keep these women as far as possible under the intimate supervision of the medical profession. The position of Direct Representatives at this juncture is a difficult one; Dr. Glover is an old and tried representative of the profession; his past actions and published opinions surely justify us in trusting him to do what is best under the circumstances. He knows the opinions of all parties and from his practical knowledge of medical politics is in a position to judge the best course to [illegible]

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 33 of the largest English towns 6523 births and 4747 deaths were registered during the week ending April 21st. The annual rate of mortality in these towns, which had been 23 0 and 22 4 [illegible] eks, further declined to [illegible] rate was 20 6 per 1000, [illegible] provincial towns. The [illegible] were 12 9 in Birkenhead, [illegible] and 15 5 in Brighton; the highest rates were 26 9 in Liverpool, 27 2 in Oldham, 28 6 in Manchester, and 30 6 in Plymouth. The 4747 deaths in these towns included 432 which were referred to the principal zymotic diseases, against 500 and 477 in the two preceding weeks; of these 159 resulted from measles, 123 from whooping cough, 56 from diphtheria, 32 from diarrhœa, 30 from scarlet fever, 29 from "fever" (principally enteric), and three from small pox. The lowest death rates from these diseases occurred last week in Croydon, Portsmouth, Halifax, and Newcastle; and the highest rates [illegible] and Blackburn. The [illegible] from measles occurred in Pl[illegible] Wolverhampton; from scarlet fever in Oldham; from whooping cough in Wolverhampton, Birmingham, Liverpool, and Manchester; and from diarrhœa in Oldham, Blackburn, and Gateshead. The mortality from "fever" showed no marked excess in any of the large towns. The 56 deaths from diphtheria included 17 in London, eight in Sheffield, four in Cardiff, four in Leicester, and four in Leeds. Three fatal cases of small pox were registered last week in Liverpool, but not one in any other of the 33 towns. There were four cases of small pox under treatment in the Metropolitan Asylums Hospitals on Saturday last, April 21st, against two and four at the end of the two preceding weeks; and two new cases were admitted during the week. The number of scarlet fever patients in these hospitals and in the London fever Hospital at the end of the week was 1676, against 1713 and 1634 on the two preceding Saturdays. Two new cases were admitted during the week, against 172, 185 and 169 in the three preceding weeks. Influenza was certified as the primary cause of 60 deaths in London. The deaths referred to diseases of the respiratory organs in London, which had increased from 378 to 501 in the six preceding weeks, declined again last week to 460, but were 92 above the corrected average. The causes of 53, or 1 2 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leicester, Salford, Bradford, Leeds, Hull, Newcastle, and in 13 other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Birmingham, Nottingham, Liverpool, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 18 3, 17 7, and 21 3 per 1000 in the three preceding weeks, further declined to 16 9 during the week ending April 21st, and was 0 [illegible] less than the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 13 7 in Edinburgh and 16 6 in Paisley to 22 6 in Aberdeen and 25 3 in Perth. The 650 deaths in these towns included 19 which were referred to whooping-cough, 18 to measles, 14 to diarrhœa, six to scarlet fever, five to "fever," and three to diphtheria. In all 65 deaths resulted from these principal zymotic diseases, against 63 and 66 in the two preceding weeks. These 65 deaths were equal to an annual rate of 2 1 per 1000, which was 0 2 per 1000 above the mean rate last week from the same diseases in the 33 large English towns. The deaths from whooping cough, which had been 15 and 17 in the two preceding weeks, further rose last week to 19, of which 10 occurred in Glasgow, four in Leith, two in Aberdeen, and two in Perth. The fatal cases of measles, which had been 11 and 19 in the two pre[illegible] week, and included two in Dundee. The [illegible] and 19 in each of the two preceding weeks, declined last week to 14, of which four were registered in Glasgow, three in Edinburgh, two in Dundee, and two in Greenock. The fatal cases of scarlet fever, which had been four in each of the four preceding weeks, rose to six last week, and included five in Glasgow. The deaths referred to different forms of "fever," which had been five and [illegible] in the two preceding weeks, rose again last week to five, of which three were recorded in Glasgow and two in Aberdeen. The three fatal cases of diphtheria corresponded with the number in the preceding week, and included two in Glasgow. The deaths referred to diseases of the respiratory organs, in these towns, which had declined from 172 to 151 in the three preceding weeks, rose again to 175 last week, and were 26 in excess of the number in the corresponding period of last year. The causes of 20, or nearly 3 per cent., of deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death rate in Dublin, which had been [illegible] and 31 3 per 1000 in the two preceding weeks, declined to 20 4 during the week ending April 21st. During the [illegible] four weeks the death rate in the city has averaged 33 5 per 1000, the rates during the same period being 21 0 in London and 21 7 in Edinburgh. The [illegible] in Dublin during the week showed a decline of 25 from the number in the preceding week, and included 14 which were referred to the principal zymotic diseases, [illegible] and six in the two preceding weeks; of these the [illegible] from "fever," three from diarrhœa, two from [illegible] from diphtheria, and two from whooping cough. [illegible] deaths were equal to an annual rate of 1 3 per 1000 [illegible] zymotic death rate during the same period [illegible] in London and 1 0 in Edinburgh. The deaths [illegible] different forms of "fever," which had been three and two in the two preceding weeks, rose again to three last week. The three fatal cases of diarrhœa were [illegible] upon the number in the preceding week. The [illegible] measles, which had been three and two in the two [illegible] weeks, were again two last week. The [illegible] of whooping-cough, which had been three and [illegible] two preceding weeks, rose again last week to two. [illegible] deaths in Dublin last week included [illegible] of infants [illegible] one year of age and of persons aged upwards of 60 years; the deaths of infants showed an [illegible] those of elderly persons [illegible] with the [illegible] in the preceding [illegible] cases of [illegible] from [illegible] were registered, and [illegible] third, of the deaths occurred in public institutions. The causes of 10, or nearly 5 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

The following [illegible] G. R. Macfarlane [illegible] 1884, additional.

[illegible]

Major M[illegible] to be lieutenant-colonel [illegible]

YEOMANRY CAVALRY.

Worcestershire (The Queen's Own Worcestershire Hussars): Julius Henry Beilby to be Surgeon-Lieutenant.

VOLUNTEER CORPS.

Artillery: 1st Lincolnshire (Western Division, Royal Garrison Artillery): Surgeon-Lieutenant L. W. Pockett to be Surgeon-Captain. 2nd West Riding of Yorkshire (Western Division, Royal Garrison Artillery): Surgeon-Lieutenant J. C. Wright to be Surgeon-Captain. 4th West Riding of Yorkshire (Western Division, Royal Garrison Artillery): Percival Ellison Barber to be Surgeon-Lieutenant. *Royal Engineers* (Volunteers): 2nd Cheshire (Railway): Edward Gray to be Surgeon-Lieutenant. 1st Hampshire: Surgeon-Lieutenant R. Emmett to be Surgeon-Captain. *Rifle:* 1st Volunteer Battalion the Lincolnshire Regiment: John Bruce to be Surgeon-Lieutenant. 2nd Volunteer Battalion the Prince Albert's (Somersetshire Light Infantry): Second Lieutenant Penrose Lanyon Watkin-Williams resigns his commission and is appointed Surgeon-Lieutenant. 1st Volunteer Battalion the Duke of Cambridge's Own (Middlesex Regiment): George Pester Chappel to be Surgeon-Lieutenant. 15th Middlesex; Henry Bowen Perkins to be Surgeon-Lieutenant.

VOLUNTEER MEDICAL STAFF CORPS.

The Manchester Companies: Joseph Collier to be Surgeon-Lieutenant.

TRANSVAAL WAR NOTES.

The first train carrying wounded and invalids from South Africa steamed down the new cutting and into the station in the rear of the Royal Victoria Hospital, Netley, on Monday, April 23rd, at 11.30. The train carried 149 patients brought home by the *Gascon;* 17 of the men were obliged to be carried into the hospital, but the majority of the men looked perfectly well and fit to return to duty. The "khaki train" is fitted up with every necessity and luxury. There are five carriages, each fitted with 12 beds and two sofas, besides accommodation for the medical officers and places set aside for cooking and lavatories. The carriages run with great smoothness, hardly any motion being perceptible. In addition to the "khaki" carriages ordinary railway-carriages are attached to the train for carrying convalescents. Many of the patients are from the forces which relieved Ladysmith

A *Times* telegram, dated Cape Town, April 25th, says: "Dr. Robert O'Callaghan, who is attached to the Langman Hospital, which has been established at Bloemfontein, and is secretary to the Portland Hospital, is leaving for England to-day. As it has been found that the majority of the patients to be treated were suffering from enteric, it is considered that a second surgeon is not required at the hospital, and it has been decided to appoint Dr. Scholtz, a leading Cape Town physician, in succession to Dr. O'Callaghan."

Mr. Herbert J Godwin, M.B., B.S. Durh., M R C.S, Eng., L.R.C.P. Lond., has been appointed Civil Surgeon to Her Majesty's troops in South Africa.

Surgeon James G. Fowler, R.N., was among the officers of the Ladysmith Naval Brigade who were entertained at Portsmouth on April 24th.

TRANSVAAL WAR CASUALTIES.

It is officially reported that Assistant Surgeon Jackson, 21st Battery, F A., died from typhus fever and dysentery at Pretoria.

REWARDS FOR GALLANTRY IN THE R.A.M.C.

The Queen has conferred the decoration of the Victoria Cross on Major William Babtie, C.M.G , R.A.M.C., for his conspicuous bravery at the battle of Colenso. The following is the act of courage for which he receives the honour:—"At Colenso, on Dec. 15th, 1899, the wounded of the 14th and 66th Batteries, Royal Field Artillery, were lying in an advanced donga close in the rear of the guns without any medical officer to attend to them, and when a message was sent back asking for assistance, Major W. Babtie, R A.M C , rode up under heavy rifle fire, his pony being hit three times. When he arrived at the donga, where the wounded were lying in sheltered corners, he attended to them all, going from place to place exposed to the heavy rifle fire which greeted anyone who showed himself. Later on in the day Major Babtie went out with Captain Congreve to bring in Lieutenant Roberts, who was lying wounded on the veldt. This also was under a heavy fire."

DEATHS IN THE SERVICES.

Henry Stewart Archdall, M.R.C.S. Eng., L.R.C.P. Lond., late surgeon R.N., on April 20th, aged 32 years. He entered the Royal Navy in 1892 and retired in 1896.

We hear that the surgeons-on-probation for the Royal Army Medical Corps now attending the Army Medical School, Netley, are likely to receive their commissions at once and be sent to do duty with the troops. These gentlemen have attended a course of two months' duration at Netley. We also understand that a second batch of nominated officers for the Royal Army Medical Corps is to be sent to the Army Medical School on May 1st to go through a short course of instruction.

The *Broad Arrow* states that "some 24 civilian medical officers are now doing duty at or about the Cambridge Hospital at Aldershot, some of them having been employed for many months, and although they are willing enough to do duty temporarily, yet there appears to be no wish on their part to become attached to the service permanently."

Correspondence.

"Audi alteram partem."

THE SOCIAL FACTOR IN THE GENESIS OF CANCER.

To the Editors of THE LANCET.

SIRS,—Will you allow me the hospitality of your columns to draw attention to a peculiar incident in the international variation of the cancer rate? I allude to the concomitant prevalence of late marriages in countries with high cancer rates as compared with those which are more or less cancer free. It will be familiar to those who have practised in the East that cancer is practically unknown among the Brahmins and almost so among the Hindoos and Mahomedans. The Parsees and the descendants of European settlers are not quite so fortunate. Nor is cancer so uncommon among the Baba Chinese and the Chinese, Javanese, and Japanese coolies in the tropical colonies. There are not two races more dissimilar in the matter of personal hygiene, so divergent in their daily pursuits, and, in fact, in all that constitutes the *summum bonum* of life, than the Brahmin and the negro.

A strict vegetarian and total abstainer, engaged in purely intellectual pursuits or ruminating over his "mantrams" and "slokas," the Brahmin has lived the life of a student for 2000 years, in a civilisation contemporaneous with Solomon. "Astram Castrum," still almost a savage in his native wilds, a carnivorous, perhaps an "uncooking animal," dependent upon the chase for his subsistence, and where in contact with the civilised world a slave under forced labour, the muscular negro is the perfect antithesis of the subtle Brahmin, pre-eminently the latter's superior in powers of physical endurance as he is undoubtedly far below the Brahmin in all that constitutes subtlety of intellect and high brain power. Search the world over and you will not find two races so diametrically opposite as the Brahmin and the negro. What one lacks the other excels in. Still we find they both enjoy an almost perfect immunity from cancer, while European nations possessing the virtues of both suffer severely. Their common humanity excepted, perhaps the only line in agreement between the negro and the Brahmin is that neither very seldom begins to accept the duties of the procreation of the species when past the meridian of life and their women never. The same rule holds good more or less with most Asiatics, and we see they do not suffer much from cancer as a race. The nations that suffer most are those in the front ranks—the Saxon, the Gaul, and the American. And is it not notorious that it is just among these great nations that more old spinsters enter into matrimony when approaching, or are past, the menopause than is the case with the Greek, the Turk, the Iberian, the Finn, and the Norwegian? And is it not a fact, too, that cancer is on the increase in Europe, and so also have been these late marriages during the last few generations? Is it a mere coincidence or is there the relation of cause and effect between these two concurrent waves?

Can it be the fact that when the consummation of puberty is early attained, is accomplished in good time, that it finds

the breast and the womb more fitted for the activity attendant upon the marital and the maternal state than when after long hibernation, so to say, after years of disuse, and when these organs have almost forgotten the habit and to a certain extent have lost the instinct nature had endowed them with primarily? And that in the latter case the extravascular supply, the increased cellular activity attendant upon the connubial or the pregnant state, is more liable to accidents, is more apt to run into vicious channels, to be diverted from its natural course into the formation of neoplasms? Or does cancer take its origin in the repression of the sexual feeling during the antecedent long celibacy? And in either case might it be that the progeny of these late prudential marriages inherit the tendency from their birth? Cancer, for instance, is more frequent at the terminations and bends than at other parts of the alimentary canal. Might it not be due to muscular irritability? There is more muscular tissue at these parts. Cancer of the rectum is ascribed to the irritability of detained fæces. The repressed sexual desire will also engender some irritation. Is there anything in this *a posteriori* argument?

Oil-bathing is a regular institution among the Hindoos. An experienced masseur rubs the oil on his patrons, friends, or relations generally once a week. And it is a fact that moles, warts, and such faults of the surface of the skin are very rare among them. The new born infant gets the oil bath daily for 40 days. The intervals are then gradually lengthened, but he will be considered a very naughty boy who during his school days tries to shirk the oil bath at least once a week. As a youngster he yells all the time he is being . . . . . lungs. Anyhow, nobody . . . . . so for the hollaing of her . . . . . may be said that Indians . . . . . orals as compared to the . . . . . and the feminine bust is . . . . . Perhaps that is also one cause of the rarity of cancer of the breast among them.

I am, Sirs, yours faithfully,

O. N. SAIDANHA

April 23rd, 1900.

UNION HOSPITAL, MIDDLESBROUGH.

To the Editors of THE LANCET,

SIRS,—As the Middlesbrough Board of Guardians are advertising for a workhouse medical officer will you allow me, out of a dearly-bought experience, to warn intending candidates to ascertain exactly what will be expected of them by this board, and to compare the extent of work and responsibility with the entirely inadequate remuneration and "residence" (some quarters in the hospital which is at the back of a steam laundry), provided.

I may mention that I am resigning voluntarily on account of the treatment received from the board, details of which are scarcely of sufficient interest for your columns; but if any intending candidate cares to write to me I will give him particulars. Within a little over two years three workhouse medical officers have resigned here.

I am, Sirs, yours faithfully,

L. G. DAVIES, M.D. Cantab.,
Medical Officer, Workhouse and Hospital.
Visiting Medical Officer, Broomlands Children's Hospital.

Middlesbrough, April 23rd, 1900.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Ravages of Plague in Calcutta and Bombay City.—The Water supply of Bombay City.—Malaria and the Sources of Water supply.—Figures of the Famine.—The Formation of an Anglo Indian Army Hospital Corps by Lord Curzon.—Speech of the Viceroy.

A DEATH RATE of 117·5 per 1000 per annum has been reached in Calcutta for the week ending March 24th. The five years' average is 51 per 1000 per annum. The increase is wholly due to plague—deaths from which amounted to 868—as no other epidemic diseases are prevalent and deaths from cholera and small pox are actually below the average in number. The case mortality is apparently very high. The existence of plague is no longer doubted by the natives who are leaving the city by thousands every day. It seems astonishing that there are still a few people (including one or two with a medical training) who endeavour to persuade the public that it is not real plague which is causing the doubled mortality but some other fever. Their appeal now is, fortunately, to a very limited section. The mortality from plague is increasing nearly all over India. For the week ending March 24th there were 4834 deaths, as against 4725 in the previous week. In Bengal there were 2186 deaths, Patna district alone contributing 1803. In Calcutta the plague mortality rose from 744 to 868. In Karachi the fall has been only temporary and the disease is now increasing again with great rapidity. A further development must be anticipated. The great mortality which has ruled in Bombay during the past eight weeks shows signs of abating. The rate is, however, still over 130 per 1000 per annum. The total deaths last week amounted to 2027, against an average of between 500 and 600. The absurdity of the registration is shown in giving 244 deaths from phthisis—a rate of 15 per 1000 per annum; in giving 377 deaths from respiratory diseases and 250 deaths from remittent fever—whatever this may be. The probable number of deaths from plague is 1500, but the official returns say 760.

I am glad to see that inoculation still goes on in Bombay and that 4821 operations were performed last week, making a total since Sept. 6th, 1899, of 133,305. It is unsatisfactory to hear, however, that the prophylactic still distributed is still being sent out in corked bottles and of varying degrees in strength. Some of the brews apparently are only half as potent as others. It is reported that 20,000 doses are being sent to the Australian colonies.

Complaint has recently been made of the contamination with vegetable matter both in solution and suspension of the water supplied to Bombay city. There is no evidence of contamination with animal organic matter. It will be remembered that the city derives its water supply from three large lakes several miles inland. These lakes are filled by the rain water flowing over the forest and other lands around. It is said that the district is intensely malarious. It is therefore become a matter of importance. The supply from . . . . . ed and only 50 per cent. of the . . . . . is reported that the unfiltered Tulsi . . . . . albuminoid ammonia, but that it is otherwise good. Besides the careful attention to the conservancy of the gathering grounds it behoves the medical advisers of the municipality to investigate the reported malarious character of the district.

It has been suggested that persons inhabiting certain districts in and near towns receiving unfiltered water-supplies are more subject to enlarged spleens and other reputed manifestations of malaria than the inhabitants of other districts apparently similar but having a filtered water supply. If further observations prove that this statement has some foundation the presence of malaria in the gathering grounds of a water supply is a danger to the community. With regard to Bombay city it may be stated briefly that compared with many places malaria is infrequent, the average death-rate of the city proper is comparatively absent. In the districts around Calcutta, on the other hand, malaria is common, whereas in the city itself I am told it is comparatively rare. The death-rate of the suburbs is as a rule higher than that of the city and the greater part of the city receives water from the river Hooghly after filtration. The suburbs get what they can. The contribution of malaria by mosquitoes has not yet been fathomed, and therefore this point is one which might be further inquired into. It is easily thrown out that the parasite of malaria can be conveyed through the supply of water as well as by the agency of an insect. Under an circumstances the water to a large city should be absolutely filtered.

The Government and rich in India are spending an enormous sum in relieving nearly 3·0 million persons, such a thing has never before been heard of in the history of an Indian or other famine. In the Central Provinces the number of persons in receipt of relief at the height of the famine amounted to 1·07 million persons, or 1·7 per cent. of the population. In Berar the number of persons in receipt of relief was 0·6 million, or 1·7 per cent. of the population. In the Bombay Presidency the number of persons in receipt of relief was 0·6 million, or 1·7 per cent. of the population. In the Bombay Presidency the number of persons in receipt of relief was 0·6 million, or 1·7 per cent. . . . . and all persons . . . . . It is . . . . . more than . . . . . It is . . . . . .

there has been a decrease of 350,000 during the past week. The totals now under relief are 3,346,442 in British provinces and 1,330,080 in Native States.

After receiving a deputation of members of the Anglo-Indian Association the Viceroy made an important speech on the Eurasian question. The [illegible] complained that Eurasians were [illegible] army, although they formed the greater part of the volunteers in India. In this connexion he asked for the formation of an Anglo-Indian army hospital corps, which might take the place of the present native army hospital corps. Amongst other subjects he also referred to their exclusion from the higher offices and from certain railway and other appointments. The military medical services chiefly concern readers of THE LANCET, however, and Dr. J. R. Wallace of Calcutta said that the British Army in India had its minor medical needs attended to by a staff of warrant medical officers who were all Anglo-Indians educated in the medical colleges of the country. They mustered about 1000 and their improved professional education and course of medical study rendered them a very efficient and reliable class of medical officers. They performed the bulk of the routine medical work of all the British station hospitals in India and accompanied their regiments wherever they went. Some had gone to South Africa and others had taken sole medical charge of British transports. He suggested that Anglo-Indian medical officers might relieve members of the Indian Medical Service of many unimportant civil duties. He then spoke of the abolition of the Native Army Hospital Corps, which does the nursing and other detail duties of the British station hospitals, and said that this corps was useless as a nursing machine attached to the army. He urged that this corps should be replaced by Anglo-Indians specially trained as compounders, nursing orderlies, cooks, and dressers, with terms of service and salary on the same lines as the British soldier. In the course of a well-prepared, outspoken address the Viceroy referred to these specific claims. He pointed out that Eurasians were frequently accepted as recruits in the Indian army and showed, however, that while the Eurasian corps was of great service in the Mutiny it was not subsequently considered to be a success and was disbanded between 1860 and 1870. The question of the corps formation had been considered since and the opinion held was that it would be equally expensive and less efficient than a corresponding European force. The same difficulties applied to the formation of a Eurasian Army Hospital Corps. Eurasians could never serve for the rates of pay that were now given to the native equivalent, nor could the subordinate duties such as those of bhistis, bearers, and sweepers be carried out by a Eurasian corps. The long and short of it was that for the present, at any rate, the objections to Eurasian enlistment in the regular army were held at home to outweigh the advantages. The Viceroy, however, said that if the deputation were to submit their proposals as to an army hospital corps in a definite and intelligible shape he would be prepared to place them before the military authorities. They would have to convince the authorities that a Eurasian regiment, which would cost quite as much as, if not more than, a British regiment, would be at least as efficient for military purposes. Other subjects were referred to by his Excellency and the address generally was considered to be a very fine discussion on this important question.

March 29th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Women's Hospital.

THE annual meeting of the governors of this hospital was held on April 4th. The report showed that the number of new cases treated at the out-patient department during the year was 3457, being an increase of 168 as compared with last year, the total number treated during the year being 17,463. 404 patients were admitted to the in-patient department, being an increase of 30. The total number of operations was 384, an increase of 17. The number of operations involving abdominal section was 170, and five of the patients had died, or 2·94 per cent. This death-rate compares with 11·57 per cent. on 699 cases treated during the years 1872–84 inclusive and 5·33 on 2030 cases for the years 1885–98 inclusive, that is a death-rate up to Dec. 31st, 1898, of 6·99 per cent. on 2789 cases. The committee regret the loss by death of Mr. Lawson Tait, to whose ability a fitting tribute was paid as one of the pioneers of the institution, and of Mr. J. D. Goodman, one of its [illegible] vice-president for 28 years and a t[illegible] from the [illegible]. It was decided to increase the salaries of the [illegible]. Various votes of thanks were passed, and the hospital was stated to be in a good financial position.

Lying-in Charity.

The work done by this charity is of an unobtrusive but valuable kind, being conducted mainly by four midwives residing in four districts, who call in the aid of the medical officers when required. [illegible] given recently to the desire on the part of the medical staff and of some supporters of the charity to constitute an in-patient department. It is considered that the work done might be utilised for the training of nurses and midwives and for the clinical instruction of students of the school of medicine, under appropriate supervision. The report read at the annual meeting on April 10th—being the fifty-seventh year—stated that 914 cases had been attended during the [illegible] mother. 891 children were [illegible] 10 deaths occurred. The [illegible] ess over the income. An [illegible] ecretary, Mr. J. C. Gell, [illegible] 1 Mayor, Alderman Beale, [illegible] and a cheque to Mr. Gell, [illegible] ed him to recognise the [illegible] of so able and valuable an officer.

Food and Drugs Act.

It is interesting and often curious to witness the evasions and the attempts made to escape the letter of the law in the administration of this Act. An instance lately occurred at a neighbouring police-court, where a man was summoned for selling butter adulterated with 77·98 per cent. of foreign fat. According to the evidence the man refused to sell half a pound to the daughter of the police-sergeant and subsequently to the police-sergeant himself, saying that his stock was all ordered. On being reminded that a heavy penalty might be the result of this refusal he afterwards caused half a pound to be left with the sergeant by a boy. The defendant refused at first to accept any money for it, but on the officer insisting 5*d.* was charged. The defence set up was that there was no sale within the meaning of the Act, that is, that there should be an actual sale and not a forced sale. Notwithstanding this ingenious effort the magistrates stated that they were satisfied and imposed a fine of £5, refusing also to state a case. At a recent meeting of the town council a prosecuting solicitor was appointed as assistant to the deputy town clerk, evidently with the intention of dealing with the large number of cases which come within this Act.

April 24th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Royal Infirmary Appointments.

THE following appointments to the different departments of the Royal Infirmary have been made by the committee:—House physicians: R. T. Bailey, M.R.C.S. Eng., L.R.C.P. Lond.; W. S. Henderson, M.B., Ch.B. Vict.; A. Hope Simpson, M.R.C.S. Eng., L.R.C.P. Lond. House surgeons: A. S. Arkle, M.R.C.S. Eng., L.R.C.P. Lond.; W. H. Broad, M.B., Ch.B. Vict.; H. M. Fletcher, M.B., B.Ch. Vict. Ashton-street department: J. T. Grierson, M.B., Ch.B. Vict.

The New Food and Drugs Act: the First Prosecution in Liverpool.

The first prosecution under the new Food and Drugs Act took place at the police-court on April 11th. A local trader was summoned for selling baking-powder (which under the new Act was made an article of food) which contained 33 per cent. of alum. As some doubt existed in the mind of the stipendiary magistrate as to the culpability of the defendant, who pleaded that he had sold the baking-powder under the impression that it was the genuine article, the prosecution was withdrawn on payment of the costs of the case.

The Colne Jubilee Cottage Hospital.

f freehold land upon
luded in Mr. Hartley's
raised amongst them-
selves sufficient funds to provide an endowment for the
now possesses a modern and
Hitherto all cases of acci-
be conveyed to the Burnley
Hospital, a distance of six miles. The building is arranged
with two wings of one

presents feat
walls being faced with Yorkshire parpoints, with Winewall
stone dressings, and half-timbered work in the gables. The
total value of Mr. W. P. Hartley's gift, inclusive of land,
out £5000. Lord Derby in
alluded to the well-known
nse of charity. University
College and the Liverpool Consumption Hospital have also
been the recipients of Mr. Hartley's munificence.

The Liverpool Medical Institution and Principal Dale of University College.

A n
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profession and the staff of the college, and the gathering was conceived with the object of strengthening those ties. The evening passed off in the most harmonious manner, being enlivened by limelight views, songs, and recitations
ociety. The
and amusing
r. Dale, who
the members

April 24th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Annual Report of the Medical Officer of Health of Edinburgh.

THE report of the medical officer of the city of Edinburgh for the year 1899, which has just been issued, is a detailed and interesting account of those matters which relate to the public health of the city. The population of the city of Edinburgh, the report informs us, at the middle of the year 1899 was 299,927, or an increase of 3299 persons as compared with the year 1898. The statistics with regard to the number of occupied houses bring out three most satisfactory points: (1) that there is an increasing tendency in the population to seek dwellings in the outskirts of the city where the atmosphere is purer; (2) that in the congested districts of St. Giles, George-square, St. Andrews, and St. Luke's, there is a distinct, though small, reduction in the number of occupied houses, while the Canongate is at least not worse in this respect than it was in the previous year; and (3) that the greatest increase in the number of occupied houses occurred in those with a rental of between £10 and £30, while the number of occupied houses under £10 decreased by 571, and of these 318 were houses under £5 rental, thus showing that gradually the poorest and lowest class of house is being evacuated and demolished. The birth-rate for the year was 27·49 per 1000. This rate is considerably lower than the birth rates of Greenock, Aberdeen, Glasgow, Paisley, Leith, and Dundee. The explanation probably lies in the fact that in busy manufacturing towns the marriage rate is high and the age of women at marriage is lower. Edinburgh is largely a residential city, with a large professional population among whom the age at marriage is comparatively late. The marriage-rate for the year shows a slight increase. The death rate was 19·2 per 1000 of the estimated population and numbered 5753. Of these, however, 463 were not regular inhabitants but persons who had come for treatment to one or other of the public institutions or had died during a temporary residence in the city. If this number be deducted the death-rate was 18·25 per 1000 of citizens. Measles, scarlet fever, and diphtheria caused a smaller number of deaths than in the previous year. Sir Henry Littlejohn points out the importance of warding off scarlet fever, as every year diminishes the chance of attack and also the chance of a fatal issue in the event of the disease being contracted. The mortality from whooping-cough was very high; 192 deaths occurred from this disease. Three deaths resulted from typhus fever. Enteric fever caused a greater mortality than usual, 39 deaths having occurred as the result of this disease. A number of deaths were attributed to influenza, but there was no true epidemic. Diarrhœa accounted for 96 deaths, of which 79 occurred under the age of five years. Sir Henry Littlejohn quotes the paper lately published by Dr. Newsholme of Brighton which deals with the results of an investigation made by him into the prevalence of diarrhœa in 31 of the large towns. In one of Dr. Newsholme's tables where the diarrhœa death rate per 1000 births is given (mean of 17 years 1882–1898) beginning with the town having the lowest death-rate, Edinburgh occupies the fifth place. Sir Henry Littlejohn gives a chart intended to show that deaths from enteritis ought, probably to be included among the deaths from diarrhœa, and that therefore the mortality is probably much higher than Dr. Newsholme's statistics go to show. Writing of deaths from cancer the medical officer complains that such deaths are still often certified under such vague terms as "tumour," "abscess," "hæmorrhage," or "cachexia," while many deaths are certified as due to cancer with no indication as to the seat of the disease. Complaint is also made that of the 552 deaths attributed to diseases of the circulatory system no fewer than 139 were certified as due to syncope, and of these 11 were in children under five years of age. Moreover, ill-defined and non-specified causes were stated in 204 instances, of which debility, atrophy, and inanition accounted for the majority. The total number of notifications of infectious diseases during 1899 was 5305. Of these measles accounted for 3600, scarlet fever for 1185, typhoid fever for 289, diphtheria for 279, and typhus fever for 12. The cases of typhus fever were the continuation of the epidemic which occurred in 1898. The medical officer repeats the fact which he pointed out last year—viz., that the Old and New Towns occupied exactly opposite positions in reference to typhoid fever and diphtheria. In regard to diphtheria the New Town is most affected and stands nearly in the same position to the Old Town and southern districts as the Old Town does to the other divisions in regard to typhoid fever. A most interesting section of the report deals with the subject of milk as a source of infection and in it the medical officer gives an account of three outbreaks of scarlet fever and one of typhoid fever where the infection was traced to the milk-supply. In scarlet fever he remarks is an important indication that the milk-supply is at fault if a number of adults are attacked by the disease. There were 2010 patients treated in the City Hospital during the year and 440 patients enjoyed the benefits of the convalescent home. During the year 4421 apartments contained in 1723 houses were disinfected and 59 public schools, with 1464 rooms, were fumigated at the request of the School Board, while 23,809 articles of clothing or furniture were disinfected by steam. The report contains 21 tables, many of them very lengthy, and four charts.

The Representatives of Edinburgh and St. Andrews Universities.

A vacancy having occurred in the Parliamentary representation of Edinburgh and St. Andrews Universities through the death of Sir William Priestley, Sir John Batty Tuke has been adopted as the Conservative candidate for the two universities. The new candidate is a Perthshireman by birth, but was educated at Edinburgh Academy and at Edinburgh University, where he took his degree in arts and medicine. After graduating in M.D. at Trinity College, Dublin. After graduating in medicine in Edinburgh he acted for six years as medical officer in charge of the Isle of Man. After returning to this country he held the post of medical superintendent of the Isle and Morpeth Asylum for eight years and subsequently took up practice in Edinburgh as a specialist in mental diseases. Sir John Batty Tuke is at present Vice-President of the Royal College of Physicians of Edinburgh

and a member of the General Medical Council. He received the honour of knighthood in 1898.

Edinburgh University Court.

At a meeting of Edinburgh University Court on April 16th it was resolved, after consultation with the Senatus, to admit women to the University classes of diseases of the larynx, ear, and nose. Mr. Thomas M. Burn-Murdoch, M.B., C.M., was appointed University lecturer on Diseases of Children. Ten grants varying from £7 to £50 were made, on the recommendation of the Senatus, from the Earl of Moray Endowment for purposes of original research. On the recommendation of the Senatus it was agreed to appoint Dr. Alexander Bruce, in the event of his services being required during the summer session, to discharge the duties of the chair of Medicine in respect of Clinical Medicine and the reading of theses presented for the degree of M.D.

April 24th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Queen in Ireland.

THE Queen has been graciously pleased to accept in person addresses from the Royal College of Physicians of Ireland and the Royal College of Surgeons in Ireland. In both addresses, after expressions of the complete loyalty of the Colleges, opportunity was taken to refer to the splendid part played by the Irish soldiers in South Africa, and to the generous impulse which has led the Queen to publicly recognise their heroism. The address of the Royal College of Physicians says:—

We are deeply and gratefully sensible of the generous impulse which has prompted your Majesty at this time to visit Ireland and its capital—a gracious recognition of the heroic and conspicuous part which your Majesty's Irish troops have played in the war in South Africa. In this season of trouble you have—as you have ever done—made the trials and sorrows of your people your own, thus drawing their thoughts and hearts ever closer to your Royal person by ties of affectionate regard.

The address of the Royal College of Surgeons says:—

At the present moment a very large proportion of the officers of the Royal Army Medical Corps serving with such distinction in South Africa are Fellows or Licentiates of this College, and it is to us a legitimate source of pride and satisfaction that the valour and devotion displayed [illegible] ng as combatants in the ranks of your army [illegible] devotion and self sacrifice exhibited by our Tel[illegible] officers of the Royal Army Medical Corps. We humbly desire also to convey to your Majesty the expression of our gratitude for having recently granted to the officers of the Army Medical Service the status and prestige of a Royal Corps. Such action on the part of your Majesty will enable this College to cooperate with your Majesty's advisers in making the Royal Army Medical Corps even more successful in the future than it has been in the past. To assist by every means in our power in all measures intended to strengthen the naval and military forces of the Empire is the highest object of our ambition.

County Antrim Infirmary, Lisburn.

At a meeting of the committee of management held in Lisburn on April 12th attention was drawn by one of the members to the fact that Mr. G. L. St. George, the surgeon of the institution, had treated 669 cases and paid 2005 visits in connexion with what was known as the extern department. All this work was performed gratuitously, while many of the persons assisted were in a position to pay but did not owing to the belief that they were entitled to be relieved gratis. It was a monstrous thing that for a salary of £80 per annum the medical man should be allowed to place the benefit of his skill at the service of many patients who did not pay a farthing. The Act of Parliament did not provide for an extern department and dispensaries for the really poor were in existence. Mr. G. L. St. George said it was not only unfair to himself but to the other medical practitioners that he should give his services free. He had not himself complained of the matter; it was discovered by the Finance Committee. It was decided to consider the question with the view of making a satisfactory arrangement.

Asylum Attendants up to Date.

Dr. George L'Carre, resident medical superintendent of the District Lunatic Asylum, Omagh, reported to a meeting of the governors, held in Omagh on April 12th, that one of the female attendants lately appointed had left the place after being there only a few days; the reason given was because there was no piano for her to play in the institution.

The British Association.

THE British Association is to meet at Bradford in 1900 and in Glasgow in 1901. Under its rules the decision as to the place of meeting for 1902 must be taken next September by the meeting at Bradford. An invitation to meet at Belfast in 1902 is to be presented then. The deputation has been appointed and a city meeting will be called to repeat officially the invitation already tendered at the assemblage in Dover last year.

April 24th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Rapid Diagnosis of Rabies in the Dog.

AT the meeting of the Academy of Medicine held on April 10th Professor Cornil read for M. Babès of Bucharest a short paper showing the possibility of making a rapid diagnosis of rabies by an examination of the medulla oblongata and spinal cord of a dog which had inflicted a bite. The process was as follows. 1. A small piece of the brain of the dog was inserted into the brain of a rabbit. 2. A slice of the medulla oblongata of the same dog was hardened in alcohol containing formol; at the end of 24 hours sections were cut from it and stained with carbolised fuchsin, methylene blue, or polychrome. The sections were then dried, mounted, and examined with a low power. If *nodules embryonnaires* were found in the grey substance, together with a perivascular or general *état embryonnaire* and chromatolysis of the nerve elements, this amounted to evidence that the dog was rabid. In all cases in which these bulbar lesions were observed, it was found that the animals inoculated with brain substance from the dog developed symptoms of rabies, while, on the contrary, such symptoms never appeared in rabbits inoculated with brain substance from dogs the medulla oblongata of which did not present any of the above-mentioned alterations.

Regulations affecting Mineral Springs.

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The Academy, not being able to interfere with the authorisations granted long ago, has decided that for the future authorisations for the sale of the water of a mineral spring shall only hold good for 30 years and that at the end of that time a fresh inquiry and fresh analysis shall be required.

Oxygen in the Treatment of Sea-sickness.

On April 17th M. Dutremblay read a paper before the Academy of Medicine upon the Treatment of Sea-sickness by Inhalations of Pure Oxygen under Pressure. The first trials of this method were carried out with success by Dr. Dubois, professor at the Faculty of Sciences of Lyons, who considered that the principal cause of sea sickness lay in the incomplete respiratory exchange which occurs in the lungs. The amount of residual air is thus increased. M. Dutremblay, assisted by Dr. Perdriolat, a medical officer in the service of the Compagnie Générale Transatlantique, made a trial of the remedy upon a number of sea-sick passengers. In his view the disturbances in position of the viscera and the contraction of the diaphragm bring about the secondary manifestations of sea-sickness, such as migraine, vomiting, chilliness, and the like. Under such conditions the use of oxygen is quite justified. The result of a great many trials was that rapid relief was obtained, the nausea and sickness disappeared, the patient felt quite comfortable, and to this there succeeded an interval of quiet and refreshing sleep. The shallow and rapid respiration became more regular, the pulse improved, and the headache disappeared. The patient must take deep and regular inspirations; from 30 to 40 litres are enough to begin with, but this dose may be repeated if necessary. The gas should be inspired through the mouth, the nostrils being kept firmly closed.

April 23rd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Legislation as to Infectious Diseases.

A BILL on the Prevention of Epidemic Diseases will be discussed in the German Parliament. This Bill provides for the compulsory notification of certain infectious diseases, including cholera, yellow fever, bubonic plague, small-pox, and typhus fever. The notification must be made, not only by the medical man, but eventually by the landlord of the house, the nurse, or the coroner. The district medical officer of health is authorised to examine patients suffering, or suspected to suffer, from the above diseases and has the right of entry to premises where such patients may be. In cases of cholera, yellow fever, and plague a necropsy may be ordered by the local authorities. The medical man in charge of a case is entitled to be present at any examination or necropsy made by the medical officer of health. The medical officer of health is authorised to order a patient to be conveyed to a hospital even against his will if sufficient isolation is not available in his residence. Houses where a case of infectious disease has occurred are to be placarded. Local authorities may order the disinfection of clothing, furniture, rooms, &c., and even the evacuation of dwellings, the owners of course being entitled to claim compensation from the Treasury. Schools may be closed by order of the local authority. There are also special provisions relative to passenger traffic on railways and to the measures to be taken in seaports. The Imperial Health Office will have the duty of seeing that the law is carried into effect. The Bill provides for the creation of an Imperial Council of Health in connexion with the Health Office. This council will be composed of the most eminent hygienists of Germany and is to be consulted by the Government in important questions of public health where the advice of the most competent men is necessary. Hitherto special commissions have been convened when required, as at the time of the great cholera epidemic, but the Council of Health will be a permanent institution, so that special commissions will become unnecessary. One of the principal duties of the council will be the revision of the German Pharmacopœia. The President of the Imperial Health Office will also be President of the Council of Health. The plenary meetings of the council will be convoked only in rare occasions, such as in times of epidemics, but sub-committees will meet regularly for special purposes. In an article published in the *Deutsche Medicinische Wochenschrift* Professor Kolle, of the Institution of Infectious Diseases, approves of the general principles of the Bill, but argues against its limitation to diseases of essentially foreign origin and the non inclusion of diseases long established in Germany, such as diphtheria and typhoid fever. A correspondent of the *Deutsche Zeitung* draws attention to the preponderance given to the Government medical officers by the Bill. He asks whether those gentlemen have had an opportunity of seeing more cases of yellow fever, cholera &c., than the civilian practitioners, and in the event of their not having had such opportunities he inquires why the right of officially deciding questions relative to epidemic disease should be conferred on them exclusively. The duties of the Government medical officers have been increased so much by this and other enactments that they will scarcely have time for private practice, although the smallness of their salaries compels them to engage in it. Better remuneration and better training of the medical officers would contribute much to the utility of the Bill.

The German Ambulances with the Boers.

The central committee of the German Red Cross Society has received reports from the German ambulances with the Boer forces. One ambulance is in Jacobsdal and the other in Bloemfontein. The members of the Jacobsdal ambulance were in great danger during the battles in February and were overwhelmed by the amount of work in the field hospital and on the battle-field. Jacobsdal is, of course, now in possession of the British; the patients in the field hospital are still for the most part Boers, only a few of them being British. At the special request of Lord Roberts the British Government has instructed the British Ambassador in Berlin to express his thanks to the German Red Cross Society for the help afforded to the sick and wounded. The Boer authorities have also stated that the German ambulance did excellent work during the harassing days before the surrender of General Cronje and afterwards. A third German ambulance is now on the way to South Africa where it will assist the members of the first two ambulances and supply them with a new stock of dressing material, &c.

Collective Investigation on Venereal Diseases.

A collective investigation on the spread of venereal diseases is being carried out in Prussia during this month. The medical profession throughout the country has been provided with vouchers on behalf of the medical chambers and has been requested to state the number of patients treated during the month of April. In the voucher there are different columns for patients suffering from gonorrhœa and its sequelæ, from soft sore, and from syphilis. The male and the female patients are to be classified separately. The vouchers must be sent to the presidents of the medical chambers of each province and will be delivered to the Government medical department, where they will be collected and the results published. The medical departments both of the army and of the navy will contribute to the investigation.

April 23rd.

Obituary.

ROBERT WILLS SOPER, M.B.Cantab., F.R.C.S., L.S.A., J.P.

MR. ROBERT WILLS SOPER, medical superintendent, Prospect House, Dartmouth, Devon, on April 16th, from the effects of a chill contracted a fortnight previously whilst attending a funeral. Mr. Soper was the third son of Dr. Soper, of St. Mary's Hospital, London, and became qualified as M.B.Cantab. and L.S.A. in 1862 and took responsibility. After holding resident appointments at St. Mary's Hospital, the Bristol General Infirmary, and the Devon and East Cornwall Hospital, Mr. Soper went to Dartmouth where he was established an extensive practice. At the time of his death he held various appointments, being medical officer of health of the borough and part of Dartmouth and also of the Dartmouth District, Totnes Union, the first and second district, Kingsbridge Union, and also inspector to the Board of Trade, visiting factory surgeon, and also a strongly religious and earnest

and a member of the General Medical Council. He received the honour of knighthood in 1898.

Edinburgh University Court.

At a meeting of Edinburgh University Court on April 16th it was resolved, after consultation with the Senatus, to admit women to the University classes of diseases of the larynx, ear, and nose. Mr. Thomas M. Burn-Murdoch, M B , C.M., was appointed University lecturer on Diseases of Children. Ten grants varying from £7 to £50 were made, on the recommendation of the Senatus, from the Earl of Moray Endowment for purposes of original research. On the recommendation of the Senatus it was agreed to appoint Dr. Alexander Bruce, in the event of his services being required during the summer session, to discharge the duties of the chair of Medicine in respect of Clinical Medicine and the reading of theses presented for the degree of M.D.

April 24th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Queen in Ireland.

THE Queen has been graciously pleased to accept in person addresses from the Royal College of Physicians of Ireland and the Royal College of Surgeons in Ireland. In both addresses, after expressions of the complete loyalty of the Colleges, opportunity was taken to refer to the splendid part played by the Irish soldiers in South Africa, and to the generous impulse which has led the Queen to publicly recognise their heroism. The address of the Royal College of Physicians says:—

We are deeply and gratefully sensible of the generous impulse which has prompted your Majesty at this time to visit Ireland and its capital—a gracious recognition of the heroic and conspicuous part which your Majesty's Irish troops have played in the war in South Africa. In this season of trouble you have—as you have ever done—made the trials and sorrows of your people your own, thus drawing their thoughts and hearts ever closer to your Royal person by ties of affectionate regard.

The address of the Royal College of Surgeons says:—

At the present moment a very large proportion of the officers of the Royal Army Medical Corps serving with such distinction in South Africa are Fellows or Licentiates of this College, and it is to us a legitimate source of pride and satisfaction that the valour and devotion displayed by our countrymen serving as combatants in the ranks of your army have been equalled by the devotion and self-sacrifice exhibited by our Fellows and Licentiates as officers of the Royal Army Medical Corps. We humbly desire also to convey to your Majesty the expression of our gratitude for having recently granted to the officers of the Army Medical Service the status and prestige of a Royal Corps. Such action on the part of your Majesty will enable this College to cooperate with your Majesty's advisers in making the Royal Army Medical Corps even more successful in the future than it has been in the past. To assist by every means in our power in all measures intended to strengthen the naval and military forces of the Empire is the highest object of our ambition.

County Antrim Infirmary, Lisburn.

At a meeting of the committee of management held in Lisburn on April 12th attention was drawn by one of the members to the fact that Mr. G. L St. George, the surgeon of the institution, had treated 669 cases and paid 2005 visits in connexion with what was known as the extern department. All this work was performed gratuitously, while many of the persons assisted were in a position to pay but did not owing to the belief that they were entitled to be relieved gratis. It was a monstrous thing that for a salary of £30 per annum the medical man should be allowed to place the benefit of his skill at the service of many patients who did not pay a farthing. The Act of Parliament did not provide for an extern department and dispensaries for the really poor were in existence. Mr. G. L. St. George said it was not only unfair to himself but to the other medical practitioners that he should give his services free. He had not himself complained of the matter; it was discovered by the Finance Committee. It was decided to consider the question with the view of making a satisfactory arrangement.

Asylum Attendants up to Date.

Dr. George L' Carre, resident medical superintendent of the District Lunatic Asylum, Omagh, reported to a meeting of the governors, held in Omagh on April 12th, that one of the female attendants lately appointed had left the place after being there only a few days; the reason given was because there was no piano for her to play in the institution.

The British Association.

The British Association is to meet at Bradford in 1900 and in Glasgow in 1901. Under its rules the decision as to the place of meeting for 1902 must be taken next September by the meeting at Bradford. An invitation to meet at Belfast in 1902 is to be presented then. The deputation has been appointed and a city meeting will be called to repeat officially the invitation already tendered at the assemblage in Dover last year.

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(FROM OUR OWN CORRESPONDENT.)

Rapid Diagnosis of Rabies in the Dog.

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example, depends on the proportion and the pressure of the carbonic acid which keeps the iron in solution, escapes of this gas, due to the sinking of other wells in the locality, have greatly reduced the ferruginous quality of the water. The Academy, not being able to interfere with the authorisations granted long ago, has decided that for the future authorisations for the sale of the water of a mineral spring shall only hold good for 30 years and that at the end of that time a fresh inquiry and fresh analysis shall be required.

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April 23rd.

Obituary.

ROBERT WILLS SOPER, M.R.C.S. ENG., L.S.A., J.P.

MR. ROBERT WILLS SOPER died at his residence, Prospect House, Dartmouth, Devon, on April 12th, from the effects of a chill contracted a fortnight previously while attending a funeral. Mr. Soper received his medical education at St. Mary's Hospital, London, and became qualified as M.R.C.S. Eng. and L.S.A. in 1864 and 1865 respectively. After holding resident appointments at St. Mary's Hospital, the Sheffield General Infirmary, and the South Devon and East Cornwall Hospital, Mr. Soper went to Dartmouth where he soon established an extensive practice. At the time of his death he held several appointments, being medical officer of health of the borough and port of Dartmouth, medical officer of the twelfth District, Totnes Union, the first and second District, Totnes Union, medical inspector to the Board of Trade, coastguard, factory surgeon, and also Admiralty surgeon at Dartmouth.

The deceased was a justice of the peace for Dartmouth. Mr. Soper, who was 53 years of age, was extremely popular and will be much missed in Dartmouth, where sincere sympathy is felt for his widow and children. He took a great interest in yachting and was a prominent member of the Start Bay Yacht Club. The funeral on April 17th was largely attended; amongst those present were the mayor and corporation, the magistrates, officers of H.M.S. *Britannia*, clergy, and members of the medical profession.

EDWIN VAN MILLINGEN, M.D. WURTZBURG.

WE have to record the death of Dr. Edwin Van Millingen of Constantinople, where he established himself as an ophthalmic and aural surgeon in 1874. He was an Englishman, was born in 1851, studied medicine in the University of Würtzburg, and graduated there as M.D., after which he studied ophthalmology and otology in Vienna. He was attached as a specialist to the British, French, and Italian hospitals in Constantinople, and was for a time similarly attached to the hospital of the Imperial Admiralty. He was appointed by the Sultan first ophthalmic and aural surgeon to the Imperial Court, and later was named Professor of Ophthalmology to the Imperial School of Medicine. He died in the British Hospital on April 7th from pneumonia following influenza.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—In April the following candidates passed in the subjects indicated:—

Surgery.—A. St. J. Bateman (Section I.), King's College Hospital; W. A. C. Cox (Section I.), St. Mary's Hospital; H. S. A. Davies (Section I.), Michigan; R. F. Ellery (Sections I. and II.) and F. E. Fellden, St. Bartholomew's Hospital; R. T. Forster (Sections I. and II.) and J. E. Howroyd (Section I.), Leeds; D. T. C. Jones (Section II.), University College Hospital; O. E. Lemin (Section II.), London Hospital; J. C. S. Rashleigh (Section I.), St. George's Hospital; and G. E. Seville, Manchester.

Medicine.—F. R. Featherstone (Section I.), Guy's Hospital; R. T. Forster (Section II.), Leeds; W. D. French (Section II.), University College Hospital; J. S. Goodall (Section I.), Middlesex Hospital; T. E. Holman, Guy's Hospital; J. E. Howroyd (Section I.), Leeds; C. Johnson (Section I.), Durham and London Hospital; O. E. Lemin (Section II.), London Hospital; G. M. Smith, St. Thomas's Hospital; and C. E. Williams, R.C.P. & S., Kingston, Ontario.

Forensic Medicine.—A. St. J. Bateman, King's College Hospital; F. R. Featherstone, Guy's Hospital; J. S. Goodall, Middlesex Hospital; T. E. Holman, Guy's Hospital; J. E. Howroyd, Leeds; C. Johnson, Durham and London Hospital; R. O. Jones, Guy's Hospital; W. Miles, Middlesex Hospital; G. M. Smith, St. Thomas's Hospital; and C. E. Williams, R.C.P. & S., Kingston, Ontario.

Midwifery.—P. D'E. Burrell, St. George's Hospital; W. T. Harris, St. Thomas's Hospital; W. T. Meagher, Cork; D. V. Muller, Charing-cross Hospital; R. C. Rumbelow, Middlesex Hospital; and H. Smith, Birmingham.

The diploma of the Society was granted to the following candidates, entitling them to practise Medicine, Surgery, and Midwifery: P. D'E. Burrell, R. F. Ellery, F. E. Fellden, R. T. Forster, T. E. Holman, D. T. C. Jones, O. E. Lemin, and G. E. Seville.

UNIVERSITY OF EDINBURGH.—The following is the official list of candidates who have passed the undermentioned examinations for degrees in Medicine and Surgery:—

First Professional Examination.—Farhat Ali, Mark Ashkenazie, Agnes Balfour, C. M. Begg, A. R. Berrie, J. M. Beyers, A. S. L. Biggart, F. H. Borthwick, F. S. Brennan, James Brennan, Angus Buchanan, R. B. Calwell, M. C. Cowper, R. W. Craig, C. S. Crichton, George Cunningham, W. H. Davison, J. R. Dobbin, T. H. Easton, C. G. Edmonston, J. J. H. Ferguson, F. S. B. Fletcher, N. C. Forsyth, R. H. Fothergill, H. M. Gillespie, J. A. Glover, L. C. V. Hardwicke, George Harrison, Ephraim Henderson, M.A., G. S. Husband, R. J. Irving, S. A. Johnston, I. C. Keir, John Kirk, E. A. Klein, W. E. Knight, C. A. Lawrence, C. D. Lochrane, J. B. [illegible], A. P. G. Lorimer, John M'Donald, R. J. Mackessack, M.A., Lispeth M. Macmillan, D. P. Marais, J. B. Mears, C. R. P. Mitchell, Helen Morison, T. B. Mouat, C. F. A. Oberlander, Archibald Oliver, Frank O'Neill, R. H. Price, Labbhu Ram, William [illegible], A. R. C. Rees, D. G. Reid, A. O. P. Reynolds, W. H. [illegible], L. C. Robertson, John Sandey, S. W. Smith, W. A. [illegible] Smith, H. A. Stewart, H. J. Stewart, A. C. Strain, Annie F. [illegible], F. T. Thomson, E. A. Turpin, D. C. Welsh, Leonard West, R. M. Manwaring White, and D. P. D. Wilkie.

Second Professional Examination.—A. K. Baxter, Henry Beveridge B.A., [illegible] Blacklock, C. H. Bosenburg, J. R. Bosman, E. A. Brain, G. B. Brand, R. D. Brown, Archibald Brownlie, D. M. Calder, M.A., C. M. Campbell, M.A., D. G. Carmichael, T. F. Cavanagh, A. M. Caverhill, J. H. Connolly, P. D. Cremona, T. M. Cuthbert, P. I. Dawson, Jan Domnitz, H. J. Dunbar, J. F. Dunn, [illegible], S. A. Filertek,* S. C. Ellison, A. N. Fell, A. P. R. Fenwick, Sidney Gifford, Archibald Gillespie, A. M. Glegg, D. P. Goil,* Wilbert Goodchild, Andrew Grant, J. P. Grant, J. A. Gray, J. F. Haegert, T. B. Hamilton,* Howard Harding, A. W. M. Harvey, Henry Herd, M.A., Matthew Holmes, C. H. Houghton, R. C. Irvine, J. M. Johnstone, Harold Kerr, James Kirkwood, H. A. Knight, W. S. Laidlaw, Norah Lenwood, William Lillico, J. C. London, R. C. Low, J. C. M'Caughey, D. R. MacGregor, B.Sc., I. N. M'Keand, V. C. M'Laren, Evan Macmillan, R. P. M'Neil, C. E. Marshall, W. E. Marshall, J. B. Mason, J. K. Matheson, Paul Matthews,* R. J. Mayberry, Thomas Mill, W. S. Milne, Anthony Moll, J. H. Montgomery, [illegible] rison, Robert Murray, Charles Nelson, [illegible] Nixon, T. H. Osler, John Politachi, A. [illegible] obarts, A. B. Ross, T. W. E. Ross, A. J. [illegible], James Scoble, J. S. Sewell, A. M. Sharp, M.A., E. S. Sharp, C. J. Shaw, W. F. Smeall, J. M. Smith, M. S. Sodhi, D. L. Wall, B. P. Watson,* John Weir, and S. A. K. Wilson.

Second Professional Examination (Old Regulations).—M. N. Bose, M. G. I. Cadell, Shaik Dawood,* J. H. Meikle, M.A., B.Sc., A. C. Peterson, D. R. Rees, and W. H. Swaffield.

Third Professional Examination.—May Agnew, J. F. Allan, C. M. Anderson, R. T. Baillie, A. C. Bogg, [illegible]elillos, V. C. de Bomville, R. J. Bradley, [illegible] Brocket, E. E. Brown, G. M. Brown, William [illegible]alee, Launcelot Bruce, R. W. Buchanan, Henr[illegible] E. P. Calder, Kirkland Chapel, C. C. Choyce, [illegible] Crow, B. M. Cunningham, John Dalgliesh,* M. S. Dickson, W. E. C. Dickson, B.Sc., T. G. B. Dodds, Henry Dodgson, Charles Douglas, J. L. Duncan, W. A. Duncan, J. M. Dupont, J. R. Edward, William Eggling, J. W. Falconer, Stephen Garvin, E. M. Glanville, R. A. Glegg, Thomas Graham, R. M. Grant, A. L. Gurney, A. R. Hallam, James Halliday, A. M. Hamilton, William Hamilton, N. C. R. Hansen, R. A. J. Harper, E. R. Henderson, D. O. Henry, C. W. Howe, [illegible] B.Sc., A. E. Hunter, A. R. Johnston, D. [illegible] J. P. Kennedy, P. V. Laugmore, A. R. [illegible] Lee, J. G. M'Bride, J. B. M'Cutcheon, [illegible], P. F. M'Farlan, George M'Farland, F. D. S. MacKenzie, John [illegible]ae, William Mair, A. M. Malcolmson, A. [illegible] C. Maunsell, G. R. Mill, William Mil[illegible] ohn Morrison, David Munro, J. G. Munro, [illegible]ray, D. A. Ogilvie, J. F. Orr, J. L. Palmer, [illegible]ell, George Pereira, H. G. Pesel, L. W. P[illegible] M.A., H. St. J. Randell, H. M. Roberts, [illegible] W. Robertson, W. A. Robinson, Laurence Rundall, C. W. Saleeby, T. B. Shaw, M. M. Smith, T. A. Smyth, Kate Southon, H. L. Shark, A. J. de Spiganovicz, M. M. Stevenson, D. A. Stewart, T. L. Thomson, E. A. Walker, A. R. Wallis, Edwin Wells, T. S. B. Williams, T. E. Wilson, James Woods, David Young, and R. T. Young.

* Passed with distinction.

CARMARTHEN INFIRMARY.—The annual meeting of the subscribers and friends of this institution was held on April 12th. The medical staff reported an increase in the work and the financial statement showed that the total receipts amounted to £1721 and the expenditure to £1885.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—In recognition of the Royal visit the Council has resolved to grant the Primary Fellowship Examination to all students of the College who pass the second professional examination on or before July 31st, 1900, on fulfilling the other necessary conditions. This resolution applies to Licentiates, whether under or over 10 years' standing, and to all students who pass the second professional examination for the conjoint diploma of the two Royal Colleges. The second professional examination and the examination in physiology must be completed. All persons wishing to obtain the benefit of this resolution must claim the benefit before July 31st, 1900. All applications are to be addressed to the Registrar of the College.—The following is the prize list for the winter session. Descriptive Anatomy: Junior—J. S. Shiell, first prize (£3) and medal; and J. J. Connolly, second prize (£1) and certificate. Senior—J. Cockburn, first prize (£3) and medal; and R. W. Burkitt, second prize (£1) and certificate. Practical Anatomy: First year—Miss J. C. Hargrave, first prize (£3) and medal; and A. N. Crawford, second prize (£1) and certificate. Second year—E. C. Byrne, first prize (£3) and medal; and R. G. Allen, second prize (£1) and certificate. Third year—A. Charles and T. A. Dillon (equal), first prize (£3) and medal; and C. W. Ewing, second prize (£1) and certificate. Practice of Medicine: A. Charles, first prize (£3) and medal; and J. F. Peart, second prize (£1) and certificate. Surgery: C. W. Ewing, first prize (£3) and medal; and J. F. Peart, second prize (£1) and certificate. Midwifery: W. R. Meredith and J. F. Peart (equal), first prize (£3) and medal; and Miss M. J. Shire, second prize (£1) and certificate. Physiology: J. P. Ziervogel, first prize (£3) and medal; and R. W. Burkitt, second prize (£1) and certificate. Chemistry: B. H. Peters, first prize (£3) and medal; and F. O'D. Fawcett, second prize (£1) and certificate. Pathology: J. M. S. Levis, first prize (£3) and medal; and T. J. Tallon, second prize (£1) and certificate. Physics: Miss J. C. Hargrave, first prize (£3) and medal; and M. Lochrin, second prize (£1) and certificate.

DIFFICULT SENSATION [illegible] Jom- [illegible] held recently bef[illegible] [illegible]s, a collier who l[illegible] [illegible]er 52 years claimed 8s. per week from the company, being half the wages he earned before the accident in September last. Medical evidence showed that the plaintiff was now suffering from rheumatism in the shoulder-joints and that from the effects of the accident; but that there might be slight traces of the accident left. His Honour said that such cases were very difficult to decide, as he had to depend absolutely on the medical evidence, and medical evidence could not always define with sufficient accuracy the extent to which an applicant was incapacitated. Eventually, judgment was given for 5s. a week.

MEDICAL MEN.—Mr. John [illegible] Clydach, Swansea, at a meet[illegible] the Public Hall in that town [illegible]ing for the front, having been [illegible] to Her Majesty's forces in [illegible] with a purse containing £50 [illegible] and tobacco.—At St. Tudy, [illegible] the members of the St John [illegible] Mr. William Robert Newton Cole, M.D., M.Ch. R.U.I., with a barometer in appreciation of his services as honorary lecturer.—At the East Looe (Cornwall) Guildhall on March 26th the members of the St. John ambulance class presented Mr. Leonard Frank Houghton, L.R.C.P. Lond., M.R.C.S. Eng., with a smoking cabinet of oak bearing the inscription "Presented to Dr. L. F. Houghton by the members of the St. John Ambulance Class, F[illegible] of his services, 1897-8 9."—The [illegible] Devon and Exeter Hospital on [illegible] Mr. W Ashford, L.R.C.P. Lond., M[illegible] house surgeon, with a travelling case. Mr. Ashford has been accepted for service with the South African Field Force.—On March 29th Mr. Frank Woods, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., of Timsbury, near Bath, who is leaving the neighbourhood, was entertained at a dinner in that town Mr. Hayward, the chairman, presided over a large assembly, and in the course of the evening presented Mr. Woods with a silver salver as a slight token of the esteem in which he was held by the inhabitants of the district.—Mr. S. Finlay, F.R.C.S. Irel., and Mrs. Finlay were, on Jan. 3rd, entertained at Dungog, New South Wales, at a farewell social meeting prior to their leaving for Sydney, when Mr. Finlay was presented with an address by the residents of the district and Mrs. Finlay was the recipient of a valuable piece of plate.—The medical friends of Mr. S. O. Jamieson, M.B., Ch.M. Melb., of Hobart, Tasmania, who has proceeded to South Africa, met recently in that town and presented him with an Albert chain and Maltese cross.—At Shaldon, Teignmouth, recently, Mr. Bird, the chairman of the Shaldon Technical Education Committee, on behalf of the ladies who have attended a course of lectures on "First Aid to the Injured and Sick Nursing" given by Mr. William Ker Bell, L.R.C.P. Lond., M.R.C.S. Eng., presented to that gentleman a dressing and travelling bag in [illegible] as honorary lecturer.—At the Carmarthenshire, on April 5th [illegible] Rees, of Dynevor Castle, on [illegible] behalf of friends in the town and neighbourhood, presented to Mr. William Howell Lloyd, M.R.C.S. Eng., L.S.A., Surgeon Captain of the 1st Volunteer Battalion the Welsh Regiment, medical officer of health of the Llandilo rural and urban districts, and deputy coroner for the eastern division of Carmarthenshire an address, accompanied by a hamper and a purse containing £[illegible], as a mark of respect and esteem upon the occasion of his silver wedding.—Considerable sympathy has been felt with Mr. R. W. Jellye, M.R.C.S. Eng., of Donington, Lincolnshire, by his friends and neighbours in consequence of a recent action at law against him which was dismissed with costs. Mr. Jellye has been a resident at Donington and carried on a professional practice there for many years and is highly esteemed. He was just then presented with a silver salver, on which is engraved an appropriate inscription, and a cheque for upwards of £[illegible], which covers his costs he incurred in defending the action. Mr. W. H. Willis, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., of Machynlleth, was the recipient on April 5th of a testimonial of his services in the neighbourhood of a large local and alliance [illegible] as an acknowledgment and appreciation of his first-aid instructions.—At the Village Hall, Addlestone, on April 16th, on the presentation of certificates to members of the local ambulance class, in connexion with the St. John Ambulance Association, Mr. J. E. A. Hope, L.R.C.P. Lond., M.R.C.S. Eng., was the recipient of a silver-mounted oak tea-tray, as a token of appreciation of his able gratuitous lectures to the class.—At a smoking concert, in the men's mess room at the New Cross railway station, London, on April 21st, Mr. J. M. Carroll, M.R.C.S. Eng., of Catford, was the recipient of a gold-mounted umbrella from the members of the ambulance corps of the New Cross and Willow Walk Division, of which he is the honorary surgeon.

COMPLIMENTARY ENTERTAINMENT.—On April 19th Mr. N. McIntire Falkiner, M.B., B.Ch. Dub., F.R.C.P. Irel., of Dublin, was entertained to dinner at the Dolphin Hotel and was presented with an illuminated address by the poor law and medical officers of health of the Dublin Metropolitan District, on the occasion of his appointment as medical superintendent of Charlemont House and as a mark of their good wishes. Sir Charles Cameron occupied the chair and in proposing the toast of the evening, "Our Guest," remarked on Dr. Falkiner's amiability, by which he had gained the esteem of his many friends, and on his capabilities as a physician and sanitarian.

THE BRADFORD SANITARY ASSOCIATION.—The report of this association, of which Dr. H. Johnston Campbell is president and Mr. P. P. Miall vice-president, states that the total number of members for the year 1899 was 100, as compared with 104 for the previous year. The total number now on the roll is 103. Discussing the prevalence of influenza the report calls attention to the fact that too much reliance is placed upon medicine and hospitals by the general public for cure and pleads for a more intelligent grasp of sanitary principles. The seed of a plant which germinates best on soils suitable to its nature is given as an illustration of how the disease gains entrance to the body.

UNIVERSITY OF CAMBRIDGE.—At a meeting of the Governors of Addenbrooke's Hospital on April 22nd Professor Clifford Allbutt was unanimously elected an honorary physician to the hospital. The following were elected the University Representatives on the Advisory Council established, under the new statutes, with the Senate: Dr. Porter, Dr. D. MacAlister, Mr. H. J. Gray, Mr. H. M. Taylor, and Mr. G. B. Finch. Five members to represent the county and five to represent the [illegible] were elected at the same time. The compact with the University has thus been carried out, and there is reason to expect that the results will be highly beneficial both to the clinical and to the medical school.—Mr. R. H. Yapp has been appointed assistant-curator of the Herbarium in the Department of Botany.—The plans for the new Medical School buildings come up for discussion in the Senate on May 5th.—The medical examinations for the M.B. and B.C. degrees began on April 11th and will continue till May 3rd.—Professor J. G. Adami has been appointed a delegate to represent the University at the centennial celebration of the University of New Brunswick in May.—Mr. G. Cunningham will represent the University at the Dental Conference to be held in Paris in August next.

VACCINATION FEES.—It seems that the Bury Board of Guardians are dissatisfied with the [illegible] of the vaccination fees which have to be paid to medical practitioners in consequence with the Local Government Board on the subject. The guardians appealed to the Board that the fees should be reduced to the [illegible] in Art. 20 of the [illegible] Order, 1896, but were told that the Board were [illegible] that the fees fixed by the vaccination [illegible] respect of the year [illegible] were [illegible] large [illegible] to the [illegible] of which [illegible] them. Considerable [illegible] of these in [illegible] increase. [illegible] causing a larger number of [illegible] made a great [illegible] A second communication with regard to [illegible] public health [illegible] there was a [illegible] increase in the [illegible] 1897 [illegible] J. [illegible] and that [illegible] were [illegible]

The deceased was a justice of the peace for Dartmouth. Mr. Soper, who was 58 years of age, was extremely popular and will be much missed in Dartmouth, where sincere sympathy is felt for his widow and children. He took a great interest in yachting and was a prominent member of the Start Bay Yacht Club. The funeral on April 17th was largely attended; amongst those present were the mayor and corporation, the magistrates, officers of H.M.S. *Britannia*, clergy, and members of the medical profession.

EDWIN VAN MILLINGEN, M.D. WURTZBURG.

WE have to record the death of Dr. Edwin Van Millingen of Constantinople, where he established himself as an ophthalmic and aural surgeon in 1874. He was an Englishman, was born in 1851, studied medicine in the University of Würtzburg, and graduated there as M.D., after which he studied ophthalmology and otology in Vienna. He was attached as a specialist to the British, French, and Italian hospitals in Constantinople, and was for a time similarly attached to the hospital of the Imperial Admiralty. He was appointed by the Sultan first ophthalmic and aural surgeon to the Imperial Court, and later was named Professor of Ophthalmology to the Imperial School of Medicine. He died in the British Hospital on April 7th from pneumonia following influenza.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—In April the following candidates passed in the subjects indicated:—

Surgery.—A. St. J. Bateman (Section I.), King's College Hospital; W. A. O. Cox (Section I.), St. Mary's Hospital; H. S. A. Davies (Section I.), Michigan; R. F. Ellery (Sections I. and II.) and F. E. Feilden, St. Bartholomew's Hospital; R. T. Forster (Sections I. and II.) and J. E. Howroyd (Section I.), Leeds; D. T. C. Jones (Section II.), University College Hospital; O. E. Lemin (Section II.), London Hospital; J. C. S. Rashleigh (Section I.), St. George's Hospital; and G. E. Seville, Manchester.

Medicine.—F. R. Featherstone (Section I.), Guy's Hospital; R. T. Forster (Section II.), Leeds; W. D. French (Section II.), University College Hospital; J. S. Goodall (Section [illegible]) [illegible] Hospital; T. E. Holman, Guy's Hospital; J. E. H[illegible], Leeds; C. Johnson (Section I.), Durham and L[illegible] Hospital; O. E. Lemin (Section II.), London Hospital; G. M. Smith, St. Thomas's Hospital; and C. E. Williams, R.C.P. & [illegible]

Forensic Medicine.—A. St. J. Bateman, [illegible]; F. R. Featherstone, Guy's Hospital; [illegible] Hospital; T. E. Holman, Guy's Hospital; J. E. Howroyd, Leeds; C. Johnson, Durham and London Hospital; R. O. Jones, Guy's Hospital; W. Miles, Middlesex Hospital; G. M. Smith, St. Thomas's Hospital, and C. E. Williams, R.C.P. & S., Kingston, Ontario.

Midwifery.—P. D'E. Burrell, St. George's Hospital; W. T. Harris, St. Thomas's Hospital, W. T. Meagher, Cork; D. V. Muller, Charing-cross Hospital; R. C. Rumbelow, Middlesex Hospital; and H. Smith, Birmingham.

The diploma of the Society was granted to the following candidates, entitling them to practise Medicine, Surgery, and Midwifery: P. D'E. Burrell, R. F. Ellery, F. E. Feilden, R. T. Forster, T. E. Holman, D. T. C. Jones, O. E. Lemin, and G. E. Seville.

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* Passed with distinction.

CARMARTHEN INFIRMARY.—The annual meeting of the subscribers and friends of this institution was held on April 12th. The medical staff reported an increase in the work and the financial statement showed that the total receipts amounted to £1721 and the expenditure to £1885.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—In recognition of the Royal visit the Council has resolved to grant the Primary Fellowship Examination to all students of the College who pass the [illegible] examination on or before July 31st, 1900, [illegible] other necessary conditions. This resolution applies to Licentiates, whether under or over 10 years' standing, and to all students who pass the second professional examination for the conjoint diploma of the two Royal Colleges. The second professional examination and the examination in physiology must be completed. All persons wishing to obtain the benefit of this resolution must claim the benefit before July 31st, 1900. All applications are to be addressed to the Registrar of the College.—The following is the prize list for the winter session. Descriptive Anatomy: Junior—J. S. Shiell, first prize (£3) and medal; and J. J. Connolly, second prize (£1) and certificate. Senior—J. Cockburn, first prize (£3) and medal; and R. W. Burkitt, second prize (£1) and certificate. Practical Anatomy: First year—Miss J. C. Hargrave, first prize (£3) and medal; and A. N. Crawford, second prize (£1) and certificate. Second year—E. C. Byrne, first prize (£3) and medal; and R. G. Allen, second prize (£1) and certificate. Third year—A. Charles and T. A. Dillon (equal), first prize (£3) and medal; and C. W. Ewing, second prize (£1) and certificate. Practice of Medicine: A. Charles, first prize (£3) and medal; and J. F. Peart, second prize (£1) and certificate. Surgery: C. W. Ewing, first prize (£3) and medal; and J. F. Peart, second prize (£1) and certificate. Midwifery: W. R. Meredith and J. F. Peart (equal), first prize (£3) and medal; and Miss M. J. Shire, second prize (£1) and certificate. Physiology: J. P. Ziervogel, first prize (£3) and medal; and R. W. Burkitt, second prize (£1) and certificate. Chemistry: B. H. Peters, first prize (£3) and medal; and F. O'D. Fawcett, second prize (£1) and certificate. Pathology: J. M. S. Levis, first prize (£3) and medal; and T. J. Tallon, second prize (£1) and certificate. Physics: Miss J. C. Hargrave, first prize (£3) and medal; and M. Lochrin, second prize (£1) and certificate.

DIFFICULTIES UNDER THE PENSATION ACT.—At the Pontypri recently before His Honour collier, who had worked at the years claimed 8s. per week f the wages he earned before th. Medical evidence showed that the plaintiff was now suffering given for 5s. a week. -Mr. John Jo n at a meeting n that town on having been appointed a civil surgeon to Her Majesty's forces in a purse containing £50 bacco.—At St. Tudy, embers of the St. John William Robert Newton Cole, M.D., M.Ch. R.U.I. appreciation of his services the East Looe (Cornwall) C the members of the St. John Mr. Leonard Frank Houghton, L.R.C.P. Lond., M.R.C.S. Eng., with a smoking cabinet of oak, bearing the inscription "Presented to Dr. L. F. Houghton by the members of the St. John Ambulance Class, East Looe, in recognition of his services, 1897-8-9."—The nursing staff of the Royal Devon and Exeter Hospital on March 28th presented Mr. W. Ashford, L.R.C.P. Lond., M.R.C.S. Eng., the assistant house surgeon, with a travelling case. Mr. Ashford has been accepted for Force.—On March 29th M.R.C.S. Eng., L.S.A., aving the neighbourhood hat town. Mr. Hayward, the chairman, presided over a large assembly, and in the course of the evening presented Mr. Woods with a silver salver as a slight token of the esteem in which he was held by the inhabitants of the district.—Mr. S. Finlay, F.R.C.S. Irel., and Mrs. Finlay were, on Jan. 3rd, entertained at Dungog, New South Wales, at a farewell social meeting prior to their leaving for Sydney, when Mr. Finlay was presented with an address by the residents of the district and Mrs. Finlay was the recipient of a valuable piece of plate.—The medical friends of Mr. S. C. Jamieson, M.B., Ch.M. Melb., of Hobart, Tasmania, who has proceeded to South Africa, met recently in that town and presented him with an Albert chain and Maltese cross.—At Shaldon, Teignmouth, recently, Mr. Bird, the chairman of the Shaldon Technical Education Committee, on behalf of the ladies who have attended a course of lectures on "First Aid to the Injured and Sick Nursing," given by Mr. William Ker Bell, L.R.C.P. Lond., M.R.C.S. Eng., presented to that gentleman a dressing and travelling bag in appreciation of his services as honorary lecturer.—At the Cradoc Arms Hotel, Llandilo, Carmarthenshire, on April 5th the Honourable Gwenllian C. Rice, of Dynevor Castle, on behalf of friends in the town and neighbourhood, presented to Mr. William Howell Lloyd, M.R.C.S. Eng., L.S.A., Surgeon Captain of the 1st Volunteer Battalion the Welsh Regiment, medical officer of health of the Llandilo rural and urban districts, and deputy-coroner for the eastern division of Carmarthenshire, an address, accompanied by a brougham and a purse containing £120, as a mark of respect and esteem upon the occasion of his silver wedding.—Considerable sympathy has been felt with Mr. R. W. Jolliye, M.R.C.S. Eng., of Donington, Lincolnshire, by his friends and neighbours in consequence of a recent action at law against him which was dismissed with costs. Mr. Jolliye has been a resident at Donington and carried on a professional practice there for many years and is highly esteemed. He has just been presented with a silver salver, on which is engraved an appropriate inscription, and a purse for expenses of £100, which covers the costs he incurred in defending the action. Mr. W. R. Williams, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., of Machynlleth, was the recipient on April 5th of a marble clock from the members of a large local ambulance class as an acknowledgment and of his first-aid instructions.—At the Village Institute, on April 10th, on the presentation of certificates to members of the local ambulance class, in connexion with the St. John Ambulance Association, Mr. J. L. A. Hope, L.R.C.P. Lond., M.R.C.S. Eng., was the recipient of a silver-mounted oak tea-tray, as a token of appreciation of his able gratuitous lectures to the class.—At a smoking concert, in e New Cross railway station, Lon J. M. Carvell, M.R.C.S. Eng., of C gold-mounted umbrella from the members of the ambulance corps of the New Cross and Willow Walk Division, of which he is the honorary surgeon.

COMPLIMENTARY ENTERTAINMENT.—On April 19th Mr. N. McIntire Falkiner, M.B., B.Ch. Dub., F.R.C.P. Irel., of Dublin, was entertained to dinner at the Dolphin Hotel and was presented with an illuminated address by the poor-law and medical officers of health of the Dublin Metropolitan District, on the occasion of his appointment as medical superintendent of Charlemont House and as a mark of their good wishes. Sir Charles Cameron occupied the chair and in proposing the toast of the evening, "Our Guest," remarked on Dr. Falkiner's amiability, by which he had gained the esteem of his many friends, and on his capabilities as a physician and sanitarian.

THE BRADFORD SANITARY ASSOCIATION.—The report of this association, of which Dr. H. Johnstone Campbell is president and Mr. P. R. Miall vice-president, states that the total number of members for the year 1899 was 100, as compared with 104 for the previous year. The total number now on the roll is 103. Discussing the prevalence of influenza the report calls attention to the fact that too much reliance is placed upon medicine and isolation hospitals by the general public for cure and pleads for a more intelligent grasp of sanitary principles. The seed of a plant which germinates best on cells suitable to its nature is given as an illustration of how the disease gains entrance to the body.

UNIVERSITY OF CAMBRIDGE.—At a meeting of the Governors of Addenbrooke's Hospital on April 23rd Professor Clifford Allbutt was unanimously elected an honorary physician to the hospital. The following were elected the University Representatives on the Advisory Council established, under the new agreement with the Senate: Dr. Porter, Dr. D. Macalister, Mr. C. J. Clay, Mr. H. M. Taylor, and Mr. G. B. Finch. Two members to represent the county and five to represent the borough were elected at the same time. The compact with the University has thus been carried out, and there is reason to hope that the results will be highly beneficial both to the charity and to the medical school.—Mr. R. H. Yapp has been appointed assistant-curator of the Herbarium in the Department of Botany.—The plans for the new Medical School buildings come up for discussion in the Senate on May 5th.—The final examinations for the M.B. and B.C. degrees began on April 24th and will continue till May 3rd.—Professor J. G. Adami has been appointed a delegate to represent the University at the centennial celebration of the University of New Brunswick in May.—Mr. G. Cunningham will represent the University at the Dental Conference to be held in Paris in August next.

VACCINATION FEES.—It seems that the Bury Board of Guardians are dissatisfied with the amount of the vaccination fees which they have to pay and have been in correspondence with the Local Government Board on the matter. The guardians proposed to the Board that the fees should be reduced to the minimum in Article 20 of the Vaccination Order, 1898, but were told that the Board were satisfied that the fees to be received by the vaccination officers in respect of the year 1899 were already large having regard to the increased amount of work which had devolved upon them. Considerable arrears had accumulated under the Act of 1898 [illegible] to the vaccination officers. Notwithstanding the Board [illegible] that in view of increasing expenditure [illegible] made a great [illegible] A second communication with regard to a [illegible] again pointed out that though there was a [illegible] increase in the number of the first [illegible] 1899 over those paid in 1898 and 1897 [illegible] that in local communities was almost entirely in accordance [illegible] and that some vaccination officers [illegible]

arrear. The Board considered that the guardians should give the new system a longer trial before they cut down the fees, for there was more work to do than formerly. It seems strange that such obvious facts should have to be pointed out to the guardians. The result of the subsequent discussion was that the letters were referred to a committee for consideration.

VACCINATION LAW.—At Frome, Somerset, the bench of magistrates recently dismissed two summonses against residents at Nunney for failing to have their children vaccinated, owing to the vaccination officer having signed the requisite notices in the wrong place.

INSPECTION OF MEAT.—At the last meeting of the Swansea Town Council it was decided to appoint a meat and veterinary inspector at a salary of £200 per annum.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

BENDLE, J. H., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed Senior House Surgeon to the County Hospital, Yorkshire.

BIRD, G. W. HARVEY, M.A., M.B., B.C. Cantab., M.R.C.S., L.R.C.P., has been appointed Surgeon to the Bridgwater Infirmary.

BOAKE, SAMUEL, L.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer of Health for Ilminster, and also Medical Officer for the No. 1 (Ilminster) District by the Chard Board of Guardians, vice E. Stephens, deceased.

BOY, CHARLES RICHARD, M.D., B.S., B.Sc. Lond., M.R.C.P., F.R.C.S., has been appointed Assistant Physician to St. Thomas's Hospital.

BYRNE, L. A., L.R.C.P. Irel., F.R.C.S., has been appointed Coroner for the City of Dublin, vice T. E. Kenny.

DAVIES, J. L., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the workmen at the Old Castle Works, Llanelly.

GRIEVE, R., M.D., C.M. Edin., has been appointed Honorary Assistant Surgeon, Hull Royal Infirmary, vice H. W. Pigeon.

HARRIS, JOHN HENRY, M.R.C.S., L.S.A., D.P.H. Cantab., has been appointed Surgeon in charge of troops, Castle Fort, vice R. W. Soper, deceased.

JONES, D. WILLIAMS, L.R.C.P., L.R.C.S. Edin., L.S.A. Lond., has been appointed Medical Officer and Public Vaccinator to the Rotherham No. 1 District, vice Branson, resigned.

MACPHERSON, J. P., M.B., C.M. Edin., has been appointed Medical Officer for the First Sanitary District of the Basingstoke Union, vice C. F. Webb, resigned.

MAIDLOW, W. H., M.D. Durh., B.S., F.R.C.S. Eng., has been appointed Medical Officer of Health by the Ilminster District Council.

MASSEY, D., L.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer of Health for the Berriew Sanitary District of the Forden Union.

MCNABB, H. J., M.B., C.M. Irel., has been appointed Assistant Medical Officer to the County Down Infirmary.

NEWMAN, G., M.D. Edin., D.P.H. Camb., has been appointed, *pro tem.*, Medical Officer for Clerkenwell.

ROBERTS, J. L., M.D. Lond., B.Sc., F.R.C.S. Eng., has been appointed Honorary Physician, Stanley Hospital, Liverpool, vice R. I. Richardson, resigned.

ROYAL, WILLIAM JOHN, L.D.S., F.P.S. Glasg., has been appointed Honorary Dental Surgeon to the Royal United Hospital, Bath, vice Charles Gaine, resigned.

SPOY, H. J., L.R.C.P. Lond., M.R.C.S., D.P.H. Camb., has been appointed Visiting Medical Officer to the City Dispensary, College-street, London, E.C.

SCHOLLER, [illegible], L.R.C.P., L.R.C.S. Irel., has been re-appointed Medical Officer of Health by the Withernsea Urban District Council.

WALKER, J. D., M.B., C.M. Aberd., has been appointed Medical Officer for the Yeotmell Sanitary District of the Shaftesbury Union, vice H. A. Bryant, resigned.

WOOD, JAMES MILLER SWANSON, M.B., Ch.B., has been appointed Assistant Medical Officer to the James Murray's Royal Asylum, Perth.

WORTH, ERSKINE HERBERT, L.R.C.P. Lond., M.R.C.S., L.S.A., of St. Day, Cornwall, has been accepted for service with the troops in South Africa.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL, Woolchurch-road, Birkenhead.—House Surgeon. Salary £75, with board, residence, and laundry. Apply to the Hon. Secretary, 20, Chapel-street, Liverpool.

BIRMINGHAM AND MIDLAND EYE HOSPITAL, Birmingham.—Assistant House Surgeon. Salary £60 per annum, with apartments and board.

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN, Birmingham.—Resident Medical Officer and Resident Surgical Officer. Salaries of £60 per annum each, with board, washing, and attendance at the hospital.

BRISTOL ROYAL INFIRMARY.—Casualty Officer, to hold office until August 31st. Honorarium £10, with apartments, board, and washing.

BRITISH NORTH BORNEO.—Two Medical Cadets. Apply to the Secretary, the British North Borneo Company, 15, Leadenhall-street, London, E.C.

CARDIFF INFIRMARY.—Assistant House Physician for six months. Salary at the rate of £50 per annum, with board, washing, and [illegible] y £130 per annum, with [illegible] W.—Clinical Assistant. [illegible] 8s. [illegible] Medical Officers at the [illegible] ster, for twelve months. Salary of Senior Officer £130, and of Junior Officer £120, with furnished apartments and attendance (but not rations) for each in the workhouse.

CITY ASYLUM, Birmingham.—Resident Clinical Assistant.

CITY ASYLUM, Nottingham.—Second Assistant Medical Officer, unmarried. Salary £150, with board, apartments, and washing.

COUNTY ASYLUM, Rainhill, near Liverpool.—Assistant Medical Officer to act as Locum Tenens for about four months during the summer. Salary £3 3s. per week, with furnished apartments and board.

DENBIGHSHIRE INFIRMARY, Denbigh.—House Surgeon for 12 months. Salary £80 to commence, with board, residence, and washing.

DEWSBURY AND DISTRICT GENERAL INFIRMARY.—House Surgeon. Salary commencing £80 per annum, with board, residence, and washing.

FARRINGDON GENERAL DISPENSARY, 17, Bartlett's-buildings, Holborn-circus, London.—Resident Medical Officer. Salary £120 per annum, with apartments, coals, gas, and attendance and permission to take resident pupils.

GLAMORGAN COUNTY ASYLUM, Bridgend.—Junior Assistant Medical Officer. Salary £150, with board, apartments, washing, and attendance.

HOSPITAL FOR DISEASES OF THE THROAT, Golden-square, London.—Senior Clinical Assistant.

HOSPITAL FOR WOMEN, Soho-square, London.—House Physician for six months. Salary £30 for that period.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary £85 per annum.

LIVERPOOL EYE AND EAR INFIRMARY.—House Surgeon. Salary £80, with residence and maintenance.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Assistant Resident Medical Officer for six months. Honorarium given at the rate of 50 guineas per annum, residence in the hospital, with board and washing.

MANCHESTER ROYAL INFIRMARY.—Surgical Registrar (non-resident). Salary £80 per annum.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Junior Resident Medical Officer for six months. Salary at the rate of £40 per annum, with board, attendance, and washing.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Albany Memorial), Queen-square, Bloomsbury, London.—Two Assistant Physicians.

NORTHAMPTON UNION.—Medical Officer for a district. Salary £70 per annum, subject to superannuation deduction.

NORTH-WEST LONDON HOSPITAL, Kentish Town-road.—Resident Medical Officer and Assistant Resident Medical Officer for six months. Salaries at the rate of £50 per annum each.

PARISH OF ST. MATTHEW, Bethnal-green, London.—Assistant Medical Officer at the New Infirmary, Cambridge-road, N.E., unmarried. Salary £150 per annum, with board, lodging, and washing. Also Second Assistant Medical Officer for the New Infirmary, Cambridge-road, N.E., unmarried. Salary £120 per annum, with board, lodging, and washing. Applications to the Clerk to the Guardians, Offices, Bishop's-road, Victoria-park, N.E.

PECKHAM HOUSE, Peckham.—Assistant Medical Officer. Salary £150 per annum.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar, London.—Assistant House Surgeon for six months. Salary at the rate of £65 per annum, with board and residence.

RIPON DISPENSARY AND COTTAGE HOSPITAL, Ripon.—Resident House Surgeon and Dispenser, unmarried. Salary £70 first year, to be advanced afterwards, with board and lodging.

ROYAL LONDON OPHTHALMIC HOSPITAL (MOORFIELDS EYE HOSPITAL), City-road, E.C.—Three Assistant Surgeons.

ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AT VENTNOR.—Clinical Assistant. Board, residence, and laundry provided. Apply to the Secretary, London office, 34, Craven-street, Strand, W.C.

ST. MARY'S CHILDREN'S HOSPITAL, Plaistow, E.—Assistant Resident Medical Officer, unmarried. Salary £80 per annum, with board, residence, laundry, &c.

SALFORD ROYAL HOSPITAL.—Honorary Medical Officer for the Pendleton Branch Dispensary.

SALOP INFIRMARY, Shrewsbury.—Assistant House Surgeon for six months. Salary at the rate of £40 per annum, with board and washing.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Junior House Surgeon for six months. Salary £50 per annum, with residence, board, and washing.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, Plymouth.—Assistant House Surgeon for six months. Salary at the rate of £50 per annum, with board and residence.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—House Surgeon for two years. Salary £120 per annum, with board, lodging, and washing. Also Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.

STOCKPORT INFIRMARY.—House Surgeon. Salary £100 per annum, with residence, board, and washing. Also Assistant House and Visiting Surgeon. Salary £70 per annum, with board, washing, and residence.

SWANSEA GENERAL AND EYE HOSPITAL.—House Surgeon for twelve months. Salary £50 per annum, with board, apartments, washing, and attendance.

VICTORIA HOSPITAL FOR CHILDREN, Queen's road, Chelsea, S.W.—Resident Medical Officer for six months. Honorarium £25, with board and lodging in the hospital. Also Assistant Physician to the Out-patients for two years.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House [illegible] lodging, [illegible] months [illegible] lodging, [illegible] lary £110 a year, with board, lodging, and attendance.

YORK LUNATIC ASYLUM, Bootham, York.—Assistant Resident Medical Officer. Salary £110 a year, with board, washing, and attendance.

Births, Marriages, and Deaths.

BIRTHS.

BARTON.—On April 17th, at Redcliffe-gardens, South Kensington, S.W., the wife of Charles N. Barton, L.R.C.P. Lond., M.R.C.S., of a son.

BROWNE.—On April 22nd, at Avonside, Warwick, the wife of Sam Browne, M.D. Irel., late R.N., of a daughter.

CLARKE.—On April 18th, at Mansfield road, Nottingham, the wife of Frederick Adderley Howard Clarke, M.R.C.S., L.R.C.P. Lond., of [illegible]

[illegible] road, Sydenham, [illegible] a son. [illegible] uth Hampstead [illegible] hter. [illegible] Manchester, the [illegible] Hill, the wife of [illegible] e, Youlgreave, [illegible] J., B.C. Cantab., [illegible] ghton, the wife [illegible] e wife of John [illegible] Sussex, the wife [illegible] South Devon, the wife of V. W. Twining, M.B., of a daughter.

MARRIAGES.

BROWN—POULTER.—On April 19th, at Leytonstone Congregational Church, by the Rev. J. F. Poulter, B.A. Cantab. (great uncle of the [illegible] the Church, [illegible] Leyton- [illegible] oulter, J.P., [illegible] side Parish [illegible] M.B., C.M. [illegible] ger daughter [illegible] Yelvertoft, [illegible] late William [illegible] Oxon. [illegible] re, Wilts, to [illegible] Edmonds, of Belvedere, Kent.

LYALL—NORRISH.—On April 14th, at the Church of the Holy Cross, Crediton, by the Rev. A. F. de Gex, Rector of Meachaw and Cruwcombe, assisted by the Rev. Prebendary C. Felton Smith, Vicar, David William Knyvett Lyall, M.B., C.M. Edin., of Shepton Mallet, Somerset, eldest son of D. R. Lyall, Esq., C.S.I., to Mary Ayre, younger daughter of D. M. Norrish, Esq., of Fordton House, Crediton, Devon.

MARTINEAU—WILLIAMS.—On April 21st, at St. Saviour's, Pimlico, Alfred John Martineau, L.R.C.P. Lond., M.R.C.S., of Hove, to Emma Louisa, elder daughter of Thomas Howell Williams, of [illegible]

[illegible] 21st, at Holy Trinity Church, Anerley, [illegible] M.R.C.S., L.R.C.P. Lond., of [illegible] road, [illegible] to Beatrice Mary [illegible] road, Anerley.

DEATHS.

ASTLEY.—On April 20th, at [illegible], Dr. [illegible], M.R.C.S., M.O.H., County Borough of Halifax, aged 59 years.

AT KINS.—On April [illegible], 1900, in London, Henry Stewart Atkins, M.R.C.S., L.R.C.P., late surgeon R.N., aged 72 years.

GRIGG.—On March 14th, at Wesley [illegible], W. [illegible] Chapman Grigg, M.D., of Curzon-street, Mayfair.

JEFFREYS.—On April 21st, at [illegible], at Brighton, [illegible] Parker Jeffreys, M.R.C.S., aged 75 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE FRIENDLY SOCIETIES' MEDICAL ALLIANCE.

THE twenty first annual conference of representatives of the Friendly Societies' Medical Associations was recently held in the Town Hall, Chester, when the President of the council, Mr. B. Hulse, P.T. and P.H.C.R., A.O.F., delivered an address in eulogy of the "great friendly society movement." The value of the influences that have been brought to bear by the leading friendly societies upon a large public is not in dispute and we are not detracting from the position of the societies as national instructors in thrift and self help when we allow ourselves to criticise the reference of the president to the medical side of these associations.

"One of the main objects of the movement," he said (we quote from the *Crewe Guardian*), "was to provide medical skill and medicine to the members when laid aside by sickness. Complaints had been numerous both as to the quality of the medicine supplied and the disproportionate attention given to private patients compared with the members of their societies. Hence they endeavoured to find a remedy, and the pioneers of the movement 30 years ago thought it was to be found in cooperation, and by combination together to rent or purchase their own surgery, engage their own surgeon, whose time and skill would be devoted to the wants of their members. They had had difficulties to contend with, but in spite of them they were conscious of the purity of their own motives. They believed there was a brilliant future in store for them. Their associations were not established for the purpose of money making, but they were deeply anxious that the services of the best medical gentlemen might be engaged."

Now, this is a sensible statement of policy and is fair as far as a view of a subject can be fair when looked at from one standpoint. But the sick member is the only person considered. He is to have the best medicines and the best medical gentleman's services. These services are to be his and his fellow members exclusively, but there is not a word as to the scale of remuneration. Surely the remuneration should also be of the best. Here is a movement which the president claims to be of national importance, and good evidence could be found to support his claim. The medical attendance of the members is, according to his own words, one of the main objects of the friendly societies. It is desired that this attendance should be particularly good. Then surely the pay should be the same. There ought to be no question of pennies a week between successful national movements and the best exhibition of medical skill exclusively engaged on behalf of that movement. Now, as a matter of fact, the medical officers of friendly societies are paid upon a low scale. Some societies pay better than others, just as some are better managed than others, but in those which have the most marked desire to treat their medical officers well the pay is not large, certainly not large enough to be considered a certificate of good conduct prior to entering the service of a high grade. And in an amount of arbitration will, we fear, alter the position. We are in favour of arbitration, as by its means the medical men and the friendly societies may be able to come to an arrangement that will be satisfactory to both, but we have not much hope of practical results while the friendly societies rate their members and members' health so high and their medical [illegible] services so low.

THE CAUSE OF DEATH IN SUDDENLY FATAL CASES OF HÆMOPTYSIS.

To the Editors of THE LANCET.

SIRS,—[illegible] I shall be glad if you insert it [illegible] March [illegible] I saw him almost immediately after the attack. [illegible] [illegible] Hospital [illegible] March [illegible] [illegible]

he did in it before I could get to him. I was with him during the last attack but one; this was not a long one, but was characterized by intense dyspnœa which reminded me much of the dyspnœa present in cases of embolism of the pulmonary artery. He was encouraged to cough without fear; the bleeding stopped in a few minutes, and though he was much exhausted his breathing became comfortable, and he rallied. It seems to me that death in these cases may be due to one of two causes, either the loss of blood itself or asphyxia, the patient being, as it were, drowned by blood being poured out into the lung or lungs and not able to get rid of it by coughing. I believe that the latter is the greater danger of the two, though I do not remember to have seen it stated anywhere that asphyxia was one of the dangers in these cases. In the case above related there was an interval of a week between the penultimate and the [illegible] the patient seemed to make a considerable [illegible] quantity of blood in the sputum [illegible] previous intervals; and, again, the last hæmorrhage was not more than about eight ounces or thereabouts. This does not look as if the cause of death were the same as in hæmorrhage other than pulmonary. That the patient died from asphyxia seems the only conclusion. The case was treated in the usual way except that no ice was used externally. It is grateful to the patient and, I believe, very useful, to suck the ice, but I have never been able to satisfy myself, though I have tried it in a good number of cases, that ice used externally does any good in hæmoptysis. On the other hand, it often succeeds in making the patient exceedingly uncomfortable. I have some misgivings, also, as to the value of such drugs as ergot in these cases, as to whether they are not more harmful than otherwise. Opium has appeared to me to be the most useful remedy for the condition. Apologizing for these last remarks, which are irrelevant to the question I started with, I am, Sirs, yours faithfully,

Stockport, April 16th, 1900. W. R. MANDER.

THE RESULTS OF MASTURBATION.

To the Editors of THE LANCET.

SIRS,—I shall be much obliged if you or any of your readers will assist me with advice in the following case. A patient, now aged 27 years, was in the habit of practising masturbation from the age of 16 to 20 years, at which latter period he abandoned the habit. From that time he was accustomed to have nocturnal emissions in connexion with sexual dreams, and though he often attempted intercourse could never succeed, erection not being sustained. Since the age of 24 years up to now the emissions have been numerous, quite unattended by any sexual sensations, and occur two or three times a week and occasionally more often. He is getting seriously alarmed and looks and feels bad. I have exhausted every method of treatment with which I am acquainted and should be glad to hear any suggestions as to treatment from those who have had similarly bad cases.

I am, Sirs, yours faithfully,

F. HARRIS, L.R.C.P. Lond., M.R.C.S. Eng.

Cape Town, March 13th, 1900.

*** Some of our readers may have met with cases the treatment of which will suggest some useful point to our correspondent. These cases are very difficult to manage for many reasons, but in our experience they are quite capable of recovery. 1. The patient must abstain absolutely from all attempts at sexual intercourse and avoid carefully all that stimulates sexual desire. 2. He should take all the usual measures to secure good general health. 3. He must carefully avoid constipation. 4. He should sleep lightly clad and should bathe the genitals with cold water before going to bed. 5. A tonic of iron and strychnine may be prescribed with advantage. 6. The patient must be encouraged to anticipate with confidence a complete recovery and he must as far as possible dismiss all thoughts about the whole affair. 7. The recovery will be slow.—ED. L.

"TO MEDICAL FREEMASONS"

To the Editors of THE LANCET.

SIRS,—At the time of the issue of the voting papers for the election to the Royal Masonic Institution for Boys and the corresponding Institution for Girls appeals were published in THE LANCET from various Masonic members of the profession on behalf of the only two "medical" candidates whose names appeared on the lists. I am glad to notice that both the candidates in question—H. E. Skrimshire and G. Hudson—have been successful. My present object in writing is to point out that at the coming election to annuities at the Royal Masonic Benevolent Institution there are two medical candidates—viz., No. 30 on the list of "Aged Freemasons," Charles Wyatt Smith, and No. 7 on the list of "Widows of Freemasons," Mrs. [illegible]. May I ask your readers whose votes are not already engaged to give them to these candidates? In Masonry certainly not [illegible] medical men should lend their brethren a [illegible]

I am, Sirs, yours faithfully,

April 12th, 1900. P. Z.

HOLIDAYS OF IRISH DISPENSARY MEDICAL OFFICERS.

Mr. [illegible] the local officer at Pettigo, in Donegal Union, [illegible] arrangements [illegible] annual holidays was informed [illegible] was two weeks allowed him by the guardians. He, however, [illegible] of two weeks and was [illegible] His substitute, Mr. Gilbert, also was to have been [illegible] guineas and brought an a[illegible] for that sum. Article 28 of the dispensary rules was to the effect that every [illegible] preceding [illegible] April [illegible] Honour [illegible] of four weeks and no more. He therefore gave judgment in favour of Mr. Gilbert for six guineas and allowed him two guineas expenses.

Sheptococcus.—Nothing, we fear, can be done. The recovery of the balance paid is a matter upon which legal opinion should be taken.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received: *Midland Counties Herald, Oswestry Advertiser, Manchester Guardian, Northern Whig, Western Mercury, Western Daily Press, Brighton Gazette, Sanitary Record, Bristol Mercury, Times of India, Pioneer Mail, Citizen, Scotsman, Builder, Architect, Sun, Yorkshire Post, Rangoon Times, Leeds Mercury, Bury Guardian, Liverpool Daily Post, North-Eastern Daily Gazette, Poole Herald, Shield, Morning Mail, Madras Mail, Sydney Daily Telegraph, Cheltenham Mercury, Bradford Observer, Chelsea Mail, Bolton Journal and Guardian, Cambr* [illegible] *Hull Daily Mail, Daily* [illegible] *Burnley Gazette, Forfan H* [illegible] *(Paris), Eastern Daily Pr* [illegible] *Local Government* [illegible] *Chester Courant, Woodbridge Repo.* [illegible] *glon Advertiser, Mining Journal, Local Government Journal, Surrey Advertiser, Weekly Free Press and Aberdeen Herald, Crewe Guardian, Lisburn Standard, Herne Bay Argus, Clifton Chronicle, Jersey Express, &c., &c.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 26th, 1900.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain fall.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Remarks at 8.30 A.M.
April 20	30·50	E.	...	110	72	48	51	55	Hazy
" 21	30·37	S.E.	...	111	73	48	52	52	Hazy
" 22	30·25	S.W.	...	107	76	52	56	63	Fine
" 23	30·13	N.E.	...	99	65	47	47	49	Overcast
" 24	30·00	E.	...	98	63	44	46	50	Hazy
" 25	29·93	N.E.	...	67	50	47	47	49	Raining
" 26	30·15	S.E.	0·04	77	51	36	40	43	Fine

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (1st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. Mark's (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat 2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (2nd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (3rd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.) University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.).

[illegible]

(2 P.M.), Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), St. Northern Central (2.30 P.M.), West London (2.30 P.M.), London

SAT [illegible]

Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital, (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (1st).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. The adjourned Discussion on the Changes of the Blood in Disease will be resumed by Prof. A. Wright, Dr. Drysdale, Dr. W. Hunter, Dr. L. Smith (Belfast) and others.

WEDNESDAY (2nd).—OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimens will be shown by Dr. Tate and others. Papers:—Dr. T. Wilson: The Relations of Organic Affections of the Heart to Fibromyoma of the Uterus.—Mr. A. Doran (President): A Case of Extra-uterine Gestation in which Fœtal Death occurred at the Eighth Month after Spurious Labour, Abdominal Section two months later.

THURSDAY (3rd).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road).—Paper:—Mr. J. D. Malcolm: The Selection of Cases for Abdominal Section.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.—8 P.M. Clinical Evening. Cases. 8.30 P.M. Mr. Nettleship: Note on Opaque Nerve Fibres of the Retina.—Mr. Critchett: Optical Iridectomies for Lamellar Cataracts.—Mr. P. M. Ogilvie: Eye Changes in a case of Bullet Wound of Head.—Mr. R. Bickerton: Case of Protrusion of Eyeball on Stooping.—Mr. W. T. Lister: Affection of Choroid.—Mr. Juler: (1) Emile Berger's Binocular and Stereoscopic Lens; (2) Proptosis with Ophthalmoplegia Externa.—Mr. T. Collins: Case with [illegible]

FRI [illegible] London Hospital, Hammersmith, W.).—Pathological Specimens: Mr. L. Bidwell: A Series of Gall-stones. Papers:—Dr. B. Blacker: Treatment by Ultra-violet Rays.—Dr. S. Taylor: Notes on Two Cases of Membranous Colitis.—Dr. L. Dobson: (1) Notes on a Case of Foreign Bodies in the Mammary Gland; (2) A Case of Impacted Fracture of the Head of the Femur complicated by Infantile Paralysis.

WEST KENT MEDICO-CHIRURGICAL SOCIETY (Royal Kent Dispensary, Greenwich road, S.E.).—3.45 P.M. Mr. C. J. Parke: What shall we do with our Inebriates? (Presidential Address.) To be followed by a Smoking Concert.

LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Cases will be shown by Dr. W. Williams, Dr. L. Turner, Dr. L. Lack, Dr. Tilley, Dr. Bronner, Dr. J. Horne, Mr. C. Symonds, Mr. Paget, and Mr. Waggett.

SOCIETY OF ANÆSTHETISTS (20, Hanover-square, W.).—8.30 P.M. Casual Communications. The Ordinary Meeting will be followed by the Annual Meeting for Election of Officers, &c.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (30th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. W. Anderson: Consultation. (Skin.)

TUESDAY (1st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. F. Payne: Consultation. (Medical.)

WEDNESDAY (2nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Cantlie: Consultation. (Surgical.)

THURSDAY (3rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Hutchinson: Consultation. (Surgical.)

FRIDAY (4th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Collier: Consultation. (Eye.)

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be addressed to the Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE, OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports on news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1899, which was completed with the issue of Dec. 30th, and the Title-page to the Volume, were given in THE LANCET of Jan. 6th.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1899 are now ready. Bound in cloth, gilt lettered, price 18s., carriage extra.

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The Hunterian Oration

OF

THEN AND NOW; OR, THE INFLUENCE OF MODERN SURGERY UPON MEDICAL PRACTICE.

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MR. PRESIDENT AND GENTLEMEN,—The responsibility of attempting to write and deliver an oration which shall be at once worthy of our godfather, worthy of your attention, and on a level with the many orations which have been delivered before the society is too great to allow me truthfully to express any earnest gratitude to you for electing me orator, but I can at any rate thank you for the honour which you would wish to confer upon me and can appreciate with a deep sense of respect the task with which you have rewarded my personal efforts on behalf of our society for a good many years.

Hunter was born, as I am informed, in 1728 and died in 1792, and during his lifetime showed such capability of concentrated and continuous work, such intellectual activity, such power of analysing and arranging facts and theories, that the influence of his existence has been felt, and felt strongly, down to our time and will continue to be felt long after we have passed away. None the less does it occur to me that it is hardly fair to him, however great and worthy he may have been, to keep on detailing annually all the incidents in his life, nor do I think that that is the type of oration which he would care to have maintained to keep his memory alive in our society. I have therefore chosen as my subject one which I hope may be as interesting to you as I am sure it would be to him could he but honour us to-night with his presence.

I have collected all the cases in which as a physician I have felt it right to call in the aid of a surgical colleague and I propose in some measure to discuss them to illustrate the enormous benefits which the profession has gained by the incalculably valuable discoveries of the last half-century or so. It is, of course, a commonplace nowadays to mention that I particularly refer to anæsthesia, antiseptics, and Roentgen ray photology. That they are beneficial discoveries, and that of a value utterly above computation, is of course quite beyond any shade of a shadow of doubt, but I would beg to be allowed to preface the real subject of my oration by a word or two, not of alarm or warning exactly, but of anxiety and caution, which may serve to raise in the mind of each one of us the question whether in our wholehearted enthusiasm for attractive novelties we may not in some degree be dangerously near to the risk of overstepping the boundaries between use and abuse. General anæsthesia, for instance, I care not whether produced by gas, chloroform, ether, the A.C.E. mixture, or combinations of any of them, has several times seen ed to me to be responsible for something detrimental to the patient over and above the influence of the necessary manipulation of operative procedures; I have no doubt in my own mind, though mathematical proof of cause and effect would be difficult to give, that old quiescent foci of, or dormant tendencies to, disease have been lighted up into activity by the anæsthetic tool to perform an operation. Quite recently I saw old tubercle of the lung started afresh *after* an operation for piles, the wound did splendidly and it seemed to me that the ether was the only attendant condition to which I could attribute the eruption of the smouldering mischief. Again, has not the anæsthetic a good deal to do with the deaths which are frequently put down to the shock of an operation in cases where this has been undertaken somewhat late, when the vital powers of the patient are at a low ebb? The subject of local anæsthesia in general surgery has received a good deal of attention abroad, and I would raise the question whether it could not find a wider field of application than it at present holds in exploratory operations. Lawson Tait and other abdominal surgeons have given us some reason to believe that the actual manipulation of internal organs is possibly painless. In the great field of antiseptics, too, in our crusade for slaughtering microbes wherever and whenever we meet with them, are we not in some danger of destroying friends with foes and of paying too little attention to the soil on and in which these microbes grow and to the hostile influences with which the tissues, fluids, and cells of the body meet them? The futile efforts at cleansing the peritoneum after abdominal section is a case in point. Futile they must be, as my experience in the post-mortem room shows, when a hose at full pressure of the water company has failed to effect the purpose. Absolutely aseptic surgery is the acme of triumph of modern principles, and serum therapeutics bid fair to put a brilliant pinnacle even on the top of this; but in matters sanitary and hygienic I cannot help but feel that we are letting zeal outrun discretion and putting upon modern hypotheses a too great burden of administrative practice. I am sure that by boiling milk we rob it of some property or material that is most valuable, if not essential, to the growing infant, possibly also to the nutrition of the adult. 'Tis true that we destroy any tubercle or other noxious microbes in it, but to me it seems at least possible that this security against a chance invasion may be bought at too high a price. We are terribly afraid of allowing tubercle bacilli an entrance to the stomach in this manner and yet I have not the slightest doubt that all of us individually inspire and swallow hundreds if not thousands of them in the course of a few days' ordinary existence. The Klebs-Loeffler bacilli found in the fauces of patients as long as 100 days after recovery from an attack of diphtheria—found, too, in the throats of medical men, students, [illegible] subject for much [illegible] difficulty in the way [illegible] of modern science, as based on our present hypotheses, with the experiences of practical medicine.

These few problems in pathology offer a most attractive field for study and discussion, but I must leave them now as they might easily be made to occupy all the time at my disposal, whereas I brought them forward merely to emphasise the thought that we must not consider that we know everything yet about the foundations of the noble superstructure which has enabled me to lay before you the following records.

My list comprises some 150 cases of more or less serious trouble beyond the reach of our present knowledge of drugs or of general medical treatment, though the signs of the times are at least hopeful that in the future we may advance even in these directions. My numbers are too small for making any sweeping and generalised deductions, and, moreover, we can each of us only deal satisfactorily and thoughtfully with what falls under our own notice; in clinical medicine large piles of statistics may have their uses, but they do not drive an impression home to a conviction so securely as does a little rumination on one's own personal experience. It would be entirely out of my province as a physician to discuss the surgical details of the cases I am bringing forward. These details I must leave to surgeons to think over, my intention is rather to discuss the questions, Have we advanced, and, if so, how far, since Hunter's time in the diagnosis of disease requiring surgical aid? and By what criteria in symptomatology shall we decide when to advise operation? Generally speaking, I shall endeavour to discuss these points in each of the groups into which I have divided the cases.

CARCINOMA AND OTHER MALIGNANT GROWTHS.

Of cases of carcinoma of the alimentary canal and its correlated glands (I may here state once for all that they will not permit me to go beyond the abdominal cavity) in which surgical interference seemed to offer the best chance of relief either from the disease or from very distressing symptoms I have selected 19 to operate on—viz., two cases of carcinoma of the œsophagus, three of carcinoma of the of stomach, two of carcinoma of the intestine, and eight of carcinoma of the liver &c., with ascites. My results, which, judged by statistics, seem to be about the average, were as follows. Of the cases of œsophageal cancer the patient died within a few hours of the operation from exhaustion and what one must term shock, the other patient lived nearly six months. In both cases a gastrostomy was performed. During the last few months a case has come under my personal observation in which a gastrostomy was

passed through the growth and kept in position. Life was prolonged for some months afterwards, but the conditions of it as well as that of the case of my own after gastrostomy were so miserable that both the subjects more than once expressed a wish that death might more rapidly end their inevitable sufferings; and in cases of this nature and position of the growth I have been led to form a very strong opinion that a policy of what amounts to euthanasia is the only one to be pursued—the gentle passage of a soft tube or bougie is the utmost I shall ever suggest in the way of manipulative efforts. Of the cases in the stomach itself two patients died within a week and one lived some three months with a fair degree of comfort; in all three no attempt was made to actually remove the growth; relief of vomiting was what was desired and even in the rapidly fatal cases this object was attained. I am, of course, well aware that a more radical operation of removal has been performed with success more or less permanent in many cases, but my experience in the post-mortem room is such as to convince me that a real cure must be of the very rarest occurrence. However, in almost all cases the relief obtained, whether it be a rapid euthanasia or merely cessation of distressing vomiting, is so great that I have no hesitation in offering operation to the patient when other simpler measures have failed to alleviate symptoms; but it is an imperative necessity that the friends, at least, shall have it most clearly explained to them that relief from suffering is all that can be promised or even hoped for. Of cases beyond the stomach there were five, all admitted for obstruction of the bowels of a subacute nature; two patients died rapidly from the combined effects of the obstruction and of the disease; two were relieved and lived in tolerable comfort for some months; and one, a woman, 48 years of age, who had for a long time suffered from abdominal trouble and who was found to be suffering from carcinoma of the splenic flexure of the colon, is still alive and well (20 months after complete removal of the growth). Now a fatal event in carcinoma of the intestine is almost invariably brought about by obstruction with or without one of its commonest complications—viz., peritonitis from perforation. This obstruction itself renders surgical interference imperative to prevent a most distressing death; therefore, knowing that such obstruction is practically inevitable at some period and knowing, too, that the mesenteric glands are rarely involved before obstruction occurs, I say that we must urge operative interference as soon as we have reasonable evidence that carcinoma has begun to grow in the intestine; even one or two cases such as my last give us additional encouragement to advise such procedure. (N.B.—I must here draw attention to the fact that I have not spoken about growths below the sigmoid: such as occur in the rectum belong almost purely to surgery. If the choice of an artificial anus or euthanasia were offered me under such circumstances the latter would be very attractive.) Of growths in the liver, &c., causing ascites I have had some eight to 12 cases; all were, of course, rapidly fatal. The exploratory operation and its results will be mentioned later.

Such are my results; how do they compare with what Hunter might have done? On *primâ-facie* consideration they seem to give us an enormous advantage over him, and no one can deny that we know much about cancer which he did not, but closer examination shows, I think, that at present our advantage is not so overwhelming as some enthusiasts would believe.

The deepest researches into the minutest structural details of the growth by the aid of optical instruments of a delicacy and precision of which Hunter had no conception have seemed to give us a hint of a possible microbiotic activity in such neoplasms. Experimental work has hardly corroborated such views, though it has not contradicted them very seriously, and investigations into the local geographical distribution of cancer have rendered some, though feeble, support to such a view. Nebulous as the hypothesis may be at present it suggests to us the glorious possibility of our some day being in a position to lay down rules of precision as to the prophylaxis of cancer, and that will indeed be a triumphant position; as yet it is not.

Once a growth has begun and its malignant nature is suspected we have at our command means of scientific examination to determine with almost mathematical precision its exact nature and probable clinical course. It is to surgery and physics—knowledge of optical instruments—that we are indebted for this power. A general anæsthetic will allow us to examine an abdomen more completely and accurately than was possible for Hunter to do. All this is pure gain, and so, too, is the method of hypodermic medication by morphia and other drugs for the relief of pain. It is said, moreover, that the absence of hydrochloric acid from the gastric contents is strong evidence that a case which may be simple or malignant ulcer of the stomach is in reality carcinomatous, but I doubt if the information does much to save life or even suffering. I shall have a word or two more to say on the point when I come to speak of gastric ulcers.

To sum the matter up, we have gained but little in clinical diagnostic precision, much in scientific knowledge, and most of all in our powers to soothe the passage to the grave by means of hypodermic medication and operative relief to urgent distress. Cases in which we urge operation must be carefully selected; but when, on the other hand, the patient or friends urge us to do something we should not, provided we explain matters thoroughly, be too shy of operation, for even euthanasia on the table or within a few hours is a boon for which many a sufferer must be only too thankful. (The position of the operation of oophorectomy for cancer of the breast is as yet too insecure for me to offer any opinion upon it.)

ULCER OF THE STOMACH.

Of ulcer of the stomach I have had only one case that has perforated while the patient was in hospital; the patient recovered after operation as we were able to act promptly. In private practice out of over 60 cases of fairly definite evidence of ulcer in no less than 10 of them had perforation taken place, and out of these 10 only two recovered, owing to the long interval that had elapsed between perforation and operation; in some of them owing to the absence of recognition of the serious accident that had occurred. One may say that after perforation had occurred operation is absolutely imperative if life is to be saved; and, further, that if operation is performed early enough a good result is reasonably certain. In speaking of cancerous growths we always have a dread, based on an only too common experience, that whatever we may do in the way of removal the disease will sooner or later, generally very much sooner, reappear in an aggravated and hopelessly inoperable form. It is this dread which stays our hands and makes us so diffident in recommending operation. Here in our present section, and I may say in the other sections of surgical emergencies with which I propose to deal, there is happily no need to fear such a mysterious and baneful influence, and we are free to deal with present difficulties without any particular anticipation of their recurrence. If life can only be saved from the danger which at the moment threatens its extinction there is no special reason why health should not be completely restored. What, then, may we ask, is our position compared to Hunter's in dealing with gastric ulcer? Hunter was as well aware as we are that ulcer occurs. He knew that profuse hæmatemesis or melæna in a young girl indicated the opening of a vessel in the stomach or the duodenum; he knew, too, that perforation of an ulcer occasionally took place, and I am sure that no one regretted more than he did his absolute impotence to give aid in face of this then inevitably fatal calamity. Now in regard to a positive diagnosis I doubt whether we are much better off than Hunter was. We can talk very glibly of hypo- or hyper-chlorhydria, of succorhœa gastrica, or its reverse, of atonic dyspepsia, &c.; we can test for hydrochloric acid in the juice and think if it be absent that we have probably carcinoma to deal with; we can, if—a big *if*—the patient will let us, give test breakfasts and pump up the resultant digesting mass; we can still say with Hunter, "Here is an ulcer," because of a profuse hæmatemesis; and when pain is very severe and localised and relieved at once by vomiting we can believe that an ulcer is present and treat the patient as though it certainly were so. But with all this and with all our fancied skill and all our instruments for examining the stomach I assert unhesitatingly that it is still impossible, and I fear will always remain so, to exclude the presence of an ulcer, to prove a negative diagnosis. It must be the experience of all of us, whether by the bedside or in the deadhouse, that a profuse hæmatemesis or a fatal perforation has been absolutely the first indication that anything has been wrong with the stomach, except perhaps the very mildest and negligible degree of indigestion or discomfort after meals. Can we, any of us, assert that Carlyle certainly had a chronic ulcer and not a simple painful dyspepsia? There is no symptom and no group of symptoms of an

ordinary character—i e, excluding hæmatemesis and perforation—that may not exist with or without ulceration If, however, we have not learnt by what test we shall exclude an ulcer we have learnt with some accuracy the natural history of an ulcer when left alone or when it persistently refuses to heal, and this problem will bear a little discussion from my present point of view of surgical interference It combines the consideration of prognosis and modern treatment. We know by experience that hæmatemesis is happily but rarely fatal in its first onset; out of over 50 cases of this very alarming symptom when due fairly certainly to ulcer I have only known three in which death was directly due to the first bleeding, and one of these was probably tuberculous. It occurred in a man, about 40 years of age, who was suffering from advanced phthisis and on necropsy the blood which filled the intestines from the stomach to the anus was found *to come from a small hole in the cardiac end of the stomach* quite unlike a simple ulcer; there was an obvious lateral opening into an artery into which a small probe could be passed In face of this fact, then, it is obviously quite unjustifiable to suggest operative interference upon the primary occurrence of hæmatemesis however profuse it may be. But when an ulcer, or a suspected one, shows a tendency to continue to bleed with repeated attacks of hæmatemesis or persistent melæna, so that life is threatened by severe loss of blood, then I think we ought to ask a surgeon to interfere. For this particular accident I must admit th [illegible] n surgical aid, but [illegible] no doubt, have bee[illegible] aracter is more commonly associated with the small, rapidly occurring or acute ulcer; perforation, on the other hand, I believe, is more a characteristic of that ulcer which, whatever its early history may have been, shows on ocular examination distinct evidence of having been present for some time. It is as large as a shilling at least, and often much larger, and its edges are usually very thick and prominent, and they, as well as the adjoining portions of the stomach, are more or less indurated, and possibly puckered, by fibrotic change as though an attempt at healing were being made. Such an ulcer we have learnt has a fatal facility for perforating (for bleeding, too, on occasion) and that without any warning. It has, also, two other features which cannot be ignored. *The first is a clinical one—viz*, that by the severity of the pain or discomfort the patient may be brought by starvation to the verge of death or at least may be made such a social cripple—incapacitated from domestic work or taking any pleasure in life—that any measures which offer a reasonably safe chance of recovery should, I think, be placed before him; and the other is a pathological problem—viz, that carcinoma may develop in or near the seat of the ulceration I have seen at least two cases on the post-mortem table in which a chronic ulcer was in such association with a carcinomatous lump as to leave no doubt on my mind at the time that there was a specific illustration of effect and cause. Now in face of the chances of (1) hæmorrhage, (2) perforation, (3) social crippling, and (4) carcinoma it is to my mind a very serious question whether we should not urge surgical exploration in cases where we have reasonably strong grounds for suspecting an ulcer of the stomach which has lasted for, say, over three months. We cannot tell when the fatal accident may occur, but forewarned is forearmed, and anæsthesia and antiseptics have given us a power of dealing actively with the stomach such as Hunter could scarcely have dreamed of. He had nothing—we have everything and I think it our duty to use what we have

Since I began to write this oration two such cases of persistent ulcer have come under my care; both have been subjected to laparotomy with success complete up to date, but the period which has elapsed is too short to say if it will be permanent. At any rate, the freedom from pain and the restoration to an active and even enjoyable life have been such pleasant results, even if only temporary, that I shall be led to advise a much more frequent and perhaps even much earlier resort to exploratory laparotomy than hitherto in similar cases

To render my position clear I might summarize my views on operative interference in cases of gastric ulcer thus: on the first occurrence of hæmatemesis or on first making a diagnosis medicinal measures alone should be tried; on a rapid reappearance of hæmorrhage I would invite consideration of operation, on a third repetition or continued persistence of hæmorrhage I would urge it. When the diagnosis rests on a less secure foundation—i e, pain, &c—I would insist upon rest in bed with slop diet for a fortnight, the disappearance of the symptoms on enforced rest in bed even without greater strictness in diet is to me a somewhat mysterious, but none the less indubitable, fact. If with resumption of active life the symptoms recurred I would again on the second recurrence begin by suggesting operation and on the third recurrence most strongly urge it. These opinions are, of course, quite apart from the urgent and absolute necessity of operation for perforation.

GALL STONES AND OTHER HEPATIC CONDITIONS.

Of gall stones I have had 12 cases in which I deemed it best for my patient to ask the surgeon to give relief. Two of these patients died, both, I am sorry to say, from peritonitis following the operation; but as in both of them suppuration had already occurred previously to surgical interference my figures hardly represent a fair average of mortality inasmuch as the time for operation, could we only choose it, is before suppuration, not after it It is in the relief from gall-stones that conservative surgery has won some of its most brilliant successes

That Hunter was fully aware of the existence of gall-stones and of the tricks which they may play upon their victims by causing colic, inflammation, suppuration, and intestinal obstruction is of course certain, but until these had reached a dangerous, if not even a fatal, condition it was absolutely out of the question for him to consider surgical relief, however much he may have regretted his inability to afford assistance

As regards the natural history of gall-stones we have undoubtedly accumulated from the post-mortem room and the bedside a great deal of knowledge which was beyond Hunter's range of vision, and this we have turned to good account in prophylaxis and in medical treatment in the early stages of mischief from the concretion. My experience has convinced me that in salicylate of sodium, a drug undiscovered in Hunter's time, we have a substance which acts most favourably on the biliary passages and on the secretion, *tending to restore health to the one and to expedite the* removal of the other. But it is, of course, in our power to examine the patient under general anæsthesia and then in our power fearlessly to open the abdomen and to act upon *the condition found* that the enormous difference between ourselves and Hunter consists. With us it is now simply and solely a question of choosing the time and the case upon which to operate.

The following case illustrates as well as any our position In November, 1895, I was asked by Mr H. E. Simpson to see a woman, aged 28 years, who had been ill for over five weeks with a vague illness that had been called at one time influenza and at another typhoid fever by the several medical men under whom she had been I confess when I saw her that I could frame no possible diagnosis, as she was so exceedingly tender in the abdomen that examination to serve any useful purpose was quite out of the question I had her removed at once to the hospital and under an anæsthetic we immediately felt a large hard tumour in the neighbourhood of the gall bladder There was no room for hesitation that this was the cause of her agony and equally none in advising immediate operation, when a large gall stone was found lying in a collection of pus She made an uninterrupted recovery after its removal. In 1898 I had a precisely similar case in a man aged 50 years, with an equally happy result

The point that we have to try to determine is this, Under what circumstances is operative relief necessary or advisable? I hold it to be so for three conditions which though primarily different are apt to merge one into the other or even to be combined with one another. (1) If there be a large stone, too large to escape per viam naturalem, (2) if there be a large accumulation of gallstones causing obstinate, frequent, or long continued [illegible] (3) if, as general rule, the secreted mucus [illegible] Our problem is to determine when one of these is [illegible] possible to ascertain which of them

Now, if a [illegible] by surgery [illegible] may be expected to relieve [illegible] if it be [illegible] days [illegible]

[illegible]

conclusion of the illness the motions should all of them be carefully sieved, both to clinch the primary diagnosis by the discovery of a stone or *per contra* that the absence of a stone may be carefully noted for future reference. Now, no one would dream of recommending laparotomy in the early days of a first attack of biliary colic, and especially if a stone is found in the fæces. If no stone be found then if the attack of pain persists for, say, longer than from two to three days, or if it dies away to recur even after a long interval, we have additional reason for supposing that the cause of the trouble has not disappeared and with each day's persistency of symptoms or with each recurrence of them we get stronger and stronger evidence that one of our three operative conditions is present—in fact, one may say that these recurrent attacks of local pain, associated or not with jaundice according to the precise position of the stone, but nearly certainly associated with a gall-bladder large enough at least to be felt,—these attacks, I say, are the strongest diagnostic features of a stone too large to pass per vias naturales, for they are due to its ball-valve-like action in the duct. This, too, is the commonest feature if large numbers of smaller stones are present, for the actual symptoms are generally caused by one more pushing than the rest. The third condition, that of suppuration in the gall-bladder or round an encysted stone, is not so easy of diagnosis. The physical sign of an abscess—i.e., a definitely fluctuating tumour—is conspicuous by its absence, and even when such tumour is present it is almost invariably the gall-bladder itself, which it is true may be full of pus and certainly, if definitely felt, even though the contents be bile or mucus, is an almost absolute indication for operation. The *symptoms* of suppuration in this region are misleading, or perhaps I should say are extremely difficult to discriminate from those of any simple non-purulent affection of the biliary passages. The following brief outline of a case seen with Dr. T. O. Winn illustrates admirably these difficulties.

The patient was a man, aged 25 years, who, after a heavy indigestible meal of cockles and pork, &c., was suddenly seized with intense abdominal pain which at first was naturally attributed to acute indigestion. When some three or four days later rather severe jaundice appeared it was naturally thought that in so young a subject and with such a history this was due to catarrh of the bile-ducts. But the pain would not disappear nor would the jaundice lessen, and when a hectic temperature ranging to 103° F., associated with most profuse nocturnal sweating, followed—a sign very strongly suggestive of pus in a doubtful case—the assumption was very naturally arrived at that suppuration had occurred in or near the gall-bladder—a diagnosis in which I must admit I fully concurred when I saw the patient on the twelfth or thirteenth day of his illness. There were the cachexia with sunken eyes and the rapid small pulse such as are usual with pus. Accordingly I had the patient removed to the hospital, and on the next day, as the symptoms were not mitigated in any way, the abdomen was opened. We found nothing—not even a stone or a drop of pus. Subsequently to the operation most definite signs of pericarditis and of left-sided pleurisy developed, and so certain was I that these indicated pus that had escaped observation that I should have advised further exploration to evacuate it had not the patient seemed too ill to stand such measures. However, whether pus was there or not, he eventually struggled through without any being seen and left the hospital practically well, and I can only conclude that the whole illness was one of severe catarrhal jaundice. Whether a blood-count would have saved us from the mistake I cannot positively assert, as I was not then sufficiently alive to the value of a leucocytosis as an indication of a concealed suppurative focus. In the future the absence of a leucocytosis will make me more chary of suggesting operation, though I can only say now and repeat it that if with the symptoms presented by this man pus be not forming I know not by what other symptom than a leucocytosis I can recognise it. I do not know that even now the operation is to be very much regretted, for if pus be present the chances of the patient's recovery are small almost to vanishing-point, while recovery from a merely exploratory laparotomy is almost a certainty. It is in this statement that the situation can now be summed up.

Of hydatids and large hepatic abscesses I do not propose to say anything. I have had three cases of the former under my care and five of the latter, but the treatment is so obviously and imperatively surgical that no question can arise for a physician except that of diagnosis.

EXPLORATORY OPERATIONS AND ASCITES.

I now pass on to a group of abdominal cases in which for some reason or other the diagnosis is obscure. One of the commonest reasons for this obscurity is ascites, which even under an anæsthetic prevents a thoroughly satisfactory examination of the abdominal organs. To the treatment of this ascites I shall presently devote some considerable attention. As regard swellings (other than ordinary ascites) and tumours and abnormal abdominal conditions of doubtful origin, connexions, and pathology, there is a universal consensus of opinion that they must be investigated by a laparotomy if they are giving rise to symptoms which so seriously cripple the patients as to lead them to ask for relief even at the cost of a serious operation or if in our opinion they are tending to a fatal issue unless radical relief can be obtained. Of such obscure cases, excluding ascites, I have had 23 operated upon. Inasmuch as after operation the diagnosis has been cleared up the cases have been reckoned in their appropriate categories. I have no figures of mortality to give, but I can most definitely say that I have rarely, if ever, had any occasion to regret the performance of the operation either for my own reputation or for the sake of my patients. No patient has died directly because he was opened; some have undoubtedly died from the difficulties of removing a removeable condition, and that death has been hastened by a few days in cases which, had we but known it, were inevitably foredoomed to an early grave I am prepared frankly to admit, but such death was invariably robbed of its most distressing features, and euthanasia is not always to be despised as a gift to suffering humanity. It was one which Hunter dare not and could not give to his patients.

For some years I have held a strong opinion, and I gave it public vent as long ago as 1896, that the proper method of dealing with ascites was to have the abdomen opened by a surgeon when purges, diaphoretics, and diuretics had had a fair chance or when there was no time to use them owing to the urgency of the case. I am glad to see that there has been lately a steadily increasing current of opinion in the same direction. I have had the operation performed at my suggestion in hospital and private practice some 50 times or more—in some cases of heart disease and cirrhosis of the liver the records have escaped observation. I advocated, and still advocate, it on the following grounds: (1) it is more scientific than paracentesis; (2) it is safer for the patient; (3) it assists diagnosis where that is doubtful; (4) it permits of the removal of removeable causes; and (5) it sometimes cures cases which are otherwise incurable. On each of these points I wish to say a few words.

1. *It is more scientific.*—This statement requires no argument; it simply means that for a blind but very sharp piece of steel passing through goodness only knows what we substitute the exactitude of sight and touch of a skilled surgical hand which can tell precisely how far it has gone and what it is going through and has power to deal properly with any abnormality of vascular distribution or with any pathological condition as it proceeds onwards to what may be termed the dangerous area of the peritoneum. Before operation we are in absolute ignorance of even the presence of adhesions, let alone their position.

2. *It is safer for the patient.*—This would seem to follow at once as a natural scientific corollary to the first proposition, but I must admit that there are two sides to the question. On the one hand, I can certainly say that I have never seen death arise from a simple exploratory laparotomy where no attempt has been made to perform further surgical manipulation, while I have seen several cases on the post-mortem table in which acute peritonitis has followed the use of the trocar—to say "caused by" is perhaps too strong a term because stringent precautions had been taken to prevent the entrance from without of microbes, and I could find no wound of the visceral peritoneum covering the gut, but still we must remember that the intestines are inhabited by a very mixed population of microscopic creatures, some undoubtedly always peaceable and useful citizens, but others of a distinctly turbulent character, always ready for mischief, and some positively living only to do harm if they can get a chance, nor do they require for this chance an injury appreciable to the naked eye, scarcely even to the microscope.

Again, I am bound to admit that either the shock of the operation (whatever that may mean) or the influence on the constitution of a general anæsthetic has seemed to affect for evil the pathological conditions under which the patient

was labouring, so that more than once I have been obliged to wonder whether the operation has not accelerated the downward progress of a disease—e.g., advanced cirrhosis of the liver or severe morbus cordis—which though no doubt fatal in itself at an early date might have permitted some prolongation of life, accelerated it, I say, more than the unrelieved ascites would have done. Here is another great field for local anæsthesia, for I have formed a strong opinion that the influence of the general anæsthetic is responsible in a greater degree than the shock for the untoward effects. I have not yet had the [illegible] laparotomy performed u[illegible] jection of cocaine or of [illegible] confident that it is the right thing to do, especially for such cases as those taken as illustrations above, where actual exploration of the peritoneal cavity is unnecessary or where exploration having once been done the re-accumulation of the fluid renders a repeated emptying of it necessary. It may be objected to such a procedure that in opposition to the simplicity of the trocar and cannula, with its one bold plunge, it is too complicated without specially skilled surgical assistance and that there is great danger of sepsis from leaking. To the first point I would reply that I am no strong believer in the supposed want of skill in our general practitioners—they are too well taught nowadays; and to the second I can say that I have myself known a case in which the hole made in an œdematous abdominal wall by a trocar refused to close for over a week, fluid steadily leaking all the time, without any peritonitis, and that in a poor woman in a London slum without any skilled nursing or for the matter of that any skilled attention at all. On the whole, then, I think that we are justified in saying that operation on its own merits is safer for the patient than the trocar.

3. *It assists and clears up a doubtful diagnosis.*—This proposition only requires to be stated to be at once admitted by all as self-evident. It would be at once superfluous and tedious to enumerate illustrations of cases of abdominal surgery where previously to the operation either no positive diagnosis at all had been arrived at or one totally and absolutely erroneous. Only within the last year four cases worthy of mention have occurred to me in which ordinary—so far, that is, as sight and touch would make them so—cirrhosis of the liver was causing ascites and yet in which the exceedingly abstemious—in one case absolutely teetotal—habits of the patients had prevented me from even taking the condition into consideration in guessing at a diagnosis. But who amongst us would be rash enough to claim diagnostic infallibility as to the cause of a given ascites?

4. *It permits at one sitting of the removal of a removable cause.*—This statement has, of course, a much wider range than the consideration of mere ascites, but it must be placed here because, as I have already pointed out, the accumulation of fluid in the peritoneal cavity so frequently masks its own underlying cause, which can only be ascertained and possibly dealt with after removal of the fluid. Such complete investigation is obviously impossible through a cannula, however large. A bare list of the conditions here referred to capable of complete removal by the surgeon with years of enjoyable health, but not capable even of palliation by medical measures, forms a *monumentum ære perennius* to the development of nineteenth-century surgery. It includes not only those conditions which I am in this oration briefly considering, but also nearly every pathological condition of the abdominal organs. The statement itself needs no demonstration; it is a self-evident proposition and carries with it a strong argument in favour of my contention as to the correct method of dealing with ascites when that is the preliminary and very incomplete—though correct as far as it goes—diagnosis.

5. *Cases usually considered incurable have recovered after laparotomy.*—Mr. Treves, the late Mr. Greig Smith, the late Mr. Lawson Tait, and, in fact, I may say all surgeons who have had much experience of abdominal work have reported cases in which after an exploratory laparotomy the patients have completely recovered notwithstanding that no apparently incurable, and certainly irremediable, malignant neoplasm or other condition was found, while tuberculous peritonitis shows such a remarkable percentage of cures by laparotomy that this has become the one universally recognised method of treatment in all cases in which adhesions—as opposed to mere adhesive inflammation—exist as a prominent feature. These results are beyond all dispute and are now accepted as demonstrated facts, but so far as I am aware no such results are recorded as occurring after the mere withdrawal of the fluid by means of a trocar and cannula.

A good deal of speculation has been hazarded as to the meaning of the phenomena in question. To me the most reasonable explanation seems to be these views which attribute the good results to the free entrance of oxygen into the peritoneal cavity, and I feel inclined to suggest that more active steps might be taken in this direction by the intentional introduction of pure oxygen or even of ozone, the more active form, at the operation or subsequently through a tube. [illegible] ould do and we know [illegible] been of very material [illegible] extremities.

These five points constitute, I think, an unanswerable case in favour of laparotomy against cannular drainage at least once in the course of every case. Should repeated emptyings of the peritoneum become necessary the practical difficulties in the way of multiple laparotomies may render paracentesis justifiable, and I must admit that, at any rate in remote country districts, it may be almost impossible to operate by the knife. I can only hope, and do sincerely believe, that future experience will demonstrate simpler means of operation and that the difficulties in the way will steadily diminish until they disappear altogether and relief by the knife becomes the rule.

APPENDICITIS.

Hunter can have known little or nothing about this trouble. He knew that cases of acute pain in the abdomen with special tendency to be localised to the right iliac fossa occurred and without the peculiar features of either renal or biliary colic, and that some of such cases were followed by recovery and relapse while others speedily ended in general peritonitis and death, but he was equally powerless to render efficient aid either to the relapsing or to the fulminating cases.

To consider adequately the views held as to the pathology and treatment of the affection, all of which are the result of modern observation and surgical development, would alone occupy the whole of the time at my disposal. I can here only deal briefly with my own cases and experience and the lessons which they have taught me. I have 38 cases of which the results, temporary or permanent, are known to me. They fall into the following groups: one case of perforation which was watched in hospital and in which operation was declined; four cases operated upon but in which the patient rapidly sank; eight cases operated upon in which pus was found and the patient did well; 19 mild or relapsing cases with successful operation; and six mild or relapsing cases in which operation was refused.

The case which was taken into hospital for observation and in which the patient died without being operated upon made the greatest impression upon me and I may briefly detail its particulars as it seems to contain an epitome of our difficulties.

The patient was a young man, aged 26 years, who in the midst of apparent health was seized one Saturday morning with a pain in the abdomen which gradually got worse. He was at the same time sick, but not very violently so; the bowels had acted quite naturally that morning. The pain, never very severe, continued during Sunday and Monday and became more localised to the right iliac fossa. There was no more vomiting, but the bowels did not act again. I saw him on the Tuesday morning and found him looking fairly well. The tongue, which was rather dirty, was not dry. There was no nausea and the bowels had not acted since the onset of the pain. The pulse was only 100 and seemed fairly good. There was some fulness to be felt in the right iliac fossa and tenderness over it, though he could well bear gentle manipulation. I admitted him at once for observation and immediate operation if necessary. On the Wednesday the bowels acted freely of their own accord and he seemed so much better that operation was deferred. In the evening he got worse quite suddenly and was in such a collapsed condition that permission to operate was then refused, and he died on Thursday morning early. How can we avoid such distressing results?

The history of many cases which have been operated upon within a few hours of the commencement of the pain and yet in which pus has been found leaves no room for doubt but that very frequently inflammatory trouble of a severe kind can arise before the appendix and the adjacent tissues are as any symptoms or complaints by the patients are concerned for some time. The first warning, as a rule, I believe, is always pain, and what this pain indicates it is our work

special business to find out. I believe it invariably indicates that the inflammation has at least reached the peritoneum, and this it seems able to do in one of two clinical forms, either (1) as an adhesive peritonitis or (2) as a distinct perforation which must inevitably lead to a suppurative peritonitis, local or general according to circumstances. Now, if at the onset this pain is so severe as to cause very marked collapse and persistent vomiting with a small thready pulse and cold, clammy sweat, there can be no room for hesitation—immediate operation is the only chance which the patient has of recovery. Such severe pain and attendant phenomena of collapse are, however, the exception, and more commonly the history is that the patient has been seized with the pain and been sick but that in a short time things have assumed a less threatening aspect, and when we arrive on the scene we find the patient fairly comfortable, complaining only of a little pain but probably of great local tenderness, and it is here that our difficulties commence, and from this point that our judgment may lead us grievously astray. We have *primâ facie* strong ground of reason to wait for a few hours to see what an ice-bag applied locally and salicylate of soda in 20-grain doses will do, but during these few hours the patient must be most carefully and continuously watched with the very keenest eye for details; especially must we look for a complaint of a feeling of sinking or collapse on the part of the patient, a quickening of the pulse, a rise or marked fall of the temperature, a drying or fouling of the tongue, an increase of the pain, the slightest sign of distension of the abdomen or hardening of the muscles on the other side—any untoward development of this character is a warning that the case must not be left any longer without surgical aid. In any case a second visit must be made by the medical man himself within 12 hours at the outside for further personal observation and to receive the report of the nurse left in charge. At this second visit a decision should, if possible—and generally I think it can—be made as to the actual presence of one or the other of the two clinical forms of trouble — viz., adhesive as against suppurative inflammation. We may not yet get positive information as to whether the former is or is not going to be superseded by the latter. If it be the former we are not likely to have any of the above-mentioned tell-tale indications; if the latter some of them are, I think, sure to be present; they are to my mind more important than the local physical signs in the abdomen. The presence in the right iliac fossa of something unusual which can be felt is pretty nearly constant, and I do not think that the softness of it (unless, indeed, it is definitely fluctuating) or the hardness can be accepted as a guide to operation on the one hand, or on the other as an indication that we may safely continue medicinal measures alone. We shall, however, perhaps most frequently, decide that we may still wait and the case will then pass on into a more chronic condition. Our faculties must still continue to be exercised to their fullest capacity, but we now have time to watch for the development of the more common indications of pus formation—the flushing of the cheeks or the yellowish toxæmic tinge of the skin, the sweating at night, the hectic type of temperature, and even to look for leucocytosis of the blood which may rapidly develop. Any of these features, especially if combined with any of the former acute symptom group, again makes operation imperative, for we know that pus has formed and we have not the remotest chance of knowing in which direction it will penetrate. That it can be absorbed when once it has formed in this disease I have not a particle of *a priori* reasoning—very much the reverse—or of post-mortem experience to tell me. If happily matters *progressively* improve; if the temperature becomes lower, but not subnormal, at each observation; if the pulse is of natural frequency, the face regaining a healthy appearance, the tenderness steadily diminishing, and the patient in every way doing well, operation may be delayed till the attack is over, but I should then as strongly urge operation as I would advise a man not to sleep on a barrel of gunpowder when sparks were flying around. To sum up my conclusions, we must operate in cases of appendicitis (1) instantly in fulminating cases; (2) as soon as we can be reasonably certain of pus in the less acute cases; and (3) after the subsidence of an attack in the milder cases.

RENAL TROUBLES.

Stone and tubercle are the only two conditions which I have to mention as coming under the heading of this oration. I have not had a case of cancer of the kidney in which operation was indicated. I have had ten cases in which pus, blood, or gravel or combinations of these in the urine have induced me to ask for assistance from a surgical colleague; eight of them proved to be cases of calculus and two of tubercle. Of the tuberculous cases one patient was operated on in 1896 and is still alive with only one kidney; the other sank rapidly from the development of tubercle in other organs, verified by post-mortem examination. In all the eight cases of stone the patients recovered with, of course, permanent (up-to-date) relief from their symptoms.

Now, what is our present position with regard to these renal affections? Of tubercle we know that it occurs as part of a generalised tubercle which has no interest for us at the present moment. Post-mortem experience teaches us that it may occur as a gross lesion in one kidney only and apparently remain confined to that organ for a long time, but it also teaches us that perhaps more frequently both organs are affected. Hence I would say, if we are sure from bacteriological examination—for our present purposes there is no other possible means of diagnosis—of the urine that one kidney is affected with tubercle, we should be very cautious about advising operative interference. By every means in our power, manual and cystoscopic, we must endeavour to ascertain which kidney is affected, and not only that, but that the other one is sound. Even if we believe that one is healthy I would still advise a month's course of creasote treatment, for this is the only drug which in my experience exerts any special influence on tuberculous internal lesions, and only then, and when still convinced that the other organ is sound, would I advise operation.

With regard to stone in the kidney the position is somewhat different, for though it may in a sense be a constitutional disease it is one which results in a purely local trouble, and if we can remove this trouble there is an excellent prospect of prolonged and healthy life. On the other hand, we know that the prolonged presence of a stone will eventually cause such a disturbance of the organ istelf as will threaten life. The natural inference is, then, if we get symptoms pointing unmistakeably to stone, that it is our imperative duty to remove it as speedily as possible before consecutive changes in the kidney occur. We must first make a differential diagnosis between stone and tubercle—not an easy task, but one which I have discussed at some length elsewhere.[2] Here I can only mention (1) bacteriological examination of urine, a positive result from which is of course conclusive; (2) the administration of a few small (10-minim) doses of turpentine, which by exciting activity in the kidney and pelvis will cause pain if a stone is present and so give us useful information; and (3) an x-ray photograph or screen investigation. The latter, like the bacteriological examination, is, I think, only useful when a positive result is obtained. At any rate, last year I had a patient subjected to that means of investigation with a negative result, but the severity of his pain and its localisation to one kidney led me to advise, and him to consent to, an exploratory operation, when an oxalate calculus was found embedded in the substance of the right kidney and was removed with perfect relief.

I must admit that some patients in whom we believe a renal calculus to be present seem to do well, even for years, with simple dietetic and water treatment, but I have no proof at all satisfactory that distilled or any other water will dissolve a calculus once formed, whether situated in the substance or pelvis of the kidney. Hence I believe that we are acting for the best interests of our patient in calling in surgical aid at once without waiting for an insidious uræmia to end his life or for further attacks of colic to render that life unspeakably dreary. A mere exploratory operation entails but a minimum of risk and will in the future entail none, or at any rate risk so slight that even in a first attack of renal colic unless a stone be actually passed I would say the less delay in operating the better for all concerned.

Time warns me, Sir, that I must bring my oration to a close lest I weary you with commonplace remarks upon a subject that is now dominating all professional minds and has been many times dealt with by abler pens than mine. None the less it is a subject of surpassing interest to us physicians, and it is from this point of view alone that I have attempted to deal with it. Upon our surgical colleagues must I throw the burden of so improving their manipulative skill that they shall be able to render with the minimum of risk the

[2] Differential Diagnosis, Macmillan and Co.

to confess that drugs are useless. We can only point out to them a gross lesion; it is for them to devise the best measures to remove it. I must conclude by wishing that we could realise the joy and delight with which our respected godfather would hail the results already accomplished and how eagerly he would lead the van for improvements to come.

The Hunterian Lecture

ON

THE CAUSES AND TREATMENT OF MOVEABLE KIDNEY.

Delivered before the Hunterian Society on Feb. 28th, 1890,

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MR. PRESIDENT AND GENTLEMEN,—When you did me the honour of inviting me to deliver one of the Hunterian lectures before this society this year I determined, after some little consideration, to bring before you the subject of moveable kidney, partly because it is one in which I have taken great interest for some years and in connexion with which I have done a certain amount of work, and partly because there still exists the strangest diversity of opinion as regards its frequency, its importance, the causes which give rise to it, the sympt[illegible] natural consequence, the [illegible] most advisable for it. So [illegible] kidney merely as a clinical [illegible] —the source, perhaps, of di[illegible] of anything more serious [illegible] ability which can entirely prevent the enjoyment of life and even place life itself in serious danger. According to the statistics derived from post-mortem records it is one of the rarest of affections. Those, on the other hand, who have studied the subject from a purely clinical point of view, find it by no means uncommon; and some have even gone so far as to say that it is present in greater or less degree in as many as 20 per cent. of adult women. Apparently, also, while in certain patients the most serious symptoms are caused by comparatively slight degrees of mobility, in others the kidney may move through the widest range without their being even so much as aware of it. Some of these discrepancies are easily explained. The rarity with which a moveable kidney is found post mortem, for example, is accounted for by the fact that when the body is laid in the horizontal position the kidney nearly always slips back into its normal place by reason of its own weight or from the pressure of the intestinal gases, and that when once it has slipped back into its bed it becomes fixed there by post mortem rigidity and by the density of the surrounding fat, which grows firmer and harder as the body cools. There is no difficulty in understanding this, but with regard to some of the other points which I have mentioned, such, for instance, as the cause of the undue mobility, it is by no means so easy. The opinions which are generally current are as divergent as they well can be, and it is to these points, therefore, that I intend to devote what I have to say to-night.

I may clear the ground at once by saying that I only intend to deal with what are known as moveable kidneys, or—to give the title which is certainly the most scientific and is perhaps the best—with cases of nephroptosis. Floating kidneys—that is to say, kidneys which possess a true meso nephron—I have never seen, and, without going so far as to say that such a thing is impossible, it must be admitted that if the mode of development of the peritoneum and of the kidneys is taken into consideration, the existence of such is exceedingly difficult to understand. It is possible, of course, for the peritoneum of the central surface of the kidney to become so far relaxed as to allow the kidney to push it in front of it, in the same way that a loop of intestine can push out a pouch of peritoneum through a weak spot in the abdominal wall and form a sac of a become [illegible] in the layers of the [illegible] to acquire for itself [illegible] peritoneum, but neither of these presents the slightest resemblance to a true meso nephron and could hardly be mistaken for it. Nor am I going to deal with misplaced kidneys, which, because they lie rather lower than normal and are therefore rather more prominent in the abdomen than they should be, are often credited with a wider range of mobility than they [illegible] shown that the left kidney [illegible] plane—the horizontal plane [illegible] with the lowest part of the tenth rib—and that the lower end of the right kidney is only a quarter of an inch below. In this position, if the thorax is well developed and the patient is lying upon the back, the kidneys can [illegible] especially in young sub[illegible] if the thorax is long an[illegible] low that when the patient stands upright and takes a deep breath the lower end of the right kidney can be distinctly grasped and felt to slip away from between the fingers in its characteristic manner. The kidney can be felt, and felt to move, but it is not for that reason a moveable kidney in the clinical sense of the term. It follows all the movements of respiration, not those of inspiration only, and retains its connexion with the under surface of the diaphragm.

The kidneys are usually regarded as if they were fixed organs, but this is incorrect. They are moveable, and during life, with all their anatomical relations undisturbed, they possess a range of up-and-down movement which has been estimated by Albarran at from three to five centimetres. This fact must be apparent to everyone who has exposed a kidney by incision through the loin—a method which is not, like [illegible] open to the charge that it causes [illegible] ent of the kidneys by interfering [illegible] pressure. This makes it even more [illegible] should be called a moveable kidney, [illegible] that the extent of kidney sur[illegible] beneath the ribs is the best criterion as to whether the kidney is pathologically or physiologically moveable. A much more satisfactory test is the failure of the kidney to descend on tranquil expiration—coughing or straining is not fair—when the patient is standing upright and has forced the kidney as low down as he can by deep inspiration. I look upon this as sufficient, even if the kidney comes down only low enough to enable its inferior extremity to be felt. If, on the other hand, when the patient is standing upright the kidney descends on inspiration so as to bring even half of it within reach, I should not on that account regard it as pathological, provided it recedes as soon as the tension of the diaphragm is relaxed. The kidney still retains its normal relation to the diaphragm, the movement of the one follows that of the other, and this I regard as the real test whether the mobility is normal or not. But the patient must be standing upright. It will not answer if he is lying down, for in this position even a greatly displaced kidney may slip back again into its bed of its own weight.

The structures which surround the kidney keep them in support but do not in any way bind them down. The kidneys lie in recesses on either side of the spinal column. In the lower animals which had really retain that primitive position these recesses are deep and [illegible] from side to side, so that a large [illegible] of the surface of the kidney is in contact with the walls. In man, owing to the direction taken by the ribs and the very small depth of the [illegible] compared with its breadth, these recesses are much more shallow and more open, and in women they are more open than they are in men.

The kidneys are invested with what has been described by Zuckerkandl and others as the perirenal fascia. This is a development of the subperitoneal tissue, which [illegible] the left side, where it lies upon the ventral surface of the kidney, by some fibrous strands, which have been shown by Zuckerkandl to be [illegible] [illegible] the fourth month [illegible] on the right side, [illegible] the kidney [illegible] parts of the layer [illegible] kidney, which [illegible]

tissue, but on the mesial border and below they remain quite separate. The anterior layer, lying upon the ventral surface of the kidney, passes across the great vessels of the abdomen and becomes continuous with the anterior layer of the opposite side. Below both layers are lost in the cellular tissue of the iliac fossa. Together they form an investment for the kidney, loosely attached to it by connective tissue and fat, open on the inner side and below. Such an arrangement checks all movement of the kidney forwards or outwards, but, like the shape of the recess in which the kidney lies, it offers no resistance to a descent downwards and inwards. The normal movements of the kidneys during respiration and when the body is raised from a horizontal to an erect position take place inside this investment.

Immediately around the kidneys, inside this peri-renal fascia, is a large amount of fat which differs in colour and consistence from the ordinary sub-peritoneal fat and must be regarded to some extent as a special structure having a special function. It is but slightly developed until about the eighth or tenth year, and it is so soft and delicate in structure that it appears much more suited to facilitate the movements of the kidneys than to check them. During life it must be as soft and yielding as a water-bed. This deposit of fat is especially thick behind the kidney and opposite the hilum, for on this surface the peri-renal fascia is closely attached to the transversalis fascia and this in its turn is firmly fixed to the muscles beneath. In front, on the other hand, there is comparatively little, for here the anterior layer of fascia is more loosely attached to the peritoneum and both are moveable. Below it is more abundant than above, because movement in the upper direction is checked by the diaphragm. Atrophy of this fatty capsule has been noted in a certain number of cases of moveable kidney, especially in tuberculous patients, and it has been supposed from this that the disappearance of the fat was the cause of the undue mobility. It is more common, however, to find it well and even abundantly developed, so that this can hardly be the case. When the kidney is displaced a large proportion of the fatty capsule accompanies it and not unfrequently causes considerable delay during the operation of nephrorrhaphy, owing to the fact that it must be stripped off in order to ensure satisfactory fixation. Inside this fat, and running through it, are a few stronger bands of connective tissue which pass from the under and anterior surface of the diaphragm and from the fascia covering the psoas muscle to the fibrous capsule of the kidney. These are best marked at the upper end of the kidney and at the hilum, but there are a few also at the lower end. As they are constant they must, so long as they are uninjured, confine the up-and-down movement of the kidneys to a range equal to that traversed by the particular portion of the diaphragm to which they are attached, and when the kidney is forcibly pulled down this portion of the diaphragm may be seen to be slightly flattened. In cases of nephroptosis these bands are either torn or very greatly stretched. Wolkow and Delitzin, from a variety of experiments which they performed, came to the conclusion that they are of little or no use as a support for the weight of the kidney, to which they are quite unequal, and that their chief function is to maintain the normal shape of the kidney and the relative position of its various parts. Division of the upper strands leads, according to them, not to descent of the whole organ (so long as the other factors concerned in the support of the kidney are not interfered with), but to a kind of collapse of the upper segment, so that it falls forward and becomes bent upon the lower. This peculiar form of displacement, which has been called "anteversion of the kidney" by Potain, who described it, is said to be attended sometimes by symptoms of considerable severity, owing to the way in which the upper part of the kidney may fall forward upon the neck of the gall-bladder or the bile-duct and compress it. However this may be, it is certain, as Newman showed a long time ago, that if the abdomen is opened with the body suspended in the erect position, the kidneys, which are already at their lowest normal point, fall much lower even though these bands of fascia are uncut. Neither the fascia nor the fat, separately or together, is capable of maintaining the kidney in position when the influence of the abdominal pressure is taken away. The same may be said of the peritoneum, which passes over the ventral surface of the kidneys. It is considerably strengthened on the right side, according to Jonnesco, by a special fold which reaches from the under surface of the right lobe of the liver to the kidney and the duodenum; but in spite of this it does nothing to prevent mobility of the kidney. If the abdomen is opened while the body is in the erect position the kidneys sink behind the peritoneum without disturbing its surface. Forcible depression of the kidneys naturally causes it to become wrinkled, but the parietal peritoneum, even on the posterior wall of the abdomen, is so easily displaced that it has no difficulty in forming a loose pouch, behind which the most mobile kidney has full play for its movements. The kidneys, in short, normally are not fixed, and there are no ligaments or bands of fibrous tissue to fasten them. They are able to move through a very considerable range and the structures which surround them either move with them or give way before them. That the surrounding organs check their movement there is no doubt, and, owing to the way in which they are packed around, they support the kidneys, but the kidneys are not tied down—they are held in position, as Wolkow and Delitzin have proved by their experiments, partly by the pressure in the sub-peritoneal space and partly by the shape of the recesses in which they lie and the connective tissue which surrounds them.

Kendal Franks has described the right kidney as supported by the combined pressure of the liver and the hepatic flexure of the colon. The former presses the upper part of the kidney backward and downward. The latter presses the lower part backward and upward. The resultant of these two forces is a pressure purely backward; and Kendal Franks points to the presence of a transverse ridge passing across the middle of the anterior surface of the kidney as evidence of the meeting of the two opposing forces. But this is scarcely correct. It deals with the liver and the colon as if they were two independent structures, having no relation to each other or to any of the other organs in the abdomen—a condition of things which cannot possibly exist during life. As a matter of fact, the liver and colon (though they possess a small extra-peritoneal surface) and all the other organs contained in the peritoneal cavity form one whole, so far as any pressure upon the kidneys is concerned. So far as it affects by its pressure the extra-peritoneal organs there is but one soft elastic intra peritoneal mass, the component parts of which are arranged in such a way that if any one of the individual organs changes in position or in consistence the rest compensate for it at once. But this, of course, is only possible so long as the peritoneal cavity remains intact. When once it has been opened and the air has entered into it each organ can be moved independently and exerts its own pressure.

Glénard regards the descent and mobility of the kidneys as merely one of the phenomena of enteroptosis, but his arguments are very far from carrying conviction. In the majority of cases in which the right kidney only is moveable there is no sign of enteroptosis. But when enteroptosis does occur so that the liver rotates forward and the intestines collect in the lower part of the peritoneal cavity the kidneys may descend and become unduly moveable owing to the relaxation of the upper part of the abdominal wall and the consequent diminution of pressure. Even this, however, is not likely to take place unless there is at the same time defective development of the lumbar recesses in which the kidneys are lodged. The kidneys are maintained in position partly by the way in which they fit into these recesses and partly by the pressure which is exerted upon them, in common with all the other structures in the sub-peritoneal space, by the muscles of the anterior abdominal wall and the elastic mass of the intra-peritoneal viscera. Neither of these forces is sufficient without the aid of the other. If the lumbar recesses are defective the kidneys may become unduly moveable even though nothing has ever happened to weaken the intra-abdominal pressure. Moveable kidneys, for instance, may occur in young women and even in children. I have had occasion to operate upon a girl only 19 years of age, whose muscular system was well developed, who had not had any children, and who had never suffered from ascites or any other cause which could possibly affect the intra-abdominal pressure. Yet there was characteristic flattening of the loin on the right side (pointing to defective formation of the lumbar recess) and one of the most mobile kidneys with a well-developed fatty capsule which I have ever seen. On the other hand, Newman, and more recently Wolkow and Delitzin, have proved conclusively that, even when the lumbar recesses are well developed, if the anterior wall of the abdomen is weakened while the body is suspended in the vertical position, even without opening the peritoneal cavity the kidneys sink at once below their normal level.

Wolkow and Delitzin in particular have drawn attention to the importance of the shape of the lumbar recesses. The difference that exists is best shown by taking plaster casts of the posterior wall of the abdomen after the kidneys have been removed with the body in the vertical position. In the male they are deep, narrow, and pear-shaped, with the narrow end below. In the female, corresponding with the greater width of the pelvis, they are shallower and more cylindrical. The difference in shape is almost always more marked upon the right side than upon the left. This, which explains the much greater frequency of mobility of the right kidney than of the left, is, I believe, dependent upon a slight degree of torsion of the lumbar spine. In right-handed people the dorsal spine is slightly convex towards the right. This entails, or, at any rate, this is accompanied by, an equivalent convexity towards the left in the lumbar region. But here the rotation of the vertebræ which necessarily accompanies lateral flexion swings the spinous processes round—making the line of the backbone appear straight again—and swings the transverse processes on the right side forward, *carrying forward the muscles on the floor of the* lumbar recess and making it so much shallower.

In a very large number of cases of moveable right kidney there is definite flattening of the right lumbar region. This, of course, cannot possibly be due to malposition or even to absence of the right kidney. Behind the right kidney are the eleventh and twelfth ribs and below the ribs are stout ligaments which pass from the transverse processes of the upper two lumbar vertebræ to those ribs. Absence of the right kidney can have no effect upon the contour of the back. If proof of this were needed it is supplied at once by the fact that no such flattening is seen after abdominal nephrectomy. In reality the flattening is a sign that the vertebræ have undergone a certain degree of rotation, and it is an indication of the cause of the displacement of the kidney, not a consequence of it. The width of the lumbar recesses is one of the penalties which have followed the assumption of the erect attitude. If the history of the development of the renal organs in the race as well as in the individual is worked out it is seen that originally they were distributed over the whole length of the head and body, and that by degrees, as their function became more specialised, they became concentrated together, until in their most perfect form they constitute a pair of organs which in the quadrupedal mammalia are placed in a position of the greatest possible security. They lie close to the spine, immediately under the anticlinal vertebræ, almost in the central axis around which all movement of the trunk and limbs takes place. They are buried in two deep and narrow recesses, protected by the lower ribs and resting upon a horizontal sheet of fascia which in its turn rests upon the viscera enclosed in the peritoneal cavity. The slight degree of backward and forward movement which is necessitated by the action of the diaphragm takes place without the least risk. With the assumption of the erect attitude, however, the greater portion of this security is lost. The backward and forward movement is altered to movement upward and downward in the direction of the line of gravity. The peritoneal viscera and the protecting fascia lie in front and not below. The lumbar recesses, instead of being deep and narrow, become broad. The convexity forwards of the lumbar spine helps to make them still more shallow. The pelvis, especially in the female sex, becomes wider so that the lower end of the recess becomes more open, and then, as a last straw, the development of right-handedness causes the transverse processes of the lumbar vertebræ which lie under the floor of the right recess to be thrust forward. From a position of the greatest safety the kidneys are placed in one from which almost all security has gone, and it is not to be wondered at that comparatively trivial causes, such as an increase in the weight of the organ without a corresponding increase in bulk, a sudden violent jerk, or a great lowering of the intra-abdominal pressure, can increase their normal range of mobility and force them downward. The wonder is, not that moveable kidney occurs, but that it does not occur more often. In this way, and I believe in this way only, is it possible to account for the peculiar clinical distribution of moveable kidney. It is certainly hereditary, and it is common. It is present in women much more often than it is in men, and in women who have borne children more often than in those who have not. It is also at least 20 times more common upon the right side than it is upon the left side. None of the other reasons which have been assigned for it, such, for instance, as the weight of the liver or the length of the renal vessels, is sufficiently probable to deserve consideration.

A true conception of the causes which lead to the development of moveable kidney is essential as a preliminary to treatment. Manifestly little can be done in the way of prevention. The general muscular development, especially that of the abdominal wall, should be encouraged as much as possible. Too much, however, must not be expected from this, for nephroptosis may occur in physically strong individuals, and it does not of necessity follow even when the abdomen is pendulous and absolutely devoid of tone. Over-use of the right hand and arm should be checked, especially in those families in which there is an inherited tendency to this complaint—for there is no doubt that it runs in families. Tight corsets and high heels should be discouraged, though I am not disposed to attach a very great amount of influence to either of these. The constriction of corsets as they are ordinarily worn descends too low to allow the compression of the ribs and of the liver to do much harm; and high heels, to which some French observers attribute great importance on the ground that wearing them causes increased convexity forwards of the lumbar spine, in England are not worn sufficiently high or sufficiently commonly to have any material effect. The greater frequency of displacement in multiparæ is only one reason among many more important ones why patients should not be allowed to get up too soon after parturition.

The treatment which should be adopted when the kidney has become unduly moveable must be guided partly by the intensity of the symptoms which it causes and partly by the range of the mobility. In many cases—I believe in the majority—the patient is not aware of its existence. In others moveable kidney is accompanied by the most severe distress, and this may occur even when the upper end only is detached, as in what Potain has called anteversion of the kidney. Whether, however, it causes distress or not I am convinced that it is an unwise thing to leave a freely moveable kidney wandering about uncontrolled at the back of the abdomen. Hydronephrosis from kinking of the ureter is not an uncommon result and even worse things may happen. Within the last few months I have seen four cases of complete destruction of a wandering kidney by calculus or tubercle. It may, of course, be said that the disease preceded the mobility and caused it by increasing the weight of the organ. I do not think so. I believe that the repeated slight injuries which a kidney must experience when it is freely moveable acted as the exciting cause in patients who were predisposed to these forms of disease. The left kidney in all the four was, if not intact, at least not sufficiently affected to prevent nephrectomy.

The choice lies between wearing an abdominal belt and nephrorrhaphy. In my experience it is only in the milder cases that the former of these two succeeds and then it must be combined with massage and exercises calculated to strengthen the muscles of the trunk. A belt braces the abdominal viscera together and so steadies the displaced organ, but it cannot press the kidney back into its place nor, if the kidney has been reduced, can it retain it there when the patient stands upright. The pads which are often recommended I believe to be entirely useless. For all cases in which there is manifest deformity of the lumbar region associated with moveable kidney or in which there is real distress I never hesitate to recommend nephrorrhaphy. In the former case I consider it advisable in order to save the kidney from a worse fate. In the latter I believe it to be the most certain method for giving relief. I have never known it to fail when *properly carried out* if the symptoms had not already lasted so long as to produce an indelible impression upon the patient's nervous system.

THE annual meeting of the governors and other supporters of the Infirmary was held recently, Mr. C. J. Phillips presiding. The annual report showed that 20,342 patients were dealt with during the year, an increase of 503. The income of the institution from all sources was £11,952 19s. 1d., and the ordinary expenses amounted to £12,355 8s. 10d., leaving a deficiency of £403. The report was adopted.—Dr. F. H. Pope moved certain alterations to the rules and also a new rule setting forth that the honorary staff and the house surgeon should be elected by the council. Notice of these were posted to the governors, the medical staff, etc.

Presidential Address

ON

COLONIAL PRACTITIONERS AND THE PUBLIC.

Delivered at the Annual Meeting of the New Zealand Branch of the British Medical Association at Christchurch, New Zealand, on Feb. 19th, 1900,

BY WALTER THOMAS, M.B., C.M. GLASG.

GENTLEMEN,—I have experienced some difficulty in the selection of a subject for my remarks to-night owing to the circumstance that it is unusual to discuss a presidential address. Many suitable subjects under consideration had in consequence to be passed over through a dread of interfering with possible discussion. Certainly such a custom, however complimentary it may be to the President, has its disadvantage, but on the present occasion I have derived some measure of comfort in the reflection that it is an advantage to the President when he ventures upon such a subject as "Colonial Practitioners and the Public." Possibly, you will be inclined to agree with me in this when you have heard all I shall say on the matter.

The home practitioner who settles amongst us must early become impressed with the different relations which exist between medical men and the public as compared with those of the home country. Much of the difference observable may in a broad way be explained on the one hand by lessened sentiment and greater freedom of action and thought in the colonial layman, and on the other by a lack of true *esprit de corps* in the practitioner. In the earlier stages of a new country it is obviously not easy for the profession to take up a proper and assertive position in regard to its rights owing to isolation and the difficulty of concerted action, but in these more modern times there are many large centres each containing an adequate number of medical residents who can if so minded act together as a class and afford, by dignified professional custom and usage, aid and strength not only to themselves but also to their brethren in the country districts where they are more isolated. There are unions and self-protection combinations in the other professions and in all trades and we should be up and doing in our own defence. Unity of professional action is clearly necessary if we desire to obtain our rightful position in the busy world around us. Many of those present will, I am sure, bear me out when I assert that the colonial practitioner does not always know who is his patient and who is not. I have heard this stated by others on many occasions when discussing the subject, the usual conclusion arrived at being, Just make the most of your patient so long as he is your patient, for he is only making use of you in a temporary sort of way and will throw you up on the most frivolous pretext in order, perhaps, to consult a newly-arrived quack. When men of good reputation and standing feel justified in offering such questionable advice surely there must be something wrong in the relations between the medical man and his client. It is undoubtedly a fact that the colonial practitioner has but a frail hold on his patient and one which is exposed to many more hostile influences than is the case with the home practitioner. One of the Governors of Victoria at a medical dinner once said: "The medical man who visits a family in England is not only the medical attendant, he is the valued friend and companion. He is entrusted with secrets and confidences which are not given to others, however intimate they may be, and it is the glory of the profession that these confidences are never abused." This portrait of the British practitioner applies but faintly to his colonial brother. One would like to see our relations approximate more closely to those of the home country, where loyalty to the medical attendant is more general, where practices descend fairly unbroken from father to son, and where family secrets and knowledge of family constitutions are kept within a limited area.

Medical experience in the colonies assuredly encourages a suspicion that one's clients may roughly be divided into two sections: the first calling you in to prevent the annoyance of an inquest and the second doing so in order to have some one to blame should anything untoward occur. It is not a pleasant reflection that even those who call upon our services in the honest expectation of benefit to suffering humanity will also blame us when that expectation is not fulfilled. Such, however, is the usual result as seen in any lengthened experience. Although great advance has been made in medical knowledge during the past 50 years, yet we are all free to admit and deplore that we are still a long way from being able to fulfil the necessities of disease. It is not, however, to be doubted that every practitioner does his duty and his best in accordance with the present state of that medical knowledge. Under the circumstances it seems scarcely fair that we should be blamed for the non-possession of information which is at present unobtainable. In discussing my subject more in detail I shall first deal with the layman's share in the production of this unsatisfactory state of things. Later I shall have a few remarks to make in regard to those directions in which medical men themselves may contribute towards it.

THE LAYMAN.

1. *Instinctive antagonism to us as a class.*—Evidence of this is to be seen in any legal case in which the medical practitioner, individually or collectively, is interested. A medical friend recently arrived who was a spectator in a case of this kind expressed to me his astonishment at the way in which the public acted, applauding when the evidence told against the profession while preserving a virtu[illegible] the other way. Unfair as such [illegible], there are reasons which may serve to explain this hostility. First, the essence of manhood—the *virtus* of the ancients—is manliness, synonymous with excellence or perfection, and any deviation from the standard of excellence necessitating a correction at once and instinctively creates a feeling of inferiority in the one corrected, who, galled by it, forthwith visits his vexation upon the corrector. Question nurses as to how a male patient behaves when he is obliged to remain in bed. The answer will almost invariably be the same—that he seemed highly dissatisfied and grumbled and growled at all that was being done for him. In other words, he feels degraded physically from his high estate and vents his spleen upon those around him. Secondly, the receipt of medical benefits is popularly viewed as a luxury and not as a necessary. Indeed, it may be legally arguable whether a father can be forced to pay for medical attendance upon his child on the ground that the law holds him responsible only for the absolute necessaries of life, and it is questionable if medical attendance can be included in these. No man likes to pay for a luxury not specially arranged for by himself, hence it is irksome to most persons to have to pay a doctor's bill. The highest aim of the profession is to solve the etiology of disease and to lessen sickness or death by curative or preventive measures, and there can be little question that the sum total of human health and happiness has been much increased of late years almost exclusively through the efforts of members of our profession, yet when our voice is raised in the direction of sanitation, vaccination, and the like questions, we at once meet with strenuous and unreasoning opposition on the part of the public. I say unreasoning because common sense must point out that medical men would suffer considerably in income if attention to sanitation were a cardinal virtue, seeing that the larger part of our work results from the neglect of hygienic precautions.

2. *Objection is made to the fees as too high and that patients are thus driven to the chemist.*—On this point I quote one clever writer who says: "Considering the number of hospitals and clubs which everywhere abound in the colony, the number of quack medicines which are consumed, the frequency with which people resort to the chemist without ever thinking of going to the doctor at all, and the large number of persons who, when they do go to the doctor, never pay him if they can avoid it, it is just a little difficult to see where the opportunity for reduction of fees shows itself. The general practitioner, if not a club doctor, is driven into specialties. And yet when he gets a patient he is to consider whether half-a-guinea is not exorbitant. A patient who will go to a specialist and joyfully give a guinea to have a small mirror put at the back of his tongue and be told there is hypertrophy of his vocal cords, will elevate his eyebrows at having to pay half that sum for the opportunity of inflicting

a half hour's history of his aches and pains during the previous six months of his existence upon a long suffering general practitioner who is no specialist. Specialist, consultation, and operation fees are paid almost without question, if not with joyfulness, while the poor half guinea of the general practitioner is uniformly begrudged. He seldom gets a second consultation. His first prescription does duty over and over again, and is frequently lent to a neighbour. In visiting an account is run up and more than half such accounts are never paid. Patients remove to another address or to another town or colony, become insolvent, or flatly declare their inability to pay. Such a medical man works for nothing. The patient alone is benefited, and yet in the face of all this we are told that the fee is too high and counter [illegible] consequence. The fact is that [illegible] on quite irrespective of any [illegible] would go on if medical men charged nothing at all." A stated fee for intelligent advice [illegible] ill [illegible] to [illegible] tice is a practical outcome of the desire for small fees, and tends to familiarise the public of the colony with nominal fees for medical attendance. Suggested probably by the outward show maintained by medical men, there is a prevalent conviction in the public mind that the profession is a lucrative one. We know that this, unfortunately for us, is not the case. We also know that the practitioner who charges nominal fees will not be able to make the two ends meet unless, perchance, he becomes the "fashion," Marie Corelli notwithstanding, we have not yet reached the stage of disembodied existence. We have to live and few of us practise our art for the sole pleasure of practising it. Year by year the profession is becoming less desirable as a means of livelihood owing to the multiplication of gratuitous medical services and the rapid growth of the club system, and it seems but reasonable that our medical unions should lessen this drain upon our services and so far as possible establish the money value of what we do. Surely the medical labourer is worthy of his hire. Working men themselves would not accept work at the fees which we frequently receive. No worker in the community gives so much of his time without payment as the medical man; he is the first approached for a subscription in all charitable objects and the sentiment largely prevails that he should work for "the honour of working" in the cause of suffering humanity. He is not expected ever to think of himself but only of his duty, and any suggestion about payment at the time is viewed as an outrage upon the feelings of the patient and his friends. One writer says: "The m [illegible] and that it is really the highest [illegible] We are therapeutic evangelists so long as we are willing to work for nothing and are ready to live upon praise, but when we mention the word payment we are base traders and have no sense of the loftiness of our calling."

3. *Lessened sentiment and ingratitude.*—In an earlier paragraph I stated that there was lessened sentiment in the colonies. This is true of the layman. All the same by a paradoxical effort of the mind he expects to find it amply exhibited by the medical man. The latter is at once designated "unfeeling and cruel" if he does not respond to a "call" at a moment's notice. The knowledge that such animadversions are calculated to damage us in the public estimation certainly may have the good effect of keeping us in the path of duty, still the position seems a little one-sided. We are subjected to many useless calls. On several occasions I have seriously inconvenienced myself in hurrying to a man said to have been thrown from his horse. In each instance I was unable to find either man or horse. Possibly I had been hoaxed, but more probably the man was drunk and, sobered by his fall, he had just climbed up into the saddle again and rode off. A medical friend of mine was on one occasion called out of bed to visit an urgent case. He was not well and said he would rather not go, but being kind hearted he did go, to find that eleven others had also responded to the call. I am sure that every one present can relate similar instances. We meet very ingratitude in such cases. Practically no one is responsible, and our sole consolation is that we shall at least obtain credit in the hereafter for our response to charitable calls. I have myself experienced much comfort in this reflection and commend it to my medical brethren in these trying junctures. It is a very legitimate source of annoyance to the medical man that the layman so quickly loses the remembrance of the medical services rendered to him. Accustomed, as we all are, to profuse expressions of gratitude at the time it is only a very natural expectation that the memory thereof should be more lasting than it is. Recently in a local debt case where a doctor was suing for his account, the stipendiary magistrate, in giving him a judgment, emphasised this point, remarking that the time-worn stanza seemed as true as ever—

> "The devil was sick, the devil a monk would be;
> The devil was well, the devil a monk was he."

4. *Ethics.*—The medical man frequently comes into collision with the layman over ethical points. It is not easy to persuade a layman of the necessity for professional etiquette. He cannot understand that ethical observance is *in reality in his own interests, a means of safety to himself*, a protection against his own hysterical promptings or the mischievous interferences of ignorant but well meaning friends. He cannot see why, in a free country like this, he is not permitted to have the independent services of several medical attendants, each recommended by a different friend. We who are behind the scenes know that it is simply the old fable of the "man and his ass" over again, and that the medical science not being a mathematical one the individual who trusts loyally in the shrewd judgment of his regular attendant has the best chance of a satisfactory result. *Another difficulty arises from the objection of the* orthodox practitioner to meet in consultation with an unscrupulous or heterodox one. We may dismiss the unscrupulous one, as here the objection is simply in defence of the regular attendant; but in regard to the heterodox we might very pertinently ask, What possible benefit could be anticipated from a consultation with such a one as, say, Dr. J. Hun Su of Pekin, who has been very successful in his treatment of uncomplicated typhoid, with the following prescription: ℞. Three inches of dried umbilical cord, one dried snake-skin; one fresh tom cat's head. Mix, boil in five quarts of water for two hours, and strain. Sig. One tablespoon every four hours!

5. *Craving for eye-pies and encouragement of quackery.*—This is on a par with the mediæval search for the philosopher's stone. Nowadays it is a common thing to have a history of the absorption of a large quantity of patent medicines before the regular attendant is consulted. Recently I cut from a daily paper the following, which serves to emphasise this in a very ample way:—

> PATENT MEDICINES.—A witness, while giving evidence at the magistrate's court yesterday, was asked to explain what had been of a certain sum of money which he had possessed and which had so exhaust mysteriously disappeared. In reply he stated that with a portion of the amount he had purchased, and which was more remarkable considered, as a chain of patent medicines during a recent illness. "For one may" sympathetically observed his worship, "an't you are still alive?" "Oh yes," humorously replied the witness, "I have a pretty tough constitution." One of the counsel engaged then remarked, that so far from being a subject for sympathy, the man actually looked very healthy. "This strange testimony," "Yes," replied the bench, "the man has been a good advertisement for the proprietors of the patent medicines if they can't get hold of him."

This craving may be looked upon as the conscious effort on the part of faith to overcome reason, and takes its origin from the evidence of miracles in the past, which [illegible] religion. Although our reason [illegible] miracles are long over, yet the [illegible] ly to the belief that such will occur again. It is, in reality, on the same platform with gambling, which all will readily acknowledge is an [illegible] enough in the colony. Upon it is [illegible] quacks of all kinds trade and thrive, for that which is [illegible] understood is proportionately reverenced. In fact, the less it appeals to reason the more it recommends itself to the belief. In a district adjoining we have had startling evidence of the credulity to which followers of certain fad-ists would fly in their anxiety for worldly [illegible]. It were [illegible] that [illegible] before an [illegible] of which was [illegible] revealed to them. It is and [illegible] that in both the [illegible] and the [illegible] the community [illegible] in the direction of quackery and [illegible]. A knowledge of this fact is little calculated to [illegible] one to undergo the [illegible] of a [illegible] proper medical training, especially in view of the circumstance that [illegible] are better [illegible] than the orthodox practitioner. [illegible] medical or [illegible] for magistrates [illegible]

sympathise with them and lean to the side of what they consider to be mercy. There is no reason why we should not be on the same footing as the legal profession in the matter of protection. At present *our* offenders are dealt with by the public, while the lawyers judge *their* own delinquents. If a lawyer be struck off the rolls for irregular practice and subsequently, say, prepares a conveyance he is at once brought up and, *not being a lawyer*, he is promptly fined and pays costs of application. As one writer puts it: "The public health is surely as important as the public wealth. The law impostor's mischief is not beyond repair, but that of the medical impostor may be irreparable. Why should it be less easy to punish offenders against our lives than against our property?" It is easy to say that the orthodox practitioner runs down irregular practitioners simply because they are irregular, but in every instance where exposure has thrown light upon their methods it has been shown that they are ludicrously ignorant, and it is simply inconceivable that they should find advocates. A distinguished journalist says: "It is natural enough that those suffering from any critical disease should desire to obtain the most efficient treatment, but what is not so obvious is that they should give the preference to unqualified practitioners. When the specific bubble bursts the world will then wonder it ever thought it other than a bubble, but more bubbles will rise from the froth of human folly, and so the world will go on, taking bubbles for pearls as long as human life and human nature and blind human trust continue to be what they are." The quack might well be designated a "social anomaly" which should not be permitted to exist in any intelligent community. That he is so permitted in ours displays an indifference to the common safety that is unpardonable, and may be taken as proof that we have only reached an incomplete stage of development. It may be said that every member of the community is born an amateur prescriber, but this only affects the professional prescriber when the amateur is enabled to obtain payment in one way or the other. Were it not for facilities in this direction there would be no medical pretenders.

THE MEDICAL PRACTITIONER.

I shall now say a few words upon the professional side of this question.

1. *Jealousy of each other.*—Our profession is a noble one, but, unfortunately, and more than any other, it is liable to the exhibitions of petty jealousy on the part of its representatives. "Do unto others as you wou'd have others do unto you" should be the sole guiding principle in our professional relations with one another. Undoubtedly it is a severe test to the best of us when offered the credit of being "better than t'other man," but it is manifestly unfair to the latter. In such cases we should, as honourable men, stand firm, and loyally smoothe matters for the man animadverted upon, knowing full well that in the whirligig of time we shall in turn occupy a similar position. Two wrongs cannot make a right and no man should risk the loss of his own self-respect through momentary gratification in scoring over his fellow-medico. Orthodox members of the profession should occupy one platform and act honourably and loyally to each other in all professional contingencies. Without this there must be disunion; as a class we are lowered in the eyes of the public and become a prey to any hostile influence that may be exerted against us.

2. *Popularity hunting.*—Up to a certain point this is legitimate, but it is unquestionable that the majority in the desire for position over-step the bounds of legitimacy and adopt methods for bringing themselves into public favour which are in nowise associated with their own professional knowledge or excellence. Herbert Spencer says: "Success in the world depends more on energy than upon information." The aptness of this aphorism is well exemplified in our profession where men frequently rise into a good position owing to their superabundant energy rather than to the possession of profound knowledge. Nowadays it seems that the particular aim of each medical man is to keep himself before the public, and activity in this direction is steadily increasing and becoming better defined. Whether it is by direct advertisement, gratuitous services, newspaper paragraphs, the public exhibition of new and soul-stirring but may be useless instruments, or by any other means suggested to the ingenious and resourceful mind, the object is alike the same—that of intimating to the public that the advertiser occupies a higher platform than his medical brethren. Direct advertisement, which is frequently the subject of discussion at medical society meetings, has at least the merit of being straightforward, and I venture to assert that the other methods of advertising are in reality even more objectionable. They constitute a bad education for the public and degrade us as a class. I have mentioned gratuitous services, and I think that the question of their propriety might very advantageously be discussed by our association, so that the opinion of the whole profession might at least be placed on record. When occurring, for example, in relation to the staff of a hospital these services tend to create a conviction in the public mind that medical services in any public position are honorary as a matter of course. Is it wise that, of our own accord, we should add to our list in this direction? I think not. In large centres it can scarcely be necessary; indeed, the only satisfactory reason I have heard advanced on the other side is where a university lecturer may require beds in a hospital for the sake of his students. Sentiment, selfishness, and indifference combine to keep the matter as it is and to prevent medical men from acknowledging the impolicy, to say the least, of continuing to work for nothing in such instances.

3. *Pandering to the wishes of the patient.*—Like the last item, this is justifiable up to a certain point, and is then recognised as "professional tact," to which no objection can be taken. In the twofold desire, however, of currying favour with the patient and of attracting other patients this tact is carried much further, with the result that those under treatment frequently obtain remedial measures which the attendant well knows are not warranted. It must appear manifestly absurd to the patient in his calmer moments that he should be permitted to direct his own treatment in any degree, and the broad effect of such tactics is to create a want of confidence and to encourage the public in formulating treatment generally for itself. "To be out of the fashion is to be out of the world," and we know that it is not so many years since alcohol was universally demanded by the public, and there is little doubt that the profession of the time met this demand in full. Although in the present day we are seldom blamed for any encouragement towards the alcoholic habit—and when we are I think it is undeserved—yet undoubtedly similar practices still obtain in regard to items other than alcohol. Again, to the man of ingenious mind who is alive to the possibilities of his surroundings the opportunity frequently offers of introducing a custom or fashion in treatment which may prove lucrative to himself while seriously damaging to his fellow practitioners. In this way chloroform and morphia are being brought more and more into evidence. It is axiomatic that no medical man should operate without a qualified anæsthetist. I believe that this rule is daily becoming more honoured in the breach than in the observance, and its transgression will go on unless haply checked by the occurrence of a series of disastrous episodes. It is a very natural assumption on the part of the public that such a transgressor is free from nervousness, and is at the same time less expensive. In the case of morphia the effect is so pleasant that the desire for it continues long after the necessity, and, sometimes, to save time, the patient is taught the use of the syringe. I may here say that in America this has largely increased the crave for the drug. In the same category may be placed the suggestion of preventives to conception in cases of repeated miscarriages and even in cases where the family has extended beyond the means of the bread-winner. It might be imagined that such a suggestion would be confined to the huckstering chemist and the like, but this is not so, for I have myself heard several medical men, otherwise irreproachable and of good standing, freely express their opinion in justification of such a suggestion.

4. *The contract to cure.*—This is frequently offered to the public as an attraction and is highly immoral. There is nothing that can make a radical cure of individual disease in all cases. Our list of specific drugs even may be reckoned on the fingers of one hand. One case of measles, pneumonia, typhoid fever, &c., will differ as much from another as the patients suffering will differ in mind and body. No medical man can foresee the contingencies that may arise and the treatment must be adapted to these. As I have previously said, the public has a strong belief in specific cures and I can recall during 30 years' experience several instances in which a particular cure has attained a certain measure of popular success. In each instance the profession was first blamed for not having discovered it and then for not making use of it when discovered.

5. *The acceptance of easily dispensed proprietary preparations.*—While fully recognising the merits of tabloids, wafers, and such-like in the practitioner's own hands I feel that we should exercise grave caution in assisting the public to employ these independently. It is practically an extension of the education which we afford to druggists who dispense our prescriptions; is a loss to us financially, and must prove a source of positive danger to the public.

In the foregoing I may seem to bear somewhat hardly upon the orthodox practitioner who works in accordance with his conscience, but in discussing the relation of the public and the practitioner I have found it as impossible to leave out the influence of the heterodox portion of our profession as that of the public itself. Again, there are various grades of heterodoxy. I believe that many practitioners are rendered heterodox by action of the orthodox themselves. I have always held that ethics should be included as an essential part of [illegible] young a [illegible] advice, [illegible] and being [illegible] himself with those who desire unrestricted freedom in such matters. Nowadays the profession is being steadily reinforced from the tradesmen's ranks, and it must seem natural enough to a tradesman's son to advertise.

There can be little question that we have ourselves largely to blame for the hostile attitude of the public. One writer says: "There is no trade or profession in which such facilities exist for the grossest forms of imposition without fear of detection or punishment; it follows therefore that those who practise it should be gentlemen—men of education and strict honour." The medical man must alienate himself from all that in the slightest degree smacks of trade if he desires to preserve the high and dignified status of our calling.

In conclusion, I am sensible of shortcomings in my address. It has been rather hurriedly written, but I do not think that I have in any way exaggerated the position. Should anyone present hold the opinion that I have done so I must ask him kindly to ascribe it to my desire to impress members of the association with the wisdom of giving some thought to the subject of our relations with the public. If this be done I am sure that we will readily recognise the propriety of so acting that we shall not, as a class, place ourselves in a false light with the public, and the object of my address will be fulfilled.

THE LEES AND RAPER

Memorial Lecture

ON

THE EFFECT OF ALCOHOL ON THE HUMAN BRAIN.

Delivered at St. James's Hall on April 27th, 1900,

By VICTOR HORSLEY, F.R.C.S. ENG., F.R.S.

[THE second of the Lees and Raper Memorial Lectures, inaugurated to perpetuate the memory and to continue the work of the late F. R. Lees, *Ph.D.*, and Mr. J. H. Raper, was delivered before a crowded audience at St. James's Hall on April 27th under the presidency of Mr. AUGUSTINE BIRRELL, Q.C., M.P. The honorary secretary of the Lees and Raper Memorial Fund (Mr. JOHN KNIGHTSBRIDGE) explained the constitution and aims of the Fund and referred to the life and work of the founders. The CHAIRMAN in a short speech called upon Mr. Horsley to deliver the lecture.]

Mr. HORSLEY said that it was his duty to present the actual state of scientific knowledge on an intimate and delicate question which involves not emotional feelings, however much each one of them might be personally moved by the tragedies and the poverty brought about by alcohol. Though all sensations and emotions had a certain value, care must be taken by scientific men that such feelings and humanitarian ideas not warp their judgment disproportionately. He would limit himself to the effects of small doses of alcohol on the brain. All drugs had what is called a selective action, inasmuch as they act by virtue of a chemical affinity with the different parts of their structure, acting with very different effect in so far as these same parts differed. As Professor Ehrlich had pointed out it was merely a question of chemical affinity. To study what parts of the nervous system alcohol, taken in small doses, attacked, it was necessary to first familiarise themselves with the various elements of the nervous system which investigation had shown to be the commonest points affected. The lecturer then proceeded to explain by the help of lantern-slides the structure and functions of the cerebrum and cerebellum, drawing special attention to the arrangement of the sensory and motor areas. The constitution of the small and large brain corpuscles was demonstrated in some detail and the sensory relation of the small nerve corpuscles to the muscular sense [illegible]. The combined sensori-motor function of the [illegible] is explained, and the position of the large nerve [illegible] as out-going stations for nerve impulses was [illegible]. The small nerve corpuscles were concerned in the function of sensory perception which was the foundation of ideation—that is to say, of intellectual thought. Sensation preceded the delivery of the motor impulse and in this relation the small corpuscles were affected first. The relation of the cerebellum to the cerebrum and its structure were then commented upon. In regard to the effect of small quantities of alcohol upon the central nervous system it was necessary to consider the results of the drug on the higher psychical functions of the brain—that is to say, on ideation or the intellectual thinking apparatus. The effect on the centres in the brain for voluntary action and the effect on the cerebellar membrane for coördination and automatic equilibration had further to be dealt with. After explaining by means of a lantern slide the association fibres of the brain the lecturer went on to represent the necessity of understanding that the perceptive and association brain-centres worked as a whole. The question arose, How were they going to investigate the operations of the brain as a whole? To find whether a brain worked as well after a small quantity of alcohol was taken as it did before some means of exactly comparing the condition of the activity of the brain under those different circumstances was necessitated. The easiest way to do this was to measure what was called the "reaction time." By the reaction time was meant that very small fraction of a second which was consumed by the nervous system during which it received an impression and executed some movement in answer to the reception of that sensation. It was a fraction of a second and in all minute and accurate science it was of vital importance—so much so that astronomers had to measure their reaction period and to allow for it in their calculations. A demonstration of the method of measuring the reaction time was then shown by an actual experiment. The method had been employed by numerous investigators, but by none with such complete accuracy as Professor Kraepelin, whose researches had this great advantage owing to their accuracy—that he had been able to explain the contradictory and doubtful results arrived at by previous observers. Kraepelin found that the man's reaction period, the mere response to a signal after the ingestion of a small quantity of alcohol, was slightly quickened, there was a slight shortening of the time, as though the brain was enabled to operate in a shorter time than before. But Kraepelin found that very speedily in the course of a few minutes—showing how rapid the change was—marked and enduring as long as the alcohol was in active operation in the body. The time interval of consciousness according to the individual experimental subject was found that the time signal by a so-called simple reaction to which, there was an appreciable lengthening of the reaction quickened by alcohol and that the lengthening effect of the alcohol began from the first and continued through the day, that, on the whole, there was a tendency with the small quantities of alcohol which were taken [illegible] very distinct and depressed [illegible] the brain. The [illegible] Kraepelin found [illegible] the truth of that [illegible] there was a [illegible] ability of [illegible]

of adding and subtracting figures and learning figures more quickly. When, however, he came to actually measure on the recording drum the exact period of time he found to his astonishment that he had accomplished these mental operations in a worse fashion than without alcohol. The alcohol, therefore, had a primary deceptive influence on the mind of this observer, and in this there was nothing very extraordinary, for all these drugs—alcohol, chloroform and so forth—produced much the same deceptive stimulation as a first effect. The lecturer explained how even a very moderate intellectual operation could be easily blotted out from the brain by giving the details of an experiment performed on himself, laughing gas being employed to secure the poisonous hampering influence. With reference to the effect of alcohol on voluntary movement it had to be remembered that the energy producing a single contraction of a muscle was manifested in an intermittent manner; it was not one impulse, it was a succession of impulses and that could be proved to be the case by means of suitable apparatus. The lecturer then showed by means of a lever, which exaggerated the intermittent movement, what actually took place in muscular movement.

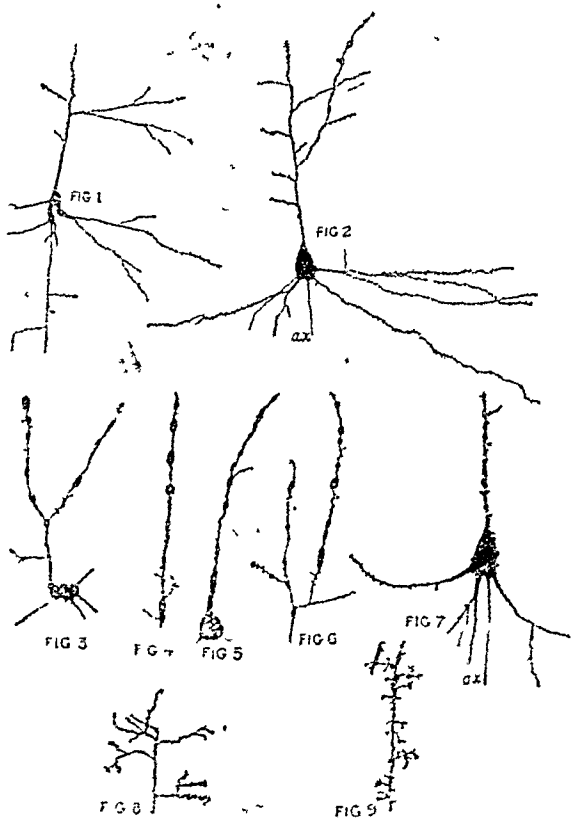
It could be understood from a consideration of these facts how under the influence of alcohol the normal summation was interfered with and what was known as a tremor was produced. But short of this result of tremor Kraepelin had investigated the effect of small doses of alcohol on the voluntary centres by means of a series of experiments with the dynamometer, which was squeezed at certain intervals for a certain time and the work done measured before and after the taking of a small quantity of alcohol. He thus obtained evidence of the amount of work put out from these centres. His results showed that there was at first an apparent additional amount of work put out, but that acceleration or stimulation was quickly followed by the usual lowering or depressant effect. Further, he found a very interesting fact: that if the person experimented upon had received not a dose of alcohol but a dose of tea there was no lowering effect exhibited in the experiment. This contrast between the effects of alcohol and tea was most marked in regard to volitionary movement. When he said that there was no lowering effect in the experiments with tea it must be understood that ultimately there was a certain lowering due to normal fatigue, but that was an element that applied to all experiments and therefore it did not affect the argument. It would be of interest if they could explain thoroughly the apparent acceleration of the putting out of work as the first effect of the alcohol during the first few minutes. It was not possible to satisfactorily explain this at the present time, but from the records of the effect upon the tremor, the natural rhythm of the output of impulses, it undoubtedly must be explained by the loss of control, and by that he meant that all their acts were under a certain brake-power like the governor of an engine. There was an apparent temporary increase of activity, but it was the increase of the same kind as the racing of an engine when the governor was removed.

This position was no new one. It had no doubt often been expressed from that very platform and it was conceived years ago by Aikin and other observers in this country and by theorists on the question of alcohol. It had been the consistent teaching of the greatest physiological chemist that they had on the continent—namely Professor Bunge. This apparent acceleration of the amount of work done was not to be regarded as a real thing but as an evidence of the paralysing and deleterious effect of alcohol. A very careful series of observations on the dietetic use of alcohol in connexion with skilled volitionary work had been made by Aschaffenburg, to whom it occurred to make experiments on certain compositors who offered themselves for the research at his suggestion. They were all skilled workmen; three of them were accustomed to drink small quantities of alcohol and the fourth occasionally drank to excess. Small intervals of time were taken and the total number of letters set up was observed under circumstances of normal conditions from which the necessary averages and observations of fatigue effects were obtained. In this experiment the maximal difference and chief inhibitory effect of the small quantities of alcohol was well shown during the second quarter of an hour and remained obvious until towards the end of the experiment when the effects were passing off. The generally disadvantageous effects of alcohol on persons who did voluntary muscular work were well known and it had, of course, been shown time out of number by the records of travellers and military expeditions that the best physical results were obtained under total abstinence from the use of alcohol. The conclusion, therefore seemed overwhelming that even in very small quantities—that was to say in dietetic amounts—alcohol had a most injurious effect on voluntary muscular work.

The next subject for consideration was the influence of the drug on the cerebellum. It was known that injury to the small brain was followed by loss of regulation and control of the movements and by the affection of the function of equilibration. This was especially true of the muscles of the lower limbs. The legs were most particularly associated with the cerebellum and standing and walking correctly in a coördinated fashion depended on the normal action of the cerebellum. One of the further effects of alcohol in slightly larger doses than those which they had been discussing was to destroy the special function of the cerebellum and to produce a sensation of tremor and weakness in the lower limbs so that the individual staggered slightly and found standing to be a matter of difficulty. It was also known from the recent researches of Dr. Risien Russell that the cerebellum might play the part under normal circumstances of damping the tremor which, as they had just seen, normally accompanied the discharge of energy from a nerve centre. Hence in alcoholic poisoning the exaggeration of the natural, intermittent discharge of the nerve centre producing tremor might be due in part to the loss of cerebellar controlling influence as well as dissolution of the cortical cerebral constituents.

In regard to the structural changes in the nerve cells from alcohol it had to be remembered that the poisoning was a chemical matter. It was known that an extremely small dose of certain poisons could cause death, and when it was borne in mind how the living chemical processes of the body were always on the brink of instability it could be understood that the passing effect of a small dose of alcohol

FIG. 1.

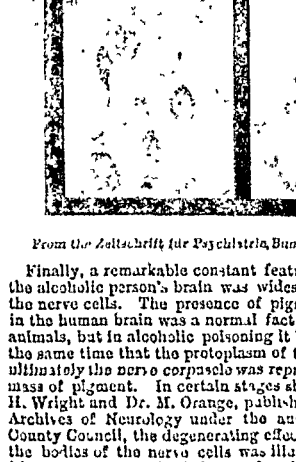


From the Johns Hopkins Hospital Reports, 1897, vol. vi., Plate V.

sufficient to upset the chemical activity of a nerve corpuscle was a matter of extreme difficulty to exactly demonstrate in a scientific manner. It was, however, worth while to study

the effects on nerve-cells of the prolonged use of alcohol. Under the influence of alcohol the granular masses in the Purkinje cells disappeared, the protoplasm of the body of the corpuscle lost its characteristic structure, and the nucleus was very greatly altered and distorted in shape. Under the toxic influence of chronic alcoholism the dendrites of the pyramidal cells exhibited swellings and shrinkages. A remarkable instance of the effect of alcohol on the small pyramidal cells had been shown by Nissl and the differences between such a cell in its normal condition and after poisoning by alcohol was demonstrated by means of a lantern-slide.

FIG. 2



From the Zeitschrift für Psychiatrie, Band liv., Taf. III., Fig. 5.

Finally, a remarkable constant feature of degeneration in the alcoholic person's brain was widespread pigmentation in the nerve cells. The presence of pigment in the nerve cells in the human brain was a normal fact and occurred in other animals, but in alcoholic poisoning it became exaggerated at the same time that the protoplasm of the cell shrank, so that ultimately the nerve corpuscle was represented by a shrivelled mass of pigment. In certain stages shown in a paper by Dr. H. Wright and Dr. M. Orange, published in Dr. F. W. Mott's Archives of Neurology under the auspices of the London County Council, the degenerating effect on the protoplasm of the bodies of the nerve cells was illustrated, clear bladder-like spaces or vacuoles being produced.

Mr. Horsley concluded [illegible] scientific standpoint that: [illegible] had had so often put before [illegible] doses of alcohol such as people take at meals had practically no deleterious effect could not be maintained. He had only touched upon a very small part of the subject, but if they considered the mass of work that had been accumulated from the observations of Parkes on physical work, from those of Ridge on extremely small doses on vegetable protoplasm, and from the observations of Abbott and others on the influence of alcohol on animals in lowering their resistance to microbic invasion, they could only come to one conclusion: that from a scientific standpoint total abstinence must be their course if they were to follow the plain teaching of truth and common-sense. It was the part of the scientist to point this out but it was the part of the politician to persuade the nation to adopt it as a whole.

[The Very Rev. F. W. FARRAR, Dean of Canterbury, in moving a vote of thanks to Mr Horsley, said that he considered that it was the duty of the nation to persuade the politicians, and he regarded the lecture as marking an epoch in reform.—Dr. W. J. COLLINS, in seconding the vote of thanks, said that Mr. Horsley had laid before them the latest results of science without fear and without partiality.—Sir WILFRID LAWSON, Bart., M.P., moved a vote of thanks to the Chairman which was seconded by Mr. T. P. WHITTAKER M.P.—The CHAIRMAN having suitably responded the proceedings terminated.]

ST. JOHN AMBULANCE ASSOCIATION.—The Central Executive Committee of the St. John Ambulance Association has authorized the formation of a centre at Bath. An International Committee has been appointed with Colonel Wyndham Murray, M.P., as president.

OBSERVATIONS ON THE EPIDEMIOLOGY OF PLAGUE.

BY T. FREDERICK PEARSE, F.R.C.S. ENG., D.P.H. CANTAB.,

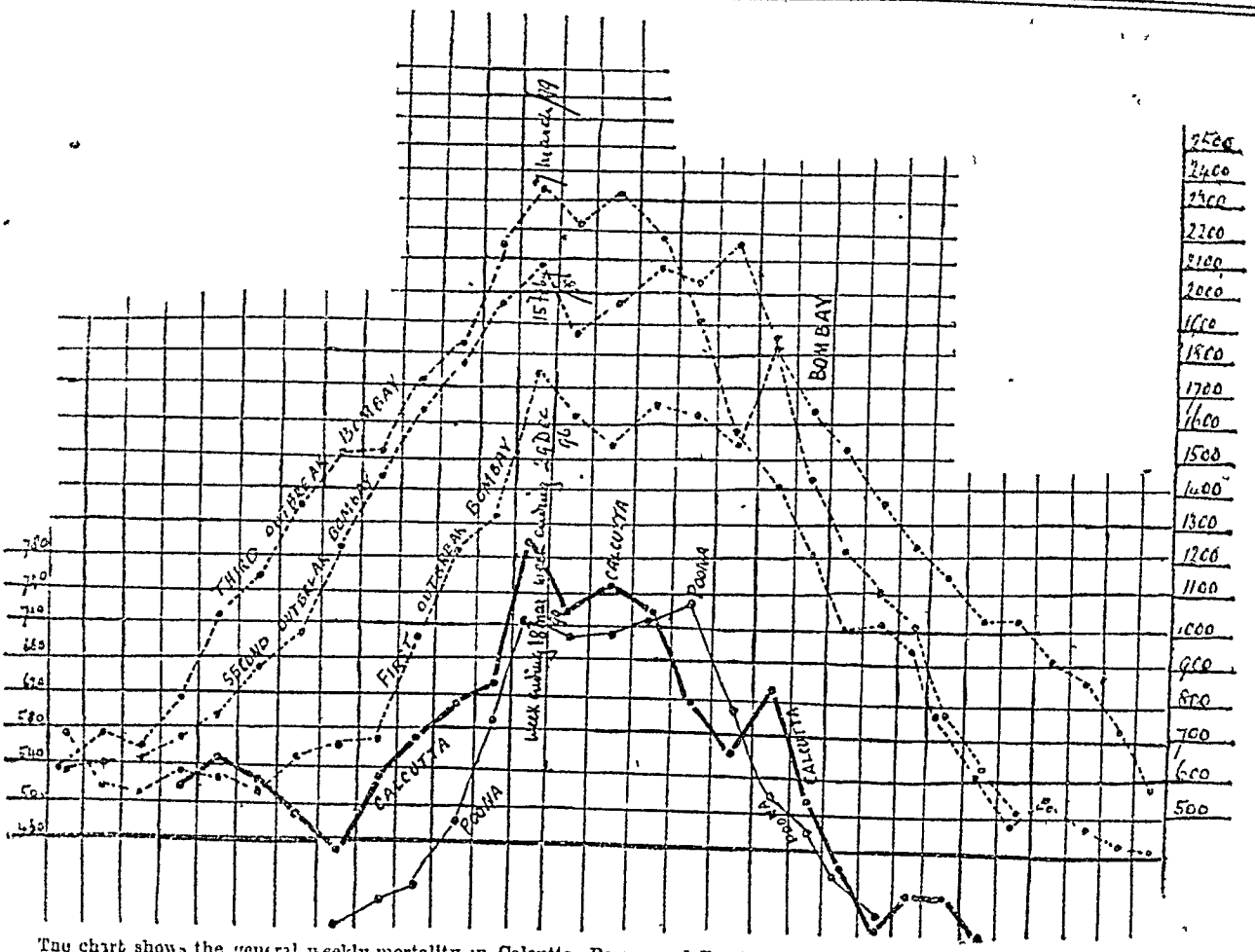
SPECIAL PLAGUE MEDICAL OFFICER, CALCUTTA.

THE accompanying chart shows the courses of the three successive outbreaks of plague in Bombay city and of one in Poona, and for comparison, but on a different scale, the course of the second outbreak of plague in Calcutta. The returns of the weekly general mortality are taken because these seem the most reliable estimate of the extent of the epidemic, the excess mortality above the average being for all practical purposes the amount of the plague. The official returns of plague are so utterly untrustworthy that in the absence of any other cause for an increased death-rate the excess mortality above the normal becomes the only guide. With regard to Bombay, it will be seen that each outbreak occupied about the same period of time. There is in each case the same rapid rise, the same fluctuating summit of highest mortality, and the same correspondingly rapid fall. The charts of each outbreak have been super-imposed in order to emphasise the corresponding weeks of highest mortality, but it must be clearly understood that these highest points did not occur at the same dates in successive years. The second outbreak in Bombay was seven weeks later in the season than the first, and the third occurred about three weeks later in the season than the second. Although the first outbreak culminated at the coolest period of the year, the second rose to its highest point as the weather was getting warmer, and the third outbreak showed its still higher range of mortality in the hot month of March. Again, the outbreaks at Calcutta and Karachi occurred during the hottest months of the year, that at Poona during the monsoon, and the Southern Mahratta country was devastated at the close of the monsoon and while the winter was coming on. These facts show that season and temperature have little or no influence in determining the rise or fall of an outbreak.

It will be observed that there is a break in the steady and continuous rise of mortality in the first and third outbreaks in Bombay. There is also a break during the fall of the same two outbreaks. In the Calcutta curve there is also a break in the rise and a very marked secondary rise for one week during the months of the fall. It is suggested that these are not accidental, but there is nothing upon which to ground an explanation. The fluctuating summit of highest mortality in each outbreak lasting from four to six weeks is very peculiar. The severity of each outbreak in Bombay can be roughly estimated as the average weekly mortality is between 500 and 600 and on this basis it is [illegible] that about 22,000 lives have been lost each year from plague alone.

These characteristics of a plague outbreak in a large city are reproduced in the chart prepared from the mortality returns of the city of Poona and to a certain degree also in that for the city of Karachi. The mortality in Bombay city at each outbreak, in Karachi and in the present outbreak in Poona, has been roughly estimated at 1 in 40 of the population, but in the last and third outbreak in Poona it has been much more destructive than equality in its devastating effects the two previous attacks combined and carrying off nearly one in every ten of the estimated population. There appears to be no explanation to account for this and there is no parallel to it in any part of India. The chart for Poona drawn on the same scale as that for Bombay is very similar. Considering that the city has only been a sixth of the population of Bombay the total mortality of the last outbreak is very [illegible]. In comparing all the lines it will be seen that the weeks of highest mortality occurred in those of the outbreaks [illegible] by the deaths.

[illegible] the chart, [illegible] by the death, is the [illegible] mortality of [illegible] and



The chart shows the general weekly mortality in Calcutta, Poona, and Bombay. The thick line indicates the general weekly mortality in Calcutta from Jan. 7th to June 10th, 1899. The thin line indicates the general weekly mortality in Poona (third outbreak) from June 16th to Nov. 3rd, 1899. The broken line indicates the general weekly mortality in the three outbreaks in Bombay, the dates taken being in the first case from Oct. 6th, 1896, to April 27th, 1897; in the second case from Nov. 23rd, 1897, to June 13th, 1898; and in the third case from Dec. 13th, 1898, to July 4th, 1899. The figures in the vertical column to the left refer to Calcutta, and in that to the right they refer to Bombay.

months before the outbreak definitely shows itself. The decline, moreover, of each attack though rapid at first terminates slowly and a plague outbreak seems to linger on for weeks and months before finally disappearing. In Bombay city, however, it is doubtful whether there has been a single week clear since the declaration of plague in September, 1896.

With reference to the various diseases making up the general mortality it is important to note that other epidemic diseases were conspicuous by their absence. Cholera, dysentery, epidemic diarrhœa, and fevers generally were all, as far as imperfect registration indicates, considerably below the average. In Bombay relapsing fever was the only concurrent fever and in each of the above towns the mortality from cholera was exceptionally low. It only remains to give the figures of the weekly general mortality in Calcutta, Poona, and the three epidemics of Bombay upon which the accompanying chart is based.

I.—CALCUTTA.

Mortality for Week Ending Jan. 7th, 1899, and Following Weeks.

[illegible]	433	604	743	631	436
[illegible]	[illegible]	628	722	517	435
543	532	739	619	443	372
[illegible]	572	716	552	[illegible]	

II.—POONA.

Mortality for Week Ending June 16th, 1899, and Following Weeks.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	125
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	109
[illegible]	815	1112	[illegible]	241	76
[illegible]	[illegible]	1182			

III.—BOMBAY.

First Outbreak.—Mortality for Week Ending Sept. 1st, 1896, and Following Weeks.

667	606	772	1639	1640	1007
593	693	1051	1758	1465	970
618	663	1310	1726	1326	836
647	623	1416	1645	1258	671
720	704	1853	1911	1139	638
791	760	1711	1728	1141	553
634					

Second Outbreak.—Mortality for Week Ending Oct. 19th, 1897, and Following Weeks.

776	706	1540	2080	1303	633*
754	785	1726	2184	1202	589
741	835	1871	2137	1116	525
701	975	2067	2268	872	504
700	1061	2195	1938	725	443
682	1[illegible]07	1974	1519	616	500
704					

* Doubtful.

Third Outbreak.—Mortality for Week Ending Nov. 8th, 1898, and Following Weeks.

645	793	1601	2431*	1696	1047
604	792	1612	2312	[illegible]	830
606	894	1803	2408	1305	711
616	1111	1907	2290	1099	534
679	1239	2249	2010	1127*	603*
693	1443				

* Doubtful.

Calcutta.

REMARKS ON VASECTOMY RELATIVE TO ENLARGED PROSTATE AND BLADDER ATONY.

BY REGINALD HARRISON, F.R.C.S.ENG.,
SURGEON TO ST. PETER'S HOSPITAL.

IN a recent article[1] I ventured to state that "if vasectomy and castration in relation to prostatic enlargement had done no more than direct attention again to its pathology they would have served a useful purpose," and I then took the opportunity of illustrating some varieties in shape and structure that were included in the term "hypertrophied prostate." Hence I urged that it was about as reasonable to expect to find a uniform treatment for it as it would be in the case of what "enlarged breast" might be made to express. The mass of material which the student of morbid anatomy has now within his reach calls from time to time for its application to the purposes of classification and treatment. In no department of work is this more necessary than in the case of the urinary organs from whatever portion of the entire apparatus it is viewed.

It has been extremely interesting to follow the various communications that have been made during the last few years relative to the employment of vasectomy and castration in the treatment of prostatic hypertrophy. In some cases the results have been admirable, in others doubtful, whilst between these two extremes there have been various gradations. In my own practice since my advocacy of vasectomy in 1893 I have performed the operation in over 100 cases and I can say that whatever effects were exercised upon the prostate I have never seen any harm result or heard of any regret expressed from what followed other than that arising in a few instances from failure to obtain by comparison all the good that might have been anticipated. A number of these cases have now been under observation, or cognizance, for from one to seven years, so that ample opportunity has been permitted for noting what happened during varying intervals after operation. I have already referred to a [illegible] was laid on the fact [illegible] the prostate when [illegible] happen after either castration or vasectomy as illustrated by carcinomatous, fibrotic, and adenomatous glands. These all simulate the commoner form of prostatic hypertrophy and though vasectomy does no harm it is rarely followed in these instances by [illegible] has for its main object the [illegible] of certain physical changes in the bladder arising out of chronic prostatic obstruction which are sufficient to negative or minimise the effects that would otherwise follow the induction of shrinkage of the prostate by such means as are under consideration. This point presents itself in three ways: (1) from the examination after death of persons who had undergone vasectomy or castration for hypertrophied prostate; (2) from the exploration of the interior of the bladder by suprapubic cystotomy under similar circumstances; and (3) from the examination of collected specimens illustrating various kinds of atonic bladders in persons who had been more or less dependent on the catheter with hypertrophied prostates. Of the first-mentioned I have met with two examples and of the second four. In five of these vasectomy and in one castration had been practised some months previously. In none of them was death caused or the operation of cystotomy necessitated by the vasectomy or castration, these events being brought about by independent derangements of the kidney or the bladder which arose out of the original state of chronic prostatic obstruction. All instances showed evidence of varying but marked degrees of prostatic shrinkage though the complications mentioned were unintelligible. All had benefited to some extent from the shrinkage of the gland which had thus been artificially induced, though the improvement was chiefly confined to matters relating to catheterism and washing out the bladder, but none of these six cases had resulted in the restoration of the natural function of micturition or of catheter independence. The examination of the third group, which included a considerable number of atonic bladders associated with enlarged prostate removed after death from patients who had been more or less dependent on the catheter for long periods of time, indicated the nature of the commoner lesions met with in the bladder under the latter circumstances.

From one or other of these sources I was able to demonstrate (1) that the usual effect of vasectomy is to induce shrinkage of the hypertrophied prostate; (2) that though this shrinkage affords a readier access to the bladder for catheters and such like purposes it did not necessarily follow that voluntary and natural micturition was thereby restored, failure in this respect being mostly due to structural changes in the bladder itself arising out of long continued obstruction; and (3) that the latter consists of certain kinds and degrees of sacculation, pouching, and trabeculation of the bladder whereby its voluntary expulsive power is permanently and frequently irrecoverably damaged.

That the usual effects of vasectomy on the hypertrophied prostate is to bring about in the course of time its shrinkage or atrophy is, I think, generally admitted. Further, it would seem that if the prostatic shrinkage thus induced is not followed by the cessation or improvement of the symptoms characteristic of prostatic obstruction, and which includes the return of natural micturition, it may be assumed that either the gland itself is at fault in other ways, as indicated in my previous paper, or that the bladder is now solely responsible for the failure.

The examination of the cases and specimens referred to previously in the three groups indicates that by far the commonest cause of bladder failure under these circumstances does not necessarily arise out of deterioration or loss of muscular substance requisite for expelling urine but is largely due to altered relationships between the mucous and muscular investments of the viscus. Take, for instance, as illustrations of the latter the sacculated, pouched, trabeculated, and herniated mucous coat bladders which are the common results of protracted obstruction. The power is there but it is misdirected. The mode in which a comparatively small sac in the bladder is capable of throwing the whole muscle "out of gear," to use a very apt term, is capable of demonstration in various ways.

Some years ago I saw a man, under 50 years of age, without any stricture or prostatic obstruction, who had met with an accident whilst hunting and was partially thrown from his seat when there was reason for believing that he had a distended bladder. He experienced some pain in the region of the bladder immediately, but was thought at the time not to be seriously hurt. Some weeks afterwards I was consulted by him for offensive urine and for difficulty in emptying his bladder, for which, since the accident, a catheter had been necessary. Eventually he became entirely dependent on the latter and died in the course of a few months from chronic cystitis. A herniated pouch of mucous membrane just above the trigone which would admit the last joint of the thumb revealed the primary cause of his illness from his accident to his death. There was no evidence during life or after death of spinal injury. It was clear that this protrusion of a pouch of mucous membrane through the meshes of the muscular coat had brought the natural function of the bladder somewhat abruptly to an irreparable end.

Again, from time to time I see a man, aged 50 years, from whom I removed a single urate stone of about the size of a small walnut, situated, or rather embedded, in a pouch just within the posterior wall of the bladder. The operation consisted in seizing the stone (which could only be felt with the side of a sound) with the lithotrite and pulling it in a part of the bladder area where it could be readily broken into fragments and removed with the washbottle and evacuator. The embedded condition of the stone had previously interfered with the patient's expulsive powers and he was, before I saw him, largely dependent upon his catheter though he had no large prostate to speak of for this. After the stone was removed from the sac, though he was completely relieved from pain and regained his general health, he became entirely dependent upon his catheter a circumstance which could only be explained by the sac and alterations in the bladder had thus undergone and which at his age is not likely to be recovered. I have had more than one instance of this and I have recently reported two cases[2]

[1] The Lancet, August 5th, 1899, p. 321.

[2] [illegible]

where I had endeavoured to deal directly with sacs complicating vesical stone but with only partial and temporary success. Further, I have met with several instances in young males suffering from chronic strictures of the urethra where the strictures have led, as a consequence of straining, to the formation of comparatively insignificant sacs in the bladder which have so completely disarranged the expulsive mechanism of the viscus as to render the patients dependent upon catheters, with not much chance of ever regaining complete voluntary power even after the stricture has been successfully treated. Though it might at first sight seem a somewhat strained illustration to take, it may be said, I believe, that if the heart as the motor power of circulation were liable to undergo only a small portion of that structural damage which is not infrequent in the bladder as a consequence of opposition to its action, the average duration of human life would be curtailed. There is not much to choose between the difficulty of repairing a heart valve or a bladder wall structurally, as the case may be.

If these are some of the commoner effects of continued obstruction on the part of the prostate relative to micturition they seem to suggest that efforts might be directed to averting such consequences by bringing about artificially a shrinkage of the initial cause of obstruction at an earlier period than has hitherto been generally attempted. Some of the experience which I incidentally referred to before in this paper and which is mainly derived from watching cases for several years has an important bearing upon this point.

The best results of vasectomy have been met with in cases which may be said to have been on the border-line of the development of those structural bladder changes which the continued use of a catheter does not tend to remove, and which renders the instrument a necessary though an inconvenient institution. In at least a dozen cases what is known as catheter life appears to have been permanently averted by vasectomy. These cases included persons who were prepared to take a reasonable chance of avoiding the probability of being dependent on the use of a catheter for the rest of their lives, as well as others whose condition or usual employment rendered the attainment of this object a particularly desirable one.

Latterly I have further simplified the process of breaking the continuity of the vasa by substituting torsion for section, with a pair of Spencer Wells forceps, through a small incision over the duct. In this way the vas is seized and bared and a small portion of it is torsed out, no ligature being required. A suture for the skin wound and a collodion application on gauze completes the dressing. A week or 10 days' interval in dealing with the two vasa is advised.

So far as the function of the vasa is concerned, in contradistinction to what applies when castration is selected, I can only repeat with additional emphasis what I have already written[4] to the effect that the latter extinguishes sexual power whilst vasectomy does not necessarily appear to do so, though it obliterates the seminal ducts.

In conclusion, from this and from my previous paper the following deductions may be made:—1. That vasectomy has been shown to be specially effectual in the earlier stages of prostatic hypertrophy in effecting shrinkage of the gland and the restoration of the natural process of micturition. 2. That in cases where there is evidence to show that the prostate has in the course of degeneration assumed the form and structure of a fibrous growth the conditions are such, provided the symptoms of obstruction warrant the adoption of other measures than catheterism, as to render some form of prostatectomy preferable to either vasectomy or castration. 3 That where as a consequence of sudden or protracted prostatic obstruction secondary changes have taken place in the bladder itself, in the form of sacs, pouches, or trabeculation, the possibility of restoring its natural function by any means is extremely unlikely. Under such circumstances the induction of shrinkage of the enlarged gland will do good in affording a readier access for the catheter and in removing spasm, pain, or hæmorrhage connected with this or other similar process. In a further communication I hope to illustrate the practice of vasectomy under the various conditions to which I have now referred as viewed at considerable periods after operation.

Lower Berkeley-street, W.

[4] Stone, Prostate and Other Urinary Disorders, Churchill, 1899.

THREE CASES OF SURGICAL INTEREST.[1]

BY T. FREDERICK GARDNER, M.R.C.P. LOND., M.R.C.S. ENG.,

LATE SENIOR SURGEON TO THE ROYAL VICTORIA HOSPITAL, BOURNEMOUTH.

CASE 1. *Amputation of the breast for scirrhus in a patient of advanced age.*—The patient first noticed a small nodule in the left breast at the age of 80 years. In September, 1898, I was consulted about the lump, which had grown to the size of a hen's egg; it was very painful and was threatening to break through the skin. The growth was freely moveable and was very hard and nodulated. No axillary glands could be felt. On Sept. 4th, with the concurrence and assistance of Mr. Bernard Scott, Dr. H. G. Lys undertaking the responsible post of anæsthetist, I removed the whole breast by means of a widely curved oval incision. No attempt was made to remove the axillary glands, as in consideration of the age of the patient (82 years and seven months) it was deemed wiser to complete the operation as speedily and with as little shock as possible. The patient rallied well from the operation, and in a fortnight the wound had soundly healed in its whole length by first intention. I have been unable to find any record of the age of patients operated upon late in life, but in the cancer records of the Middlesex Hospital Mr. T. W. Nunn tabulates 160 cases and only one out of that number, or 0·62 per cent., occurred in patients over 80 years and between 80 and 85 years of age. In Sibley's table of statistics the oldest patient attacked with cancer of the breast was aged 84 years, but no mention is made as to whether an operation was performed or not. The case here described is of interest because of the onset of the disease occurring after the patient had attained 80 years of age and from the facts that the operation was so well borne and the wound healed so satisfactorily by first intention. Up to date there has been no sign of recurrence.

Note.—Three months later the patient had an attack of hemiplegia, and she subsequently had severe pain in the back with softening of the last dorsal and first lumbar vertebræ (probably cancerous). She sank from exhaustion and died in June, 1899, 10 months after the operation, without any sign of recurrence in the breast.

CASE 2. *Ruptured pyosalpinx complicated by fibroid tumour of the uterus; abdominal section; hysterectomy; recovery.*—The patient, a widow, who had suffered from menorrhagia for some years, was in hospital four years ago under Dr. Cullingworth suffering from inflammation of a uterine fibroid growth. Dr. Cullingworth examined the patient in March, 1898, and reported that there was a uterine fibroid of the size of a cricket-ball in the anterior wall of the womb. He did not advise an operation. There was no sign of peritonitis. The patient had pains in the back and felt ill in August, and these pains continued up to Sept. 13th when she complained to Mr. F. Scorer of pain and tenderness in the hypogastric region and of general malaise. The temperature was 101·6° F. On vaginal examination the tumour in the wall of the uterus was tender on pressure but there was no fixation of the uterus. On the evening of the 14th the patient had a rigor, her temperature being 102°. She also had a violent pain of a tearing nature in the hypogastric region extending to the lumbar region and the back. On the 15th a swelling was noticed to the right of the middle line extending into the right iliac region. On the 16th the patient had another rigor and she felt a movement as of something bursting. The tumour on the right side had disappeared and the pain had left the abdomen. On the 17th there was another rigor at 6 P.M., and the temperature was 105°. The patient was now admitted to the hospital. On admission the temperature was 102°, the tongue was dry and furred, the abdomen was swollen, and there was a slight pinkish discharge from the vagina. At midnight the patient was put under an anæsthetic and, assisted by Mr. Scorer, I opened the abdomen in the middle line from the umbilicus to the pubes. The uterus was enlarged and occupied the whole length of the wound, but the pelvis could not be properly examined owing to the size of the fibroid growth. A wire

[1] A paper read before the Bournemouth Medical Society on March 15th, 1899.

écraseur was passed round the lowest portion of the uterus just above the vaginal roof, but owing to the breaking of the wire when screwed up and no other écraseur being available, a silk ligature was passed round the uterus at, or a little below, the site of the wire and the uterus was removed above the ligature by snipping with scissors. The broad ligaments on either side were ligatured at the uterine and ovarian ends, and the whole of the sloughing abscess cavity was removed between these ligatures on the left side, and as the right tube also showed signs of inflammation and another pyo-salpinx was forming it was treated in like manner. The peritoneum was thoroughly flushed out with warm boric lotion, a Keith's glass tube was inserted, the abdominal wound was closed with deep and superficial sutures, and the patient was put back to bed. The operation lasted one hour and 40 minutes, much delay being caused by the breaking of the wire of the écraseur and by the precautions necessary to avoid contamination through the cervix. The raw edges of the stump of the pedicle were sewn across with fine and close sutures. It is worthy of note that beyond venous oozing there was no hæmorrhage, not one pair of Spencer Wells forceps being used throughout the operation. The temperature remained practically normal for nine days following. There was then a rise caused by the sloughing of the pedicle, but the wound was syringed out twice daily with boric lotion, and for a week the temperature gradually fell and then rose again for two days. Four weeks after the operation the temperature ran up to 103° and for nine days there were evening rises of temperature with morning remissions until the pedicle sloughed off and came away. The temperature then fell and remained normal until the patient's discharge from the hospital on Dec. 1st. The sinus had not then completely healed, but I hear from Mr. Scorer that the patient has since been able to discharge her usual duties. The wound has now perfectly healed. There is a slight purulent discharge from the vagina and, strange to say, the patient has menstruated regularly, presumably from the mucous membrane of the remaining portion of the cervix.

CASE 3. *Trephining for threatened cerebral abscess; urgent symptoms of meningitis; arrest and recovery.*—A girl, aged 12 years, was brought home from school suffering from aphasia and right-sided hemiplegia. She had gone to school quite well, but for some time she had suffered from headache and had had nystagmus, and an oculist who was consulted found grave defect in the left eye, the character of which defect, however, was not noted. The patient was unable to read with that eye unless she wore glasses which the oculist had ordered for her. I was not called in until the day following her arrival home from school. The patient lay in bed with her legs drawn up and her arms folded on the chest. She was irritable and resented being touched, and she was intolerant of light and noise. She had vomited on that morning. The temperature was 98.4° F. and the pulse was 72. The patient was not able to speak and there was partial consciousness only. She put her hand constantly to her left ear and the head was hotter there than elsewhere. When she was asked to put out her tongue there was a considerable interval before she could make the attempt and then the tongue was scarcely protruded beyond the teeth. This state continued for two days, when the pulse had fallen to 60. The next day it was 50 only, but the patient seemed a little more conscious and had played with a doll. At 12.45 P.M. on this day (the fourth day of the illness) the patient had a convulsion and up to 6 P.M. she had 17 convulsions. The right arm and leg and the left side of the face were most markedly involved, the eyes rolled inwards, and the face became livid. The fits varied in length from half a minute to several minutes in duration. The pulse was slow and irregular. The temperature rose to 101.6°. The respirations were slow and laboured. There was no tache cérébrale nor was there any cry before the onset of a fit. The pupils were equal and dilated but reacted sluggishly, and there were no optic neuritis or tubercles in the choroid. On the next morning at 8.30 (the patient having meanwhile been removed to a private hospital) the head was shaved and an anæsthetic was given. A vertical incision was made above the left ear and a trephine was applied one inch behind and one inch above the external auditory meatus, just before penetrating the inner table the [illegible] of the trephine penetrated the upper border of the mastoid sinus, the escape of a large quantity of dark venous blood necessitating the ligature of the sinus. [illegible] the sinus was plugged with a long strip of sterilised gauze. The dura mater was much injected and was bulging with considerable intra-cranial pressure. It was incised and the brain substance bulged prominently through the small opening. No tubercles could be seen on the brain surface. A grooved needle was passed into the brain substance upwards, forwards, and inwards in the direction of the ascending frontal convolution, downwards and slightly forwards to the temporo-sphenoidal lobe, and backwards towards the cerebellum, but no pus was found. An exploring needle mounted on a syringe was then passed directly inwards towards the lateral ventricle with a view to draw off any excess of intra-ventricular fluid, but no tangible amount of fluid was withdrawn. The wound in the dura mater was then closed with sutures, the plug was left in the lateral sinus, and the wound was closed with stitches so far as the plug [illegible] convulsions (there had [illegible] the operation) and the [illegible] She was able to talk and to protrude her tongue with only slight hesitation. There was no headache and there had been no vomiting. Three days after the operation the wound was dressed under an anæsthetic. Hæmorrhage occurred from the sinus when the plug was removed. The wound was syringed out with 2 per cent. of lysol and again plugged with sterile gauze. Four days after (a week after the operation) the wound was again dressed under chloroform. There was no hæmorrhage from the sinus when the plug was withdrawn, so the wound was again syringed out and lightly packed. A quarter of a grain of grey powder was given every three hours directly after the operation and was continued for a fortnight. The medicine was then given at gradually extended intervals and finally it was discontinued three weeks after the operation. The temperature never rose above 99°. The wound slowly healed and now the patient is quite well, responds quickly when spoken to, can read and write without the help of glasses, sleeps well, and is able to walk and run about as usual.

Bournemouth.

A Mirror of HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et mortorum et dissecationum historias, tum ab aliis tum a pluribus collectas habere, et inter se comparare.—M. Antonius Benedictus, Morb., lib. iv. Proœmium.

ST. GEORGE'S HOSPITAL.

A SERIES OF CASES OF ABDOMINAL INJURIES WITHOUT EXTERNAL WOUND TREATED BY LAPAROTOMY.

(Under the care of Mr. G. R. TURNER.)

WHEN a severe blow is inflicted on the abdomen two injuries especially are liable to occur, hæmorrhage and perforation. Hæmorrhage to a dangerous extent is only likely to take place from solid organs, such as the liver, spleen, and kidney, while perforation will naturally only occur in the case of hollow viscera. It is extremely difficult to diagnose these conditions, but never collapse after an abdominal injury and always justify an early exploratory laparotomy. To diagnose *between* these two conditions is still more difficult, but on the whole it may be said that with hæmorrhage the pulse usually [illegible] while with perforation and extravasation [illegible] In Mr. Turner's interesting series of cases many of the most important points in connexion with these injuries are well illustrated.

CASE 1. *Repeated [illegible] recovery.*—A man, aged 33 years, was [illegible] St. George's Hospital [illegible] the care of Mr. [illegible] March 21st [illegible] with the following history. The patient had been [illegible] on the 14th [illegible] years [illegible] On March 8th [illegible] the lower part [illegible]

the left spermatic cord. The rupture, which was down at the time, was said to have gone back at once. The pain felt was excessive. On admission the patient was collapsed and in great pain. A thorough examination under the circumstances was impossible. The lower part of the abdomen and left scrotal region were much bruised. No swelling was to be seen. He vomited brownish fluid twice after the accident. A catheter was passed and clear normal urine was drawn off. Mr. Turner made the diagnosis of ruptured bowel and advised immediate laparotomy; but it was not until five hours after admission, as the pain increased and signs of collapse strengthened, that the patient gave his consent thereto. By this time there was a large swelling of the scrotum in connexion with the left testicle, which previously had not been noticed. An oblique incision over the cord and external ring was made. The swelling above mentioned was exposed and was found to be an acute vaginal hydrocele containing perfectly clear fluid; the sac of this was removed. The inguinal canal was then laid open and was found to contain a thick-walled hernial sac. On laying this open there escaped a quantity of brown fluid, bile-stained and without much odour. A portion of small gut, itself uninjured, was adherent to the sac. The incision was thereupon prolonged vertically upwards for about three inches, completely opening the abdominal cavity. A piece of small gut was at once brought to the surface presenting on its free edge a zigzag rent about three-quarters of an inch in length with mucous membrane pouting. There was some recent lymph on a coil of small gut which presented. The rent was united—the mucous edges with five interrupted silk sutures and the serous and the muscular coats with 11 Lembert's stitches. The abdominal cavity was then flushed out with hot water, the intestines were returned, and a Keith's glass tube was placed in the upper angle of the wound; the hernial sac was removed and the peritoneum was sutured with catgut. The cut edges of the internal oblique and transversalis were united to Poupart's ligament by two kangaroo tendon sutures. The cut edges of the external oblique were adjusted to each other in the same way. Fishing gut was used for the skin sutures. A rubber tube was placed in the scrotum. The patient returned to bed in a fair condition after the operation which lasted altogether about one and a quarter hours. On April 1st he had vomited seven times since the operation green, thin, bilious fluid. Nutrient enemata were returned during the night; he had retained one, however, that morning. He complained of much pain in the abdomen. The pulse was 102 and the temperature was normal. The tongue was dry in the centre; it was not coated. The glass drainage-tube was removed and two rubber ones were substituted. On the 2nd the vomiting had ceased and the patient felt better. The pulse was 84 and the temperature was normal. He was given a little peptonised milk by the mouth. The wound was dressed and looked well. Nutrient enemata was given every six hours and were well retained. These were continued until the 5th, after which the patient was fed entirely by the mouth. His abdominal condition throughout was satisfactory. The stitches were removed from the wound on the 8th and all drainage was discontinued by the 18th. The bowels acted three times on the 3rd and after that daily for a week. His convalescence was slightly prolonged by some bronchitis from which he was apparently suffering at the time of the accident.

CASE 2 *Ruptured kidney; nephrectomy; recovery.*—A man, aged 57 years, a coachman, was admitted into St George's Hospital on May 4th, 1898 He stated that whilst loading some luggage on the top of an omnibus he lost his balance and fell from the roof to the ground. On admission he was very collapsed; he was ashy grey in colour and the surface of his body was cold and sweating. His pulse was very weak and there were signs of internal hæmorrhage. The house surgeon passed a catheter a few hours after his admission and drew off urine, which at first was quite clear but afterwards consisted of nearly pure blood. Mr. Turner diagnosed a ruptured kidney and decided to operate. An incision six inches in length was made through the right semilunar line in order at the same time to ascertain the condition of the other abdominal viscera. There was considerable retro peritoneal extravasation of blood which was partly encircling the ascending colon. The kidney was exposed by an incision to the outer side of the latter and was with difficulty discovered owing to the masses of blood-clot with which its torn fragments were surrounded. It was found torn in half transversely with several minor lacerations of its surface. The cut peritoneum along the outer side of the colon was stitched to the parietal incision in order as far as possible to shut off the general peritoneal cavity. The patient was very collapsed after the operation but recovered after a hypodermic injection of strychnine and digitalin. He vomited once or twice after the anæsthetic but not again after the afternoon of May 5th. His urine was clear by the 6th and he passed some 56 ounces. His pulse was tense and varied between 75 and 90. His temperature was 99° F. in the morning and about 100° at night. There was considerable tension on the stitches uniting the nephrectomy wound but otherwise his condition was in every way satisfactory. On the eighth day after the operation some suppuration was present in the stitch tracks and the skin around was angry and inflamed; the stitches were consequently removed; there was no gaping of the wound after they were taken out. During the afternoon the patient had a violent attack of coughing, the edges of the wound were burst open, and some intestine protruded into the dressings. This was replaced, the wound was sutured with fishing-gut, and a drainage-tube was re-inserted. The patient was practically none the worse for this *contretemps*. There was never any symptom of peritonitis, his chief trouble during the next fortnight being an attack of bronchitis, of which the fit of coughing was the onset. On the 27th there was a little pus and blood in the urine. The bladder was washed out with a solution of sulphate of quinine and the urine afterwards remained clear. The stitches were all removed by the 31st and the abdominal wound healed without further incident. He was up and about the ward on June 20th and was discharged from the hospital on July 12th. The amount of urea and the quantity of urine passed were from time to time carefully estimated. He passed 2·45 per cent. of urea on May 11th and 2·6 per cent. on the 13th and 18th; at a later date the percentage was 2 3. He passed 56 ounces of urine on May 6th, 78 ounces on the 8th, 68 ounces on the 9th, and 64 ounces on the 10th. The amount of urine passed depended largely on the amount of fluid taken, varying from 40 to 80 ounces during the last ten days of his stay in the hospital; when he was on ordinary diet the amount averaged some 45 ounces. When last seen (June, 1899) the patient was quite well and had been pursuing his work ever since his discharge.

CASE 3. *Ruptured kidney and liver.*—A man, aged 24 years, was admitted into St. George's Hospital on April 1st, 1898. He was struck on the right side of the abdomen by the pole of an omnibus whilst crossing the road. He fell and was unable to rise and was taken to the hospital at once. On admission he was extremely collapsed, pale, sweating, and well-nigh pulseless. Much tenderness was complained of over the right lower ribs, but no crepitus or other sign of fracture was detected. There was some bruising of the right loin. The urine passed was almost pure blood. His general condition was such as to contra-indicate any operation. The next day he had improved; the urine contained blood but in less quantities. There was some tenderness over the upper part of the abdomen and the right lower ribs. He was very thirsty and complained of pain in the back. He vomited on the night of admission and again the following morning. His pulse was 108 and good. His temperature, which had been sub-normal on the day of admission, was now 98° F. The following day it had risen to 99·6° and the patient seemed scarcely so well. Towards evening he became worse; he was thirsty and restless; the abdomen became distended and dulness was noticed on the right side and right flank. The patient was continually vomiting and his temperature had risen to 100 3°; the pulse was 112. The bowels had not acted in spite of an enema. Mr. Turner decided to open the abdomen. This was accordingly done by an incision in the right semilunar line. There was no peritonitis. A large extravasation of blood was found behind the peritoneum all round the kidney and ascending colon, the latter of which was black in colour owing to extravasation of blood underneath its peritoneal coat. Some free blood was present within the peritoneum in the pelvis; this was removed and was due to a laceration of the liver and was not of recent origin. All hæmorrhage from this source had obviously stopped. The retro-peritoneal extravasation of blood was very extensive, going behind the peritoneum right over the great vessels and surrounding the sympathetic plexuses about the aorta. A drainage tube was inserted and the external wound was closed. The patient recovered fairly well from

the shock of the operation, but continued to vomit and his urine still contained blood. On April 5th he seemed much better and had vomited but once. The laparotomy wound looked well, there was no distension in the abdomen, and his temperature, which had been 102°, fell to normal. He was given food by the mouth and it seemed as if he had a fair prospect of recovery. This improvement was not, however, maintained, and although his bowels acted daily after the 6th and he had no signs of peritonitis, the abdomen throughout being soft, he continued to be troubled by vomiting and hiccough and gradually sank. He was transfused on the 9th but only with temporary benefit. He died on the morning of the 10th, nine days after the accident and one week after the operation.

Necropsy.—Post-mortem examination showed the absence of peritonitis and retro-peritoneal extravasation of blood, chiefly on the right side, about the upper end of the kidney and behind the cæcum and ascending colon. This extended in diminished quantity to the neighbourhood of the left kidney, which was normal. The right kidney was much lacerated, part of the medulla and cortex being in a state of pulp. There was some pneumonia, chiefly on the left side, and about half a pint of sanious fluid was found in the right pleural cavity.

CASE 4. *Ruptured pancreas and duodenum.*—A girl, aged 17 years, was run over by a cab, the wheel passing over her abdomen. She was adm[illegible] on May 29th, 1898, under the [illegible] of Mr. [illegible] of grave abdominal injury. [illegible] abdominal wall was rigid, tender, and bruised. There was considerable abdominal pain and she had vomited. Imme-

[illegible]

[illegible] of the bowel, but on exposing the duodenum a rupture of its second portion of about the size of a sixpence was discovered. This was sutured by means of Lembert's stitches and the abdominal cavity was cleansed and closed. The patient never completely rallied from the shock of the accident and operation and died the next day.

Necropsy.—Post-mortem examination showed absence of peritonitis. The head of the pancreas was smashed and formed a pulpy mass with much extravasated blood that had come from the portal vein; this blood tracked round the right kidney and adrenal body, passing along to the tail of the pancreas. The injuries of the ascending colon and the duodenum were as described above.

CASE 5. *Traumatic volvulus of the small intestine; laparotomy; recovery.*—A boy, aged seven years, was admitted into the Seamen's Hospital, Greenwich, on July 25th, 1891, having fallen from a height of 12 feet against the pole of a boat and then into the river mud. He was much collapsed and vomited several times. He soon became restless, with abdominal pain and tenderness referred chiefly to the right iliac fossa. The vomiting continued and acquired a fæcal odour. Mr. Turner was sent for, and some 24 hours after the accident he opened the abdominal cavity. There was no evidence of any rupture of the intestine and no general peritonitis was present. A mass of entangled intestines (ileum) was felt to the left of the middle line. This was easily unravelled. On examining the intestine two collapsed, flattened parts, one foot and two feet in length and separated from each by about four feet of intervening intestine, were discovered. The collapsed gut at either end passed abruptly into the neighbouring intestine. There was no tear or rent found in either mesentery of omentum and no band of any kind was discovered. There was no further vomiting after the operation. Flatus was passed on the second day and the bowels acted naturally on the eighth day. The patient made an uninterrupted recovery.[1]

Remarks by Mr. TURNER.—In Case 1 there was rupture of the small bowel within the abdominal cavity. The adherent bowel in the hernial sac was uninjured, but by its fixation it allowed the neighbouring coil to be crushed against the brim of the pelvis. Before operation the rapid swelling of the scrotum, due to the acute hydrocele, appeared to indicate rupture of the bowel within the hernial sac. The successful issue of the case was no doubt due to the more or less empty condition of the bowel ruptured and to the comparatively early operation. The radical cure of the hernia and the hydrocele when the man was seen some months after the operation appeared to be complete, but as the operation for the radical cure was of necessity a rough-and-ready proceeding it was thought advisable to order a light truss to be worn.

Of the two cases of ruptured kidney the one associated with a rupture of the liver (Case 3) was first admitted and it was from observation of this case that I decided on nephrectomy in Case 2. The patient in Case 3 appeared to die worn out by perpetual vomiting, although there was nothing to account for this except the extensive retro-peritoneal extravasation of blood. Actual bleeding from the ruptured kidney had evidently stopped at the time of the laparotomy. The intra-peritoneal hæmorrhage from the rupture of the liver had been trifling and had also ceased. The cause of the persistent vomiting in the absence of all peritonitis is not easy to determine, but I am inclined to think that the large nervous plexuses at the back of the abdomen surrounded by clotted blood may have had something to do with it. I selected the abdominal rather than the lumbar incision for both operations, as although it appeared certain that the kidney in each case was injured it was by no means certain that this was the only viscus hurt. The collapse, pain, and vomiting were quite compatible with a concomitant injury of the bowel and in one of the cases a rupture of the liver previously unsuspected was detected. If a surgeon can be absolutely sure that the kidney is the only viscus injured he should doubtless choose the lumbar incision, but an injury sufficiently grave to rupture a kidney may very possibly have injured some other of the abdominal contents, and for this reason the abdominal method seems to me to be the better one, allowing, too, as it does, an examination of the opposite side before a nephrectomy is decided upon. Only those cases which threaten to prove fatal from hæmorrhage demand primary nephrectomy. In both the present cases there was distinct and rapidly progressing dulness in the flank on the injured side, and this should undoubtedly be looked for as a valuable guide as to the necessity for exploration.

Case 4 is perhaps worthy of record inasmuch that the pancreas was ruptured, an organ that is stated in some text-books to be the exception to the rule that all the intra-abdominal viscera are liable to injury. The case illustrates, too, the multiplicity of these injuries, an argument in favour of abdominal over loin incisions even when the kidney is known to be injured.

The preceding cases, together with one of traumatic volvulus of the small intestine (Case 5), in which a successful laparotomy was performed, formed the text for some clinical lectures I gave last summer on Some Injuries of the Abdomen without External Wound. It most often be difficult for a surgeon to decide in such cases when he will operate and when he will hold his hand, and to lay down any general rules on the subject is all but impossible. Each case must be judged on its own merits. Everyone must be familiar with cases of grave abdominal injury that have recovered without operative interference and numerous specimens showing repair of ruptured solid viscera are common. When, however, it would seem a hollow viscus is injured or that fatal hæmorrhage is threatening the surgeon's duty of exploration is a clear one, unless indeed the attendant shock and collapse are such as to render operation hopeless.

LEEDS GENERAL INFIRMARY.

A CASE OF ARTHROTIC PELVIS.[1]

(Under the care of Dr. J. B. [illegible])

THE frequency of the kyphotic pelvis is not great. [illegible] estimates that it is present once in 6000 labours. [illegible] to the mother is indicated by Nagele[illegible] statistics.[2] He collected 199 cases of labour in which kyphotic pelvis was present, occurring in 113 women; of these 113 patients 10 died. It is [illegible] that in a very large proportion of these death was due to sepsis, and the mortality, if [illegible] from cases occurring in recent years, would [illegible]

[1] The case was [illegible] the Medical Society of Leeds [illegible] Feb. 1900.

[1] A paper on [illegible] was read before the Leeds and West Riding Medico-Chirurgical Society on the 16th Feb. 1900.

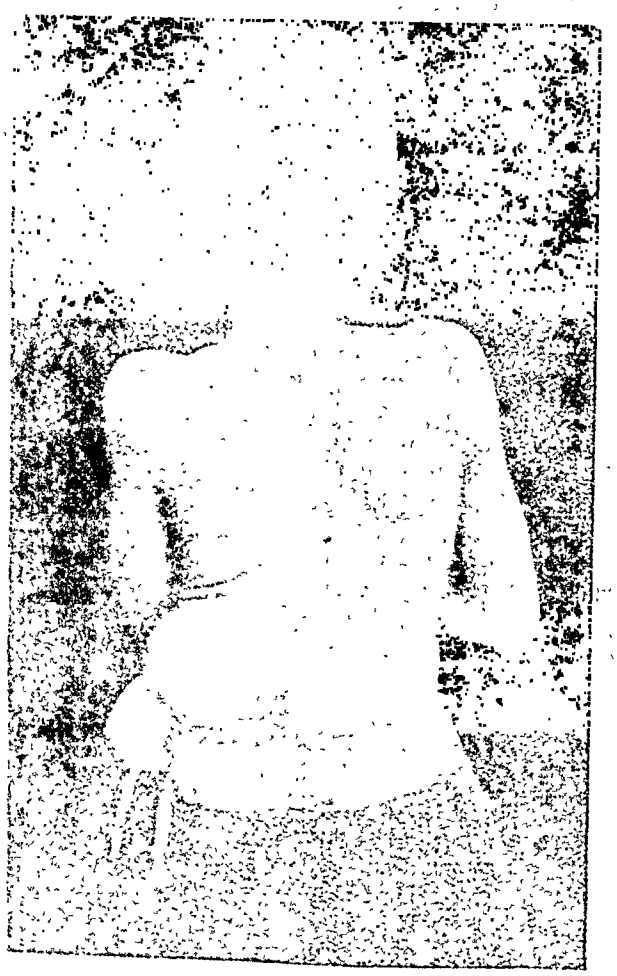
[2] [illegible]

much lower, and it has been put at 12 per cent. The mortality of the child is about 40 per cent.

A married woman, aged 43 years, was admitted into the Leeds General Infirmary on Christmas Day, 1899, after having been 24 hours in labour. She had had two confinements about 20 years previously; the first child was a breech presentation and was stillborn, and the second appears to have been delivered by craniotomy. On admission the patient was found to have angular curvature of the spine in the lumbo-sacral region and also lateral curvature. She attributed the spinal curvature to injury from a fall in infancy. She was much exhausted and vomited any food which she tried to take. The uterus was in a condition of tonic spasm, was very prominent, and felt as hard as a large solid myoma. No fœtal heart could be heard and the fœtal parts could not be made out. The patient's expression was anxious and the pulse was 160. On vaginal examination it was found that the head was presenting in the first position, but was firmly impacted against the pelvic outlet. The narrowness of the pubic arch and the approximation of the ischial spines and tuberosities were very marked. Before admission vigorous but futile efforts had been made to deliver with forceps. After the vulva and perineum had been shaved and disinfected the head was perforated and the child was then delivered without difficulty by means of Barnes's cranioclast. There was no further difficulty with the case and there was no evidence of septic infection and she made an excellent recovery.

After labour the following measurements were taken: distances between the iliac spines and the iliac crests, 9¼ inches and 10 inches respectively; external conjugate

FIG. 1.



Reproduction of photograph of patient with scolio-kyphotic pelvis. Shows lumbo-sacral kyphosis and lateral curve of spine.

diameter, 8¼ inches; oblique conjugate diameter, 5¼ inches; and distances between the ischial tuberosities and the ischial spines, 1¾ inches and 1⅞ inches respectively. The left ischial tuberosity was more prominent than the right and there was evidently some asymmetry in the pelvis, so that the case might perhaps be most correctly described as scolio-kyphotic pelvis. The child was well developed. Illustrations reproduced from photographs of the patient are here given with a diagrammatic sketch of the narrowed pelvic outlet.

FIG. 2.

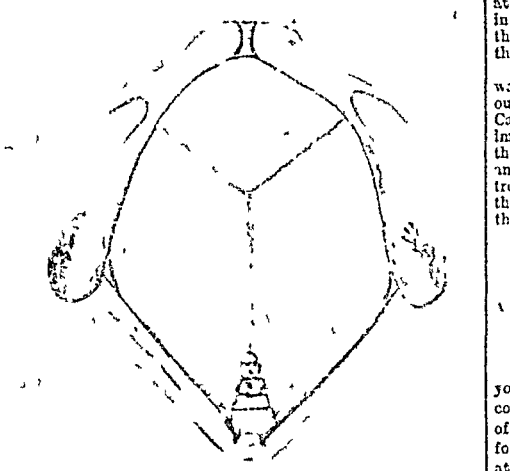
Reproduction of photograph of same patient, showing the lumbo-sacral kyphosis and the somewhat pendulous abdomen. The appearance of the mamma is caused by a belladonna plaster.

Remarks by DR. HELLIER.—The above example of pelvic contraction is recorded because of its great rarity. With antero-posterior contraction of the pelvic brim we are familiar, but transverse contraction of the pelvic outlet is very rarely seen by English practitioners. In 1895 I reported a sporadic case of osteomalacia[4] occurring in Leeds in which the whole pelvis was compressed, but I have not heard of a case of kyphotic pelvis in this district. Kyphotic pelvis is readily recognised: the head enters the brim easily, the conjugate diameter being augmented; it descends into the pelvis without much trouble, but it then becomes impacted on the pelvic floor against the ischial spines and tuberosities. This particular deformity is associated with, and is the consequence of, angular curvature of the spine, as in the case here given. At first sight the connexion between angular curvature of the spine and transverse contraction of the pelvic outlet is not obvious, but the subject was well worked out by Breisky in 1865.[5] The kyphosis of the spine must occur early in life and must be low down, and the deformity of the pelvis is then produced by the alteration in the direction of the forces acting upon the pelvis during the early years of development. The angular curvature throws the centre of gravity forwards. If the curvature were at the upper part of the spine a compensatory lordosis would occur in the lumbar region, but as the curvature is in the lumbo-sacral region compensation can only be obtained by the pelvis being

[4] THE LANCET, March 30th, 1895, p. 807.
[5] Winckel: Lehrbuch der Geburtshilfe, zweite Auflage, S. 443.

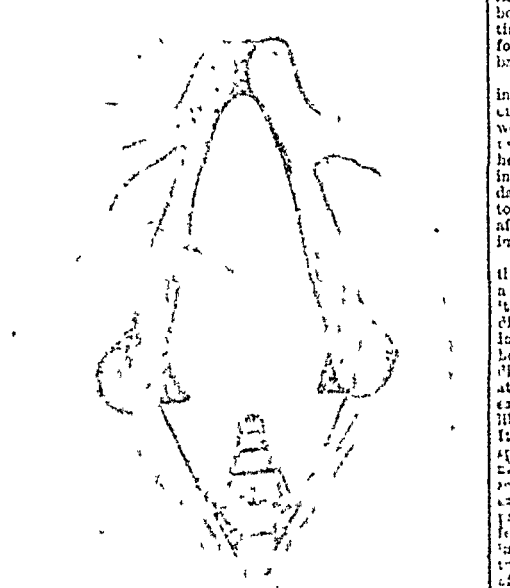
tilted into a more horizontal position. In the normal individual the sacral promontory tends to sink downwards and forwards and there is a physiological flattening of the pelvis seen as the infant grows to maturity, and in rickety and yielding pelves the flattening becomes pathological

FIG. 3.



Diagrammatic sketch of head presenting at outlet (normal pelvis).

FIG. 4.



Diagrammatic sketch of female pelvis [illegible] after [illegible]

But in the kyphotic pelvis the resultant forces act in the other way. The sacrum is pressed backwards, the coccyx is tilted forwards, and the conjugate diameter at the brim is increased. Also, there is a rotation of the inner iliac bones. These are so rotated that while the transverse diameter of the brim may be increased, the ischial tuberosities are approximated, the ischial spines come near together, and the pubic arch is narrowed, and there may be obvious restriction at the pubes. The pressure of the femora on the acetabula in this abnormal position of the pelvis, helps to compress the pelvis transversely. These points are well illustrated in the case now described.

As regards treatment in the above case the use of forceps was contra indicated by the extreme contraction of the outlet. Symphysiotomy was also out of the question and Cæsarean section was contra indicated by the existence of impaction of the head, by the tonic spasm of the uterus and the exhausted condition of the patient, and by the history of an indefinite amount of instrumental interference. The treatment indicated was obviously craniotomy, and this at the outlet of the pelvis is a much easier and safer measure than craniotomy at the brim.

PRINCE ALFRED HOSPITAL, SYDNEY.

A CASE OF STRANGULATED INGUINAL HERNIA IN AN INFANT, AGED 14 DAYS.

(Under the care of Dr CHARLES MACLAURIN.)

THE occurrence of strangulated inguinal hernia in very young children is extremely rare, in spite of the fact that congenital inguinal hernia is very common. The explanation of the rarity of strangulation in these young subjects is to be found in the softness at this early age of the structures at the neck of the sac. For the relief of these cases when seen early a very useful method is to place the child on his back, with the pelvis raised high on a pillow so that the blood may return from the hernia. Mr Lane and Owen mentions a case in which he suspended the child by the feet, "the top of his head just resting on the bed. The bowel had been strangulated for many hours, during which time he had been constantly vomiting. The boy slept comfortably in this inverted position, and the bowel quietly went back."

A male infant, aged 14 days, had a congenital right inguinal hernia. When he was seven days old he was circumcised (not by Dr MacLaurin) and unavailing efforts were made to retain the rupture by a wool plaster in the usually accepted manner. On Nov. 27th of last year the hernia came down and it came irreducible, apparently causing abdominal pain. The child passed three motions that day. On the 28th he became much worse and the mother took him to the Prince Alfred Hospital, where he was admitted after a few moments attempt at reduction by taxis, an impression having been made upon the tumour.

When Dr MacLaurin saw the child on the same afternoon the hernia had been irreducible for [illegible] hours. It presented as a tense shining oedematous mass of the size of a [illegible] egg, it was not acutely very tender, and occupied and greatly distended the right side of the scrotum and was without impulse on crying. There had been no motion since early [illegible] hours and there was no vomiting, but there was considerable distension of the abdomen. Under chloroform a brief attempt at taxis failed. Dr MacLaurin therefore cut down on the external ring, exposing the external sheath and layer like tissue, opened the sac at the [illegible] and found it to be at the crematic [illegible] through. It is interesting to note that the crematic [illegible] spread out well [illegible] even at this early age. On [illegible] the kidney part about half an inch [illegible] peritoneum [illegible]. Dr MacLaurin then [illegible] the external [illegible] as far as the [illegible] (the patient's condition did not admit of any [illegible] dissection of parts [illegible] the wound [illegible] the [illegible] in order [illegible] [illegible]

[illegible]

could neither be pulled out nor passed in. There were several flakes of lymph on its surface.

The internal ring, which was the compressing agent, was remarkably firm for a child of the age of the patient and appeared to be a thin, tight band of fibrous consistence. The conjoined tendon, in fact, was better marked than it is in many adults. It was necessary to nick the ring in two places, firstly externally and then above, before the intestines could be returned. It was then closed with two formalised catgut sutures and the slit in the external oblique was stitched up with a running suture of the same material. The sac was left *in situ*, as owing to the child's bad condition it seemed inadvisable to prolong the operation beyond what was necessary for saving life.

As soon as the child's reflexes had returned a tea-spoonful of castor oil was given, which operated in less than 12 hours. On the next day the temperature was 103° F. and the wound looked a little red, so Dr. MacLaurin cut some of the skin-sutures without removing them. A little thin serum escaped and the temperature then fell to normal, the wound uniting without further trouble. The stitches were removed on the tenth day.

Remarks by Dr. MACLAURIN.—Possibly a recurrence will take place, but there is fair reason to hope that if so the use of a truss will cure this case, as it has cured so many in early infancy. So far, I believe, there has been no sign of recurrence. The noteworthy features appear to be as follows.

1. The failure of circumcision to prevent a grave relapse of the hernia. This is in accordance with my former experience, that, as a general rule, circumcision has little or no curative effect upon a rupture.

2. The failure of the "wool-truss." Here again this tallies entirely with my personal experience. The wool-truss I have found difficult to apply, dirty, and often ineffective; while on the score of expense it is in the long run not much preferable even to the series of vulcanite trusses which a growing child requires. A well-fitting vulcanite truss can be worn day and night for a long time and gives no anxiety once the skin under it is toughened. In most cases it will cure the hernia if applied before the age of three or four years.

3. The remarkable strength and well-defined condition of the conjoined tendon and borders of the internal ring generally. Personally I have never seen them so well developed in so young a child. It seems remarkable that if the internal ring closes when the internal oblique contracts a child with such well-defined arcuate fibres and conjoined tendon should have had a hernia; but, granted a hernia, this development appears to explain the strangulation. The hernia descended and became nipped somehow; the gut above became partially paralysed, permitting bacteria to enter the peritoneum through the intestinal walls, and peritonitis began, causing the usual reflex contraction of the abdominal muscles; this nipped the descended hernia still more tightly between the conjoined tendon and Poupart's ligament, and caused absolute strangulation. On the restoration of the intestinal activity the bacteria in the peritoneum—only the advanced guard, as it were, of the invading army—were killed by that membrane and the child recovered.

4. The early age at which strangulation occurred. I connect this with the unusual development of the conjoined tendon, as explained above. There does not appear to be any recorded instance of strangulation at such an early age. I understand that Dr. A. MacCormick of Sydney has operated on a somewhat similar case in very early infancy, but I can find no record of any other instance, at least with regard to inguinal hernia. Mr. G. A Wright of Manchester had a case in which the age of the patient was three weeks, and Haslewood had one at the same age.[2] Strangulated umbilical hernia at birth is much less uncommon; it is, of course, occasionally caused by the midwife's thread.

[2] Ashby and Wright: Diseases of Children, p. 153.

BRISTOL MEDICAL DRAMATIC CLUB.—The members of the Bristol Medical Dramatic Club celebrated their twenty-third anniversary by the production, at All Saints' Hall, Clifton, on April 24th, 25th, 26th, 27th, and 28th, of Mr. J. M. Barrie's comedy *The Professor's Love Story*. The piece was well acted and there was a large audience each evening. It is hoped that there will be a substantial sum to be divided between the Royal Infirmary and the General Hospital.

Medical Societies.

CLINICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on April 27th, Sir R. DOUGLAS POWELL, the President, being in the chair.

Dr. NORMAN DALTON exhibited a case of Aortic Regurgitant Murmur heard in the Pulmonary Area. The patient was a man, aged 26 years. The points of interest apart from the physical signs were (1) that the patient had never had rheumatic fever and that the endocarditis was due to scarlet fever with nephritis at the age of 14 years; (2) that the man had remained undeveloped since the scarlet fever, having no hair on his face; and (3) that he had been under observation by different observers for three years and that the physical signs had always been the same. The heart's dulness was enlarged but did not extend behind the sternum. On auscultation a diastolic together with a systolic bruit and an accentuated second sound were heard at the third left costo-sternal articulation. This diastolic bruit was not conducted downwards, but was well heard under the clavicle and all over the back. There was also a diastolic thrill in the situation of the diastolic bruit. Other points of less consequence were the presence of a long systolic bruit at the apex, a spleen large from infarctions, and a condition of contracted large white kidney. A diastolic murmur in that position should mean pulmonary regurgitation, probably of congenital origin, particularly as the patient was so ill-developed; but this could scarcely be the case because there was no cyanosis and the heart trouble dated from the age of 14 years.—The PRESIDENT referred to a case of pulmonary regurgitation which had been brought before the Clinical Society of London some years ago. He had seen several cases of pulmonary regurgitation, all of which had arisen secondarily to mitral stenosis. In regard to the case before the society he would like to ask if the diastolic murmur had come on subsequently to mitral disease or not. The splenic infarction in this case was very suggestive of there having been originally mitral stenosis, in which disease infarction was common, but it was comparatively rare in aortic regurgitation.—Dr. C. W. CHAPMAN thought that the loudness of the second pulmonary sound rather negatived the idea that the case was one of pulmonary regurgitation.—Dr. NORMAN DALTON, in reply, said that he still thought the case was one of aortic regurgitation. He thought the abnormal position of the heart, owing to pericardial adhesions, explained the abnormal position of the bruit.

Dr. S. H. HABERSHON exhibited a case of Tuberculous Glands in the Anterior Mediastinum, with Radiographs. The patient was a boy, aged about 14 years, who exhibited the signs of a mediastinal tumour. Over the anterior mediastinum a venous hum could be heard; and when the patient's head was thrown back there were signs of venous obstruction. The interest of the case was two-fold: (1) the utility of the radiograph; and (2) the question of operation in such cases.—Dr. HABERSHON, in reply to the PRESIDENT, said that he did not favour operative treatment in such cases. He thought that sea air and general treatment were better.

Mr. W. H. BATTLE exhibited a patient two years after Removal of Malignant Growth of the Skull, showing the amount of repair, &c. The patient, a married woman, aged 37 years, was under treatment at the Royal Free Hospital more than two years ago for a recurring tumour of the forehead, the first signs of which had been noticed eight years previously. The growth for which she required treatment at that time had only appeared for two years before. The tumour (which was shown to the society and was now in the museum of the Royal College of Surgeons of England) measured four and a half inches from side to side, three inches from above downwards, and projected three and a half inches from the level of the skin. It bled freely at times. Operations had been done in three stages: (1) removal of the very vascular soft growth; (2) removal of the underlying bone, which had been penetrated by the tumour at one point and at other points eaten away; and (3) grafting of the dura mater when it had become covered with granulations. Microscopically the growth was a spheroidal-celled carcinoma. The operation scar was firm,

without any bone in it. She was in good health and six weeks ago gave birth to another child.

Dr. HARRY CAMPBELL exhibited a case allied to Recklinghausen's Disease. The patient was 15 years of age and six years ago was admitted into a home with angular curvature. Two years ago the paraplegia had come on; the legs were now rigid with excessive myotatic irritability. The glands in the axillæ and supra-clavicular regions were enlarged. In certain regions, but especially in the right humeral region, the right posterior thorax, and to a less extent the left humeral region, were nodular masses apparently consisting of hypertrophied subcutaneous tissue somewhat tender to the touch. The skin was very loose where the nodular masses were most pronounced. The skin over the right forearm also was very loose and here there was some subcutaneous hypertrophy. The skin was pigmented, the pigment appearing in patches varying from light yellow to dark brown and in size from a pin-point to several square inches. It was most marked over the subcutaneous masses, the colour being deepest where the masses were thickest. Since admission the disease had steadily advanced. The right hand was congenitally deformed. The third and fourth fingers and their metacarpal bones were fairly normal but the remaining phalanges and metacarpal bones were remarkably mobile, as though their several joints were devoid of ligaments. The patient was perfectly intelligent. The three symptoms of Recklinghausen's disease were thus presented—viz., pigmentation, multiple neuromata, and molluscum masses.—The PRESIDENT thought there were serious objections to calling a disease by the name of an individual and asked if it were not possible to avoid this.—Dr. H. D. ROLLESTON remarked that it would be very difficult to find an alternative name which would indicate the divers features of this disease. Such a name would certainly be more cumbersome. Dr. Campbell's case showed some of the features of Recklinghausen's disease. These cases were very interesting. They were probably due to some congenital aberration of the mesoblast, and especially of that part of it which came in contact with the epiblast, as shown by the pigmentation, neuro-fibromata, and molluscum lesions. The mesoblastic defects were again evidenced by the tendency to the development of sarcoma, and the case which he had recorded had died from this disease.—Mr. CLEMENT LUCAS referred to a case under his care of a young woman, about 26 years of age, who had been suffering from a pigmented mass of skin hanging from the buttock. This he had removed and found that the structure consisted of fibrous growths in the superficial layers of the areolar tissue, with large veins running through them. He had also seen similar cases.—Mr. W. H. BATTLE referred to a case having some of the features of Dr. Campbell's case in which the patient presented a large mass like molluscum fibrosum extending from hip to knee-joint. This patient also had several swellings like the one before the society.—Dr. CAMPBELL, in reply, thought the suggestion of the disease being a developmental error was a very probable one and was supported by the curious malformation presented by the hands. The suggestion of operation needed very careful consideration.

Dr. H. A. LEDIARD exhibited a case of Successful Excision of a Subclavian Aneurysm on Jan. 21st. Ligature of the first part of the subclavian had been done on April 14th, 1899, without benefit. The first part of the axillary was also tied on August 4th without result. The arm became useless and painful, so that interference was imperative. Two and a quarter inches of the collar-bone were removed prior to the excision of the aneurysm and the operation only lasted three-quarters of an hour. Recovery of the arm was almost immediate and the wound healed without trouble. The aneurysm was as large as a hen's egg and the under surface of the clavicle was somewhat worn from pressure.

Sir HUGH BEVOR exhibited a case of Diffuse Lipomata of the Limbs. The patient was a woman, about 45 years of age, and the leading feature of the case was the enormous size of the limbs owing to the fatty deposit.—In reply to the PRESIDENT as to whether any treatment had been adopted he said that in view of the apparent atrophy in the region of the thyroid gland in this patient he had tried the administration of thyroid extract, 15 grains a day for two weeks. No bad symptoms had arisen and already there was a slight diminution in size of the limbs.

Dr. NORMAN DALTON exhibited a case of a boy, aged 12 years, with (apparently) Tuberculous Mediastinal Glands involving the Right Lung. He had a tuberculous aspect and well-marked remittent fever. The physical signs of importance were dulness over the upper half of the sternum and over the adjacent portion of the right lung. The veins over the front of the chest were dilated and when the head was retracted the veins in the neck stood out prominently. There was a rather large gland in the left axilla and the superficial epigastric veins were a little large, but nothing could be felt in the abdomen. The tuberculous family history was not positive, and in the last fortnight the physical signs had increased almost too rapidly for tuberculous glands, so that, while it was still most likely that the mass was tuberculous, it was not quite certain that it was so, for sarcomatous or lymph-adenomatous growths extending from the mediastinum into the lung by the side of the bronchi would produce the same physical signs.—Dr. H. A. CALBY questioned whether the mediastinal growth was tuberculous. It seemed to him quite so probable that it was lymph-adenomatous and this was quite as consistent with the temperature.—Dr. A. WHITFIELD suggested that an examination of the blood would probably throw considerable light upon the case. He agreed with the last speaker, and if leucocytosis were present it would confirm the diagnosis of lymph-adenoma. As far as his experience went tuberculous lesions were not attended by leucocytosis.—Dr. HANDSHIN thought that a radiograph would aid considerably in the diagnosis of the case. Part of the dulness he believed was due to condensation of the lung. He also inclined to the view of lymph-adenoma and thought that some of the dulness was due to the extension of this growth along the bronchus into the lung.—Dr. NORMAN DALTON, in reply, remarked that he had in mind the possibility of lymph-adenoma and that view was favoured by the rapid growth of the mediastinal lesion. The family history had at first misled him.

Dr. T. D. SAVILL exhibited a case of Macular Leprosy improving under chaulmougra oil. The patient was an intelligent lad, aged 14 years, born in Demerara. He had left that place and come to England at the age of 11 years. The disease began when he was 10 years of age, with erythematous and pigmented patches slightly raised, scattered in different parts of the body, for the most part symmetrically. The patient said that he had been unable to feel in most of these patches, and he had had other places where there was no pigment or erythema which were also without feeling. The patient presented the appearance of a half-caste. At the present time there were scattered over the arms and legs a series of ovoid, slightly pigmented areas. These areas were quite flat and presented no alteration in texture at the present time; and in many of them the pigment had almost disappeared. Both the ulnar nerves (but especially the left) were thickened; they had previously been more so. The chief interest of the case lay in the administration of chaulmougra oil. The patient had taken this remedy for nearly a year in gradually increasing doses, beginning with 12 drops daily until now he was taking 100 capsules, each containing four minims of the oil, 400 minims per diem. The swelling and erythema had entirely gone and the pigment was fast disappearing. No anæsthesia could anywhere be made out. These immense doses of the remedy did not upset either the digestion or the general health of the patient.

Mr. CHARTERS SYMONDS exhibited a patient, aged 47 years, from whom he had Removed the Entire Clavicle in February, 1899. The patient was a carpenter and all the movements of the arm were perfect. The growth proved to be a spindle-celled sarcoma.

Dr. PERCY KIDD exhibited a case of New Growth of the Base of the Skull with Unilateral Paralysis of the Cranial Nerves. Practically all the cranial nerves on one side had been affected excepting the vagus and spinal accessory. The patient had optic neuritis on the side only—a feature usual in such cases which had been pointed out by Dr. H. C. Bastian.

Dr. SIGLAIR THOMSON exhibited the case of a man with One-sided Paralysis of the Soft Palate, probably syphilitic in origin. This symptom was a rare one and when present was usually associated with paralysis of the vocal cord of the same side as the palate paralysis, of the lateral palate and some of the muscles which close the glottis were derived from the same nerves. But in this case there was no paralysis of the larynx. Six weeks ago the patient had what he called a "gallery," which lasted, he was probably delirious, and the result was a partial hemiplegia.

Mr. J. HERBERT [illegible] exhibited a case of Aneurysm

of the Subclavian Artery occurring in a man, aged 47 years. The patient had had syphilis 15 years ago, imperfectly treated. 18 months ago he noticed pain on the left side of the neck on turning his head, then a throbbing swelling appeared over the collar-bone on the left side. He was treated by a medical man for 18 months with iodide of potassium up to 40 or 50 grains daily without much effect. He presented all the signs of aneurysm of the subclavian. The circumference of the arm on the left side was two inches more than that on the right and clubbing of the fingers was marked in the left hand. Mr. Hutchinson asked the opinion of members as to operation. A skiagram showed dilatation of the heart.—Mr. CHARTERS J. SYMONDS remarked that the difficulty of the case lay in ascertaining the condition of the artery behind the aneurysm. He thought it was possible to do something for these cases and he had recently had to perform a very extensive operation in that region which involved the tying of all the arteries and veins. He would suggest that part of the sternum as well as the clavicle should be removed.—Mr. STANLEY BOYD thought it was possible to attack a case of that kind by resecting the clavicle and part of the sternum and then steering inside the carotid. In this way the thoracic duct might be avoided. But in this patient the dilated heart, as shown by the skiagram, and his general condition were contra-indications to any serious operation and unless the aneurysm were advancing he would hesitate to interfere. Such lesions occasionally underwent spontaneous cure or at any rate became stationary.—Mr. HUTCHINSON, in reply, quite agreed that an extensive operation in such a subject was not to be lightly undertaken. The patient was quite willing, but he would hesitate, unless there were strong indications, to assume such responsibility.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Chorea.—Croup.—Pemphigus and Erythema.

A MEETING of this section was held on April 6th, Dr. J. W. MOORE, the President, being in the chair.

Mr. CONOLLY NORMAN showed a case of Chorea, apparently associated with Trauma and complicated with Melancholia.—Mr. CROLY, Dr. DOYLE, Dr. TRAVERS SMITH, Dr. PARSONS, Mr. LANGFORD SYMES, and Dr. J. KNOTT discussed the case.

Mr. LANGFORD SYMES read a paper on the Clinical Significance of the Various Diseases embraced by the term "Croup." He said that there were five chief croupy symptoms: (1) laryngeal stridor; (2) cough, with a barking, "croupy" sound; (3) night attacks; (4) restlessness; and (5) recession of the chest. These were the symptoms popularly called croup. Three main species of disease must be clearly differentiated: (1) diphtheria (of which there appeared to be several varieties): (2) laryngitis, including (*a*) acute laryngitis and (*b*) laryngitis stridulosa; and (3) laryngismus. Laryngismus was an entirely different condition from the other two and should not be included in the term, for it did not produce true croupy symptoms. It was mentioned for the purpose of elimination and distinction. True croup was diphtheria, and most deaths registered as croup were really diphtheria.—Dr. DRURY asked what class Mr. Symes would put those cases under in which they had laryngitis closely resembling what they used to call croup and which they met with in measles. He saw an enormous number of such laryngitis cases in the last epidemic, and such a number of tracheotomies had to be performed that almost all the tracheotomy tubes to be obtained in Dublin were used up. At one time there were from 25 to 30 cases all with tubes in, but they were not diphtheritic cases, nor were they laryngismus stridulus, and most of them recovered.—Dr. DOYLE recommended the use of sulphate of copper in croup.—Dr. PARSONS said that from his point of view diphtheria was an inflammation produced by the Klebs-Loeffler bacillus, and it did not make any difference whether the inflammation was catarrhal, croupous, or diphtheritic. Some other name would then have to be found for those cases of inflammation of the throat produced by other micro organisms.—Dr. TRAVERS SMITH said that the dyspnœa of diphtheria was not a night symptom, whereas that of laryngismus stridulus was essentially a night symptom.

Dr. H. C. DRURY described the case of a boy, aged 14 years, who was under his care in St. Patrick Dun's Hospital suffering from a severe attack of acute pemphigus with concurrent erythema. The erythema was of the "iris" form and was very extensive over all parts of the trunk and extremities. Many circles, becoming confluent, formed very large irregular patches. The pemphigus was also very extensive and was found on all parts of the body, the conjunctivæ escaping. The bullæ varied in size from that of a hempseed to large irregular bags of fluid more than three inches by two inches. Into many of these hæmorrhage occurred. They occupied the site of the erythema but were not so extensive. A febrile disturbance appeared early and increased regularly till the tenth day, then it gradually subsided till the normal temperature was reached on the eighteenth day. During this period the patient was in a very critical condition, and from the position and extent of the bullæ their rupture and ulceration was inevitable, causing considerable suffering. He made a satisfactory recovery. He was given the acid solution of arsenic in gradually increased doses up to seven and a half minims three times a day with iron.

EPIDEMIOLOGICAL SOCIETY.—A meeting of this society was held on April 20th, Dr. Franklin Parsons, the President, being in the chair.—Dr. E. W. Goodall, Medical Superintendent of the Eastern Hospital of the Metropolitan Asylums Board, opened a discussion on the Infectivity of Enteric Fever and remarked that while all were agreed as to its being an infectious disease in the widest sense of the word, the all but universal belief had hitherto been that it was very rarely communicated directly from the sick to the healthy, but that the fever was in almost every instance contracted by the ingestion of water or some article of food or drink contaminated by the alvine discharges of persons already suffering from the disease, corroborating his statement by quoting passages from the works of Fagge, F. Taylor, Dreschfeld, and others, Fagge and Taylor having expressed their belief that the instances of direct infection adduced by Budd, Jenner, and Collie were capable of other explanation. Yet soon after enteric fever had been distinguished from typhus fever Brettonneau, Trousseau, Budd, Watson, and others, and more recently Collie, had maintained its direct infectivity. The denial of this mode of communication for so many years was traceable to the influence of Murchison who, in accordance with his hypothesis of its "pythogenic" nature, further alleged that the evacuations themselves were innocuous until they had undergone putrefaction. Dr. W. Cayley gave his assent to this view, though, as Dr. Alex. Collie observed, typhoid stools were already putrescent when passed. Of late years, however, there had been a decided reaction and a growing conviction among medical officers of health and those in charge of fever hospitals that it was more frequently communicated directly from the sick to the healthy than was commonly supposed, and in support of this contention he quoted from reports by Dr. A. Collie, late of the Eastern Hospital, Dr. J. Priestley, medical officer of health of Lambeth, Dr. L. T. F. Bryett, medical officer of health of Shoreditch, Dr. P. Boobbyer, medical officer of health of Nottingham, Mr. J. W. K. Mullen of Salford Fever Hospital, and others, numerous and indisputable instances of the propagation of the disease among the members of a family or the inmates of the same house, and of nurses, ward servants, and laundry maids in hospitals whose duties brought them in contact with enteric fever patients or their linen, as well as by an analysis of the incidence of the several fevers on the nurses and resident staff of the hospitals of the Asylums Board, which showed a far greater liability to enteric than to any other of the fevers treated in these institutions. The suggestion of Dr. Cayley and Mr. Shirley Murphy that the cause of outbreaks of enteric fever of this kind was to be ascribed to defective drains and insanitary conditions was refuted by the reflection that in that case the disease would not have been confined to the nurses, &c., but would have attacked some at any rate of the other patients. The fact that for many years cases of enteric fever had been admitted with impunity to the wards of every general hospital was often urged as an argument against its infectivity, but no one doubted the infectious character of typhus fever and yet as Dr. J. S. Bristowe and Mr. T. Holmes,

in their well known report on hospitals, pointed out, the spread of this fever even to the occupants of adjacent beds was almost unknown, and cases had been admitted to St. George's Hospital and St. Thomas's Hospital (at the latter 30 in 15 months) without any other patients contracting it. Personally he had no doubt that the direct communication of enteric fever was far more easy than was commonly believed, the infection—i.e., the bacilli—being present in the excreta and, as a striking instance reported by Petruschky showed, in the urine which was highly infective; that this did not occur more often in hospitals was due to the greater care taken in the removal of the excreta and soiled linen, but in the absence of these precautions as in the dwellings of the poor the infection was frequently conveyed by these means, by soiled fingers, and, perhaps, diffused in a dry state, was inhaled in the form of dust, though there was no evidence of the infectivity of the breath or exhalations from the skin.—Dr. F. F. Caiger ([illegible] Goodall [illegible] of enteri[illegible] attending cases of enteric fever had contracted the disease and three had died, though only one in 15 of the nursing staff was thus employed. In the same period but one patient had been attacked, though 20 per cent. of the admissions to the enteric fever wards were not cases of typhoid fever at all. Nurses usually contracted it in times of greatest pressure, but no ward servant or laundry maid had ever been attacked, and he ascribed their exemption to the strictness of the precautions enforced, especially the removal of soiled linen in closed pails, no possible vehicle of infection being touched by anyone but the nurses who were educated in the practice of the most scrupulous cleanliness; indeed, no disinfectants were used lest reliance should be placed on them instead. He had no doubt as to the infectivity of the urine being at least as important as that of the fæces, though not recognised as it should be. The incubation period of enteric fever might be much less than 12 days in proof of which he referred to a report in THE LANCET a year or two ago of two bodies of Austrian troops on the march. Passing through a village where enteric fever was raging one detachment drank freely of the well while the other did not. None of the latter were attacked, but every one of the former developed the fever within a fortnight, most within the week, and some as early as the third day.—Dr. E. F. Willoughby thought that after all there was no real difference of opinion, for no one believed [illegible] pox or measles, and all a[illegible] reta and urine. The mode of [illegible] of the infection from the sick to the healthy was almost always what he [illegible] hands," just as the painter [illegible] the direct as well as the [illegible] enteric fever and cholera were alike. Every instance adduced by Dr. Goodall was capable of being thus accounted for, and Dr. Caiger's experience furnished the strongest confirmation of the conveyance of the infection by the hands. It was only in hospitals where the nurses were overworked and in the cramped rooms of the poor that such infection was observed. It was never met with in the houses of the well-to-do, where every precaution could be enforced. In all his experience he had met with but one instance of direct personal infection among persons in comfortable circumstances, that of a patient who kept to his business throughout in spite of exhaustive diarrhœa, the nature of which he never suspected until his young wife who had washed his frequently soiled linen was attacked with typical and, in the end, fatal enteric fever. With regard to the exceptionally short incubation in the cases referred to by Dr. Caiger, it was in that communication pointed out that the fatigue of a long march, without food, in very hot weather, had rendered the men specially susceptible, though the subsequent fever was of the mildest type.—Colonel J. L. Netter, R.A.M.C., was convinced that the infection was always eaten or drunk and that when the water was not the vehicle it was conveyed to the mouth by dirty hands. He did not believe in the infectivity of breath or sweat. In the army, except in war, enteric[illegible] and nurses were scarcely ever attacked. One case he knew of a lady nurse who, otherwise very careful, seemed to have contracted it through tasting a cup from which a patient had drank.—Dr. H. T. Bulstrode maintained that medical officers of health fully recognised the infectivity. There might have been a change of type, but the greater susceptibility of the nurses in the hospitals of the Metropolitan Asylums Board than of those in the London Fever Hospital was doubtless due to their much younger age. Considering the mode of infection it was easy to understand the great danger incident to nursing cases of this fever, and it was probable that ere long they would not be admitted into general hospitals. Dr. A. Hill of Birmingham had traced direct infection in 50 out of 200 cases admitted to the fever hospital there.—Several other members of the society took part in the discussion which it was agreed should be printed in the Transactions.

LIVERPOOL MEDICAL INSTITUTION.—The fifteenth ordinary meeting of this society was held on April 26th, the President, Mr. Edgar Browne, being in the chair.—Mr. J. Bark showed a man, aged 30 years, with Cysts in the Glosso-epiglottic Fossa. The largest, having a diameter of a quarter of an inch, was a yellowish-white globular swelling on the right of the glosso-epiglottic frænum, and there were two others on either side of the frænum of about the size of a split pea. The symptoms produced were excessive secretion of saliva with a constant desire to swallow, which produced a sensation of a lump at the back of the tongue. Mr. Bark proposed to remove them by means of laryngeal punch forceps.—Mr. F. C. Larkin read notes of a case of Fracture involving the Anterior Fossa of the Skull, with Nasal Hydrorrhœa. A young man, aged 20 years, met with a cycle accident which rendered him unconscious for from three to four hours. This was followed by a profuse discharge from the nose, the character of which was cerebro-spinal, and the flow lasted for about six weeks. He was only off work altogether for a few days and complained only of headache and of being bothered by the fluid coming from the nose. After the discharge ceased the headaches continued. Eight weeks later he was seized with symptoms of cerebral meningitis and he died. The post-mortem examination showed considerable fracture of the orbital plates of the frontal and of the ethmoid and that a wide communication existed between the cranial cavity and the nose, the track running by way of the anterior ethmoidal cells and the antrum of Highmore. (The parts implicated, with photographs and skeletons, were exhibited).—Dr. J. M. Hunt showed a case of Dysphonia Spastica. The patient was a hysterical male, aged 59 years, who lost his voice suddenly six months ago, without apparent cause and since then he had been either quite aphonic or had spoken in a high falsetto. On attempted phonation the cords were so strongly approximated that the right vocal process crossed over the top of the left. If the patient made an effort to speak during the periods of aphonia his face became livid and the muscles were convulsed. The normal voice could be restored by pressing on the cricoid cartilage but it disappeared immediately on removing the pressure.—Dr. Nathan Raw showed a specimen from a patient who had suffered from Acute Œsophagitis for over six months. After a violent fit of choking he expelled a complete cast of the œsophagus which appeared to consist of the epithelial and mucous lining of the gullet. The specimen was eight and a half inches long and in a perfect state of preservation. The man was recovering, although he still had great pain and difficulty in swallowing.—Dr. Raw also showed a man on whom he had operated for a large Liver Abscess. The patient had been abroad for 20 years and six years ago he had dysentery. He presented all the symptoms typical of the affection with the exception that the exploring needle failed to find the pus. The abdomen was opened in the right Lateral line and the liver was found to be adherent to the costal arch in its upper two thirds. The abdominal wound was closed and an opening was made through the seventh intercostal space and 32 ounces of chocolate coloured pus were subsequently drawn. The patient made a good recovery and was following his employment.—Dr. James Barr read a paper on the So-called Pulse Paradox. He said that he had been working more or less at the pulse for a quarter of a century and he had never been able to find the paradox, though he was well acquainted with the condition of the pulse which became smaller on deep and forcible respiration. Since the appearance of Hutchinson's paper and the erroneous interpretation of this phenomenon in 1873 an undue importance had been given to the pulse which was merely an exaggeration of a perfectly normal state of the pulse. Anyone having a good respiratory power and moderately [illegible] arterial [illegible] could see the so-called pulse paradox in himself, and [illegible] one by merely [illegible] the [illegible] quickly obliterate the pulse at the wrist for several [illegible]

He looked upon the condition as a decided advantage to the individual both in health and disease, seeing that it was evidence of the integrity of the respiratory pump, which was a great aid in carrying on the circulation.—Dr. John Hay thought that Dr. Barr seemed inclined to magnify the recognised effects of abnormal respiratory efforts on the normal pulse and to minimise the fact that a paradoxical pulse during normally quiet breathing might occasionally be of value in diagnosis. Normal respiration in a normal individual failed to produce that rhythmical and marked variation which was termed "pulsus paradoxus." This variation when pronounced was in his experience always associated with some pathological condition and what was necessary was rather to locate and give proper value to it as a physical sign.—Dr. A. G. Gullan thought that the fact that the pulsus paradoxus as shown by Dr. Barr could be produced artificially by a simple physiological experiment in persons with low pulse tension agreed with those recorded cases where it had been noticed in children while they were asleep and also with the fact that pathologically it was almost always found in pulses of low tension.—Dr. J. H. Abram, Dr. R. J. M. Buchanan, Dr. A. S. F. Grünbaum, and Dr. Lloyd Roberts also took part in the discussion and Dr. Barr replied.

WINDSOR AND DISTRICT MEDICAL SOCIETY.—The annual general meeting of this society was held at the Guildhall, Windsor, on April 25th, Mr. W. B. Holderness, J.P., the President, being in the chair.—The President, on moving the adoption of the annual balance-sheet, called attention to the very satisfactory state of the finances, in consequence of which the society was enabled to give a subscription of two guineas to the Royal Army Medical Corps South Africa Fund.—The annual report, read by Dr. E. B. Hulbert, the honorary secretary, showed that the society had no less than 100 members resident in Windsor and 32 of the neighbouring towns and villages, the names of which were enumerated. Included among its numbers were five members attached to the Household Brigade, four of whom —viz., Surgeon-Major W. C. Beevor, Scots Guards, Captain F. S. Brereton, R.A.M.C., Surgeon-Lieutenant-Colonel J. S. Forrester, Royal Horse Guards, and Captain R. E. G. Phillips, R.A.M.C., together with Deputy Surgeon-General H. Cayley, F.R.C.S. Eng., were now serving in South Africa. The society had incurred no losses by either death or resignation during the session. The total number of meetings held was nine, all of which had been well attended.—The following gentlemen were duly elected officers for the ensuing year:—President: Mr. W. B. Holderness, J.P. Vice-Presidents: Dr. G. E. Barron (Ascot), Mr. J. Brickwell (Slough), Dr. W. D. Moore (Virginia Water), Mr. W. A. U. Thomson (Maidenhead), Mr. T. H. Scutt (Staines), and Mr. J. Startin (Egham). Treasurer: Mr. J. W. Gooch (Windsor). Committee: Dr. A. J. Anderson (Ashford), Dr. J. S. Ferris (Uxbridge), Mr. G. G. Graham Hodgson (Chertsey), Dr. H. T. Newman (Iver), Dr. E. S. Norris (Eton), and Mr. W. Tinker (Virginia Water). Secretaries: Dr. C. R. Elgood and Dr. G. E. Hale. Amongst various sub-committees an Original Investigations Committee was formed consisting of Dr. M. S. Pembrey (Windsor), Dr. A. J. Anderson (Ashford), Mr. E. W. Adams (Slough), Dr. A. Charpentier (Uxbridge), and Mr. W. H. Gossage (Chertsey).—The date of the annual dinner of the society was discussed but not fixed.

FOLKESTONE MEDICAL SOCIETY.—A meeting of this society was held on April 6th.—Mr. W. F. Chambers read a paper on Operative Midwifery. He said that as they got more civilised parturition changed from being a "physiological event" into a "disease," and that in the higher classes operative midwifery was much more frequent than in the lower. The prevention of sepsis should be carried out with even more care than in a surgical operation. A cocaine tablet in a piece of wool wetted and then applied to the cervix had done good in two cases. He sterilised the forceps in a solution of biniodide of mercury. Axis-traction forceps were of assistance and those of Le Page were simple and economical but were liable to slip. External version was impossible in most cases of transverse presentation as the cases were seen too late. He thought the use of a curette directly after delivery or during the lying-in period should be discouraged; the finger-nail was more to be trusted. In ruptured perineum he did not suture unless the tear was severe or unless there was a good nurse in attendance. In his experience the sutures gave way; he tied the legs together and kept the wound clean.

Reviews and Notices of Books.

Encyclopædia Medica. Under the general editorship of CHALMERS WATSON, M.B., M.R.C.P.Edin. Vol. III. Diphtheria to Food. Edinburgh: William Green and Sons. 1900. Pp. 545.

THE third volume of the Encyclopædia Medica contains many interesting articles. The first is by Dr. E. W. Goodall on Diphtheria. Dr. Goodall, being the medical superintendent of the Eastern Hospital of the Metropolitan Asylums Board, London, has had unusual opportunities for the study of this disease and the editor may be congratulated on having secured his services. The contribution consists of an admirable summary of our present knowledge of diphtheria, together with the results of Dr. Goodall's observations. The subject of diagnosis receives considerable attention. The difficulty of distinguishing between early cases of diphtheria and follicular tonsillitis is becoming more and more recognised, and the author recommends that every case of this kind should be regarded with suspicion and should be forthwith isolated and injected with antitoxin. No doubt this plan has much to recommend it, but there are obvious difficulties in carrying it out, and we doubt whether it will ever be generally adopted. The use of bacteriological cultures is of considerable help, but experts in this branch of medical science still admit some difficulty in the recognition of the bacillus, and, further, a single negative result, or even two or more, do not necessarily prove that the disease is not diphtheria. Dr. Goodall speaks in no uncertain terms of the antitoxin treatment and the figures which he quotes are convincing as to its efficacy. We recommend a careful study of these pages to those prominent anti-vivisectionists who quote such misleading statistics as have been recently instanced in our columns. Dr. Goodall's remarks on Intubation and Tracheotomy are also instructive.

A valuable article, especially for purposes of reference, is that on Drug Eruptions, by the late Dr. R. Glasgow Patteson. A full list is given of the types of eruptions which are met with and of the drugs associated with their occurrence, whether used externally or internally; the rashes produced by such drugs as antipyrin, arsenic, belladonna, the bromides, the iodides, mercury, quinine, &c., are considered at length, and the general principles of treatment in connexion with the eruptions are duly considered. The antitoxin rashes are also described. The eruptions due to drugs are described in various text-books, but a practitioner requiring information with regard to any one drug may have to search through several before he discovers what he requires. In Dr. Patteson's article, however, he will find without any difficulty a full description of the cutaneous lesions produced by certain drugs.

Dr. A. Davidson, Lecturer on Tropical Diseases at Edinburgh University, contributes the article on Dysentery. In speaking of the bacteriology of the disease he remarks that in certain cases bacteria alone are met with in the stools and intestinal lesions; in others, amœbæ as well as bacteria are present. The precise significance of the amœbæ in relation to the dysenteric process has not been fully determined, but as they are associated with a form of the disease presenting distinctive clinical and pathological characters Dr. Davidson thinks we are justified in admitting a non-amœbic and an amœbic form of dysentery, and he is further of opinion that the diversities observed

in the clinical features and in the lesions of non-amœbic dysentery, taken together with the results of bacteriological researches, indicate that this form will ultimately be found to comprise two or more distinct varieties. As our knowledge of tropical diseases increases we shall probably find that there are numerous varieties of "tropical diarrhœa" which are not at present recognised, and this discovery may have considerable influence in prophylactic and curative treatment.

Under the heading of "Ear" there are seven articles dealing with the various aspects of the diseases of that organ. Dr. A. Logan Turner writes on Examination of the Ear, Mr. P. M. Yearsley and Dr. W. Jobson Horne on Local Anæsthetics, Dr. Thomas Barr on the External Ear, Dr. P. McBride on the Tympanic Membrane, Dr. R. M. Johnston on Middle ear Acute Inflammation, Dr. W. Milligan on Chronic Suppuration, and Mr. A. H. Cheatle on Chronic Non-Suppurative Inflammation. These articles form an excellent compendium of our knowledge on diseases of the ear and practitioners will find them of considerable value for purposes of reference.

The article on Eclampsia is by Dr. H. Jellett, late assistant master at the Rotunda Hospital, Dublin. The remarks on the treatment of the condition will be found particularly interesting. Dr. J. Halliday Croom contributes a paper on Ectopic Gestation. The author has spared no pains to make it as complete as possible and we are very favourably impressed with the paragraphs on Diagnosis.

Dr. Leslie Roberts may be congratulated on his article on Eczema. The section on Etiology is most interesting and well repays perusal. He has the courage to oppose the popular notion that eczema is very frequently of gouty origin. He points out that not only is there no proof that the uric acid compounds can directly originate eczema, but that the evidence, so far as it goes, points to the opposite conclusion. But he considers the strongest argument in support of his contention to be the tolerance of the skin for uratic deposits. The formation of tophi in the external ear and in the neighbourhood of the joints is not accompanied or followed by an eczematous eruption. Dr. Roberts cannot deny, of course, that gouty persons are prone to gout, but he is of opinion that it is not the uric acid but the nerves of the gouty man which predispose him to eczema. The description of the various methods of treating eczema is also worthy of high praise.

Dr. T. Kennedy Dalziel writes a useful and complete article on Injuries and Diseases of the Elbow-joint. An interesting and instructive contribution, more from a scientific than from a clinical point of view, is that on Enzymes, by Professor Martin Hahn of the Hygienic Institute of Munich. Dr. J. S. Risien Russell contributes a short article on Equilibrium, and further on in the volume one on Facial Hemiatrophy, Paralysis, and Spasm. Both articles are characterised by evidence of thorough knowledge of the subjects and lucidity of expression.

The methods employed in the Clinical Examination of the Eye are well described by Mr. W. Adams Frost, whilst Mr. A. Hill Griffith has contributed an able article on Injuries of the Eyeballs.

Another contribution which should prove particularly useful to the practitioner is one on Affections of the Eyelids, by Mr. W. Lang. Some of these affections are very common and unless properly treated may lead to serious results.

Dr. G. H. F. Nuttall has been granted ample space for his remarks on Filariasis, with the result that he has produced one of the best essays on the subject which we have met with. The author remarks that "the genus filaria comprises a large number of species," and he describes no less than 36 varieties, a fact which demonstrates the large amount of study which he must have devoted to the preparation of his article.

There are many other articles in this volume which should receive notice, but we have only space to mention them: Electricity, by Dr. Wilfred Harris; Enteroptosis, by Dr. A. L. Gillespie; Epidemiology (an excellent article), by Dr. A. Davidson; Epilepsy and Epileptic Colonies, by Dr. W. Aldren Turner; Erythema, by Dr. A. Whitfield; Examination of Pathological Fluids, report on the Physical and Chemical Examination, by Dr. T. H. Milroy; Bacteriological Examination, by Dr. D. A. Welsh; and Food, by Dr. E. W. Hope.

We can speak in high praise of Volume III. of the Encyclopædia Medica and the editor is to be congratulated on the contributors he has been able to secure.

A Manual of Gynæcological Practice. By Dr. A. DÜHRSSEN. Second English edition. Translated and edited from the Sixth German edition by JOHN W. TAYLOR, F.R.C.S. Eng., and FREDERICK EDGE, M.D. Lond. With 125 Illustrations. London: H. K. Lewis. Pp. xlii. and 372. Crown 8vo. Price 6s.

THE fact that Professor Dührssen's book has reached its sixth German edition shows that it has met with a well-deserved success, and the translators have done a good work in providing us with a second English edition. The book presents many points of interest to an English reader, and, as we remarked in noticing the first edition, the view which it gives of Professor Dührssen's own practice is of great value. The translators have added an anatomical introduction which furnishes the main facts of the anatomy of the pelvic organs in a clear and concise form. The author has now published his operation of vaginal cœliotomy in 500 cases with a mortality of 3 per cent. The operation is undoubtedly one of great value in suitable cases, but it is, owing to anatomical considerations, limited to a relatively small sphere and is only applicable to those cases where the cervix can be drawn down to the vulva. The method of opening Douglas's pouch is objected to on account of the frequency with which it is followed by the formation of perimetritic adhesions and the danger of causing laceration of the bladder if forcible retroflexion of the uterus be carried out.

In the treatment of cases of genital atresia with haematosalpinx salpingotomy is recommended. Fold's researches have shown that the simple vaginal operation is attended by a mortality of at least 70 per cent. (39 deaths in 56 cases). As an alternative to amputation of the cervix in cases of chronic metritis Professor Dührssen has devised the method of removing a wedge-shaped piece from the whole anterior cervical wall after opening the anterior vaginal fornix. By this operation a normal shaped cervix is obtained which by later cicatricial contraction will not alter. The danger of the occurrence of posterior parametritis and perimetritis which so commonly follows the ordinary method of amputation is also avoided.

Vaginal fixation for cases of retroversion of the uterus requiring surgical treatment is an operation which the author has done much to perfect and he is now able to publish the results of 600 cases treated in this way. Certain modifications have been carried out in the technique of the operation in order to avoid the occurrence of grave disturbances in labour in the event of the patients becoming pregnant. These consist in passing only one fixation thread instead of two in separate sutures of the peritoneal opening. The vaginal fornix is laid open by a [illegible] incision and the peritoneum by a vertical one. The [illegible] suture is passed through the vaginal wall and peritoneum at the upper end of the peritoneal opening. The peritoneum is closed by a [illegible] suture, and then the vaginal wound is closed with the catgut suture. In this way a [illegible] is formed with the fascia, and the attachment of the [illegible] is formed with the [illegible] and the attachment of the [illegible] frequently occurs. In contradicting the [illegible] treatment of

of fibroid tumour of the uterus vaginal cœlio-myomectomy is recommended for small tumours. This aims at preserving the uterus and adnexa, and consists in the extraction of the uterus through the opened anterior vaginal fornix and the removal or enucleation of the myomata according as they are sub-serous or interstitial or sub-mucous. This operation is said by the author to be not more dangerous than curettage. In the treatment of large fibroid tumours supra-vaginal amputation of the uterus is preferred to total extirpation, and in cases of hæmorrhage where operation is contra-indicated Professor Duhrssen would try the effect of steam applied to the endometrium, a method of treatment which is often followed by permanent and good results.

The translators have in many instances added to the value of this little work by the addition of notes, and the book is one which all those interested in gynæcological practice should read.

Outlines of the Comparative Physiology and Morphology of Animals. By JOSEPH LE CONTE. New York: Appleton and Co. 1900. Pp. 499. Price 7*s.* 6*d.* net.

THIS work is a fair representation of modern physiological knowledge written intelligently and adapted for the upper classes in schools and as an introduction to the larger works on physiology. There is some failure in the perception of the perspective in the space given to the several subjects. In such an elementary work as this, for example, the consideration of the horopter and the horopteric circle is surely quite out of place, especially when the author concludes the paragraph devoted to them with the remark, "Whether there be such a surface at all, and if there be, what is its form, are very complex and difficult questions which cannot be discussed now." Why, then, trouble the student with it at all? The subject of reproduction is altogether omitted. The chemistry of respiration is very shortly dismissed. In speaking of the course and termination of nerve-fibres the author describes a sensory fibre of the cerebral system as beginning in a sensory cell of the cerebral cortex, passing *down* a posterior column of the cord, there communicating with a sensory cell of a posterior cornu and becoming a sensory fibre of the reflex as well as the cerebral system, and so on, and, having thus impressed on the mind of the student the *descending direction* of the sensory fibres from an anatomical point of view, proceeds in the next paragraph to reverse all this and to show that in a physiological sense the sensory impressions travel in the opposite direction through channels all of which run in an upward direction.

In the section on the Comparative Physiology of Touch the author remarks that in birds the beak is an exquisitely sensitive organ of touch. Sensory nerves, he continues, are abundantly distributed at its base and beneath the horny sheath, exactly as in the case of *our finger-nails*, which are also delicate organs of touch, a statement we can scarcely admit to be accurate. The chapter on Glycogeny is well written and suggestive, and, speaking generally, the functional activities of the several classes of the vertebrata and invertebrata are clearly described. Many of the diagrams are novel and cleverly made

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Outlines of Bacteriology. By Dr. L. H. THOINOT and E. J. MASSELIN. Translated and adapted for English Use with Additions by W. ST. CLAIR SYMMERS, M.B. Aberd. London: Charles Griffin and Co., Limited. 1899. Pp. xi, 318. Price 10*s.* 6*d.*

MOST of the works on bacteriology which are in common use in this country are either of English or American origin or have been translated from German text-books. Yet a vast mass of invaluable work on the subject has emanated from France, notably from the Institut Pasteur, and the French school of bacteriology has many excellent and distinctive features. It is, therefore, with much pleasure that we welcome in English dress the admirable little work of Thoinot and Masselin, which presents as good an epitome of the French school of teaching as could be desired, and constitutes a pleasant departure from the groove into which many of our text-books have got. Not that the facts are at variance with those commonly taught in this country, but they are stated differently and, as it were, in a fresh light, while they are illustrated mainly, though by no means exclusively, from the work of French observers.

The most striking feature of the English edition of the book is its small size. It goes easily into the pocket and is attractively bound in limp morocco. This size has been attained by the use of thin paper and small print and not in any way by undue compression of the subject-matter. Indeed, the information conveyed is singularly full and complete and with a few exceptions the work compares very favourably in this respect with manuals of much larger size. There are, indeed, omissions—for example, there is no proper account of the method of making agar-agar plate cultivations. Nor under the head of the Modes of Cultivating Anaerobes do we find any mention of the extremely useful method of extracting the oxygen from the air by caustic potash and pyrogallic acid in Buchner's tubes. Yet on the whole the methods described are adequate and useful and many of the forms of apparatus will be new to students in this country. All the well-known pathogenic organisms are treated of at considerable length and there are a large number of admirable coloured illustrations of them introduced into the text The translator has done his work excellently and the book reads as well as if it had been originally written in English. He has also introduced a certain amount of original matter derived from his own experience. We can cordially recommend the book to our readers from many points of view—notably for its accuracy, clearness, novelty, and very convenient size.

Diphtheria. By WILLIAM R. SMITH, M.D., D.Sc., F.R.S. Edin. London: Bailliere, Tindall, and Cox. 1900. Price 6*s.* net.

THIS royal octavo volume which consists of 120 pages, together with charts and six coloured maps, contains the three Harben Lectures for 1899. The book is capitally got up.

Briefly stated these lectures may be regarded as Dr. Smith's 1896 report to the London School Board brought up to date Chapter I. deals with the history and distribution of diphtheria in England, and the behaviour of this disease is contrasted with that of measles and scarlet fever. As the author points out, the facts suggest "that special local causes other than school attendance, or the neighbourhood of infected centres, have a potent influence in selecting the disease and promoting its diffusion." We doubt if any epidemiologist would be likely to quarrel with this inference. It is, however, in Chapter II. in which school influences are discussed that Dr. Smith's readers will probably be most interested, seeing that he holds the extremely responsible position of medical officer to the London School Board. As we read this chapter it is difficult for us altogether to avoid the conclusion that the author hardly grasps sufficiently what we may term the natural history aspect of diphtheria, and that hence he may be quite unconsciously somewhat distorting the true issue As an instance of our meaning we refer the reader to page 51, where, in discussing certain communications which the author had received from medical officers of health and others upon this interesting subject, he observes "that the majority consider attendance at school to be an unimportant

factor in the spread of the disease ... .. and more important still, that closure of schools and abolition of compulsory education would not stamp out the disease." The first part of this statement is both interesting and important, but we regret that some examples are not furnished of the opinions of the minority. Of course, however, there had to be a time limit to the lectures. But it is the latter part of the statement that surprises us. Surely no epidemiologist has ever attributed the origin of diphtheria to schools or supposed that the abolition of compulsory education would "stamp out" the disease. It is, indeed, the use of this term "stamp out" that raises suspicion in our minds as to whether Dr. Smith has not in some degree mistaken the issue. Surely the question in dispute is as to the *amount* of diphtheria to be attributed to schools, not as to whether its very existence is due to them. So, too, in considering the question of holiday influences, Dr. Smith endeavours to arrive at a conclusion by a study of the "all ages" curve, and this notwithstanding the fact that Mr. Shirley Murphy has pointed out how much better it would be to take the *school ages* alone, and that the figures since 1892 are all available. Chapter III. gives an interesting summary of the present position with regard to diphtheria antitoxin, and much use is made of the valuable records of the Metropolitan Asylums Board, while in the Appendix will be found a letter from Dr. Kőrösy of Budapest as to the question of schools and diphtheria. The lectures, taken as a whole, form a useful and readable summary of much of our knowledge of diphtheria, and this being so, it is, we think, regrettable that the portion relating to school influences should convey to the reader some idea of straining. Certainly the student of the question should read these lectures side by side with Mr. Shirley Murphy's report for 1898 to the London County Council.

Handbook of Physiology. By W. D. HALLIBURTON, M.D. Lond., F.R.S., Professor of Physiology, King's College, London. Sixteenth edition, with upwards of 650 Illustrations, *including some coloured plates.* London: John Murray. 1900. Pp. 872. Price 14s.

THE present edition is not increased in size. We had so recently to notice with commendation the changes introduced by Dr. Halliburton into the well-known Kirkes' Handbook, of which this is the outcome, that we have now little to add. In the preface the author states that the rapid sale of the fifteenth edition has necessitated the issue of another. The present one, he adds, is not a mere reprint, but where necessary the subject-matter has been brought fully up to date. As only a year [illegible] published it was not [illegible] could be added. We ha[illegible] of the two editions and have only found one or two alterations. One of them is in regard to the paradoxical contraction of muscles which may be induced by electrical stimulation after destruction of the spinal cord of the central end and of one of the two branches into which the sciatic divides which depends on electrotonic currents; in the older edition the author observes in a note that the term "paradoxical contraction" used in this sense must be carefully distinguished from the same term as employed by Westphal and adopted by many physicians. Westphal uses it for a slow tonic contraction occurring in a muscle when its attachments are suddenly brought nearer together. This condition is best seen in the tibialis anticus and the contraction may last several minutes. The explanation is not known. In the new edition Dr. Halliburton remarks that the paradoxical contraction must be carefully distinguished from Kuhne's sciatic experiment. In the sciatic experiment the nerve forms itself a branch, and any form of stimulation applied to one branch will cause contraction of both halves of the muscle. In the paradoxical contraction the bundles of nerve fibres are merely bound *side by side* in the sciatic trunk. There is therefore no possibility of conduction of a nerve-impulse in both directions. The stimulus, moreover, must be an electrical one. In another place in the older edition it was stated that the variations of intra-pleural and *intra-pericardiac* pressure may be recorded by the introduction of a cannula into the pleural cavity. In the present edition the words in italics are of course left out. Again, Dr. Halliburton points out that the distinction between organised ferments and enzymes is more apparent than real, for micro-organisms exert their action by the enzymes that they secrete. It may be seen from these changes and additions, and from others dealing with the adrenals, that Dr. Halliburton has fulfilled his purpose of keeping abreast of recent work, and we have only to add that this is one of the best illustrated manuals of physiology which we possess.

JOURNALS.

The Journal of Anatomy and Physiology, Normal and Pathological. Conducted by Sir WILLIAM TURNER, F.R.S., D. J. CUNNINGHAM, F.R.S., G. S. HUNTINGTON, M.D., A. MACALISTER, F.R.S., and J. G. MCKENDRICK, M.D., F.R.S. Vol. XXXIV. New series, Vol. XIV. Part 3, April, 1900. With Plates and Figures in the text. London: Charles Griffin and Co., Limited. Price 6s.—The articles contained in this number are the following:—1. Johnson Symington, M.D. Edin., of Belfast, on Separate Acromion Process. Dr. Symington strongly opposes the fracture theory and supports the theory that when separate the separation is due to the non-union of the epiphysis in development. 2. J. Kingston Barton, M.R.C.P. Lond., A Contribution to the Anatomy of the Digestive Tract in salmo salar, with four plates, in which the author shows that the stomachs of cod, whiting, and smelt present the same indications of desquamative catarrh that have been observed by Dr. Lovell Gulland in the salmo salar, and which are recorded in the report of the Scotch Fishery Board for 1893. Mr. Barton's observations on the salmon support the statements of Dr. Gulland and also those of Dr. Noel Paton on the diminution of the digestive power of the gastric juice during the period of catarrh. 3. F. G. Parsons, F.R.C.S. Eng., The Joints of Mammals compared with those of Man, the joints of the hind limb—a portion of the course of lectures delivered this year at the Royal College of Surgeons of England. 4. Albert A. Gray, M.D. Glasg., F.R.C.P. Edin., On a Modification of the Helmholtz Theory of Hearing. 5. W. Myers, M.B. Cantab., On the Causes of the Shape of Non-nucleated Red Blood Corpuscles. Dr. Myers advances an hypothesis to the effect that the biconcave form of the corpuscle represents an early stage of dehydration of a disc which contained no free water, the dehydration being occasioned by the passage. 6. M. Hodge Harman, B.A., M.B. Cantab., The Anterior Branch of the Cervico Thoracic Visceral Efferent Nerves in Man, with two plates. A short article, but one which contains the results of much work. 7. William D. Wynn, B.Sc. Lond., On the Minute Structure of the Medullary sheath of Nerve Fibres, with two plates. 8. Thomas W. Shore, M.D. Lond., An Unusual Arrangement of the Renal Portal Veins in the Dog. 9. R. Tait McKenzie, M.D., Demonstrator of Anatomy, McGill University, Montreal, Notes on the Dissection of the Club foot. 10. Lucien C. A. Wheeler, M.D. Dur., F.R.C.S., Tenth Report on Internal Tumours Lincolnshire. 11. [illegible] M. Cooper, M.B. Edin., A Perforated [illegible] Septum Nasi Cartilage. [illegible] coelomic of the Anatomical Society of Great Britain and Ireland.

Analytical Records

FROM

THE LANCET LABORATORY.

SOLOIDS OF PROTARGOL.

(BURROUGHS WELLCOME AND CO., SNOW HILL-BUILDINGS, LONDON, E.C.)

PROTARGOL was first brought to the notice of our readers as a substitute for nitrate of silver in a note from our Berlin correspondent in THE LANCET of Dec. 18th, 1897, p. 1628, and subsequently it was examined in THE LANCET Laboratory and reported upon in an analytical record in THE LANCET of March 26th, 1898, p. 872. It is an interesting compound of silver with albumose which is soluble in water, the solution remaining undecomposed in contact with dilute sodium chloride or weak hydrochloric acid. Strong hydrochloric acid, however, converts the silver into chloride and liberates the proteid. Protargol is a powerful germicide and free from irritating properties, and thus it has been employed usefully in diseases of the eye. Latterly it has been used as a very satisfactory application in gonorrhœa. It possesses, in short, the advantages of silver salts for antiseptic purposes without the well-known drawbacks. The soloid is very convenient for the preparation of a solution of definite strength. Each soloid contains four grains of the silver proteid, so that one dissolved in an ounce of distilled water yields approximately a 1 per cent. solution.

VALTINE GLOBULES (MEDICATED).

(THE VALENTINE EXTRACT CO., LIMITED, 33, TOOLEY-STREET, LONDON, S.E.)

The Valtine globule containing nutrient meat extracts offers certain distinct advantages which we have pointed out on a previous occasion. The extract itself contains a definite and satisfactory proportion of the nourishing constituents of meat, in addition, of course, to the important and stimulating crystalline principles. We have recently received for examination Valtine meat globules with the addition of quinine, maltine, and pepsin respectively. The presence of quinine was easily confirmed, though of course there is no indication of this drug to the taste when the globule is swallowed. Similarly we found that the globule containing malt extract contained the digestive enzyme of malt unimpaired, for the contents of the globule readily digested starch. Lastly, the globule containing pepsin may be regarded as self digestive, for on keeping the contents at blood heat for a short time peptones were found to be present in the liquid in important amount. These preparations should clearly be of service and they are certainly convenient.

1. MILKINE FOOD, 2. ANTI-ASTHMATIC POWDER.

(GILBERT KIMPTON AND CO., 19, ST. DUNSTAN'S-HILL, LONDON, E.C.)

Milkine food is described as being made from cow's milk, malted barley, glutinous flour, and beef, with a small proportion of lime and common salt. It is a yellowish-white powder which is in part crystalline, and it possesses a strong malty flavour and smell. As will be seen from the following analysis, it contains a rich proportion of proteids. Our analysis gave the following results: moisture, 3·63 per cent.; mineral salts, 3·30 per cent.; proteids, 13·87 per cent.; fat, 6·50 per cent.; maltose dextrine, &c., 72·70 per cent. According to this analysis the food when prepared for use in the way enjoined would be deficient in fat. Under the microscope characteristic crystals could be seen but no meat fibre, so that, we presume, in its preparation the soluble portion of meat is alone added. The food is remarkably soluble in water, the solution presenting the appearance of milk. Considering the plan of preparation the food is undoubtedly of an easily digestible character and is therefore a valuable article of diet. Physiologically speaking, however, the food elements are not in correct ratio. It should be remembered that human milk contains a large proportion of butter-fat. Favourable reports are quoted concerning the action of the anti-asthmatic powder in the relief of dyspnœa and other asthmatic symptoms. It consists, according to our analysis, of a dried herb containing a definite proportion of nitre. The powder deflagrates gently on ignition and gives off an abundance of fumes which may be conveniently inhaled. The fumes are not disagreeably irritating.

V.V.O. SCOTCH WHISKY.

(JAMES MARTIN AND CO., LEITH.)

Submitted to analysis this whisky gave the following results: alcohol, by weight 40·30 per cent., by volume 47·67 per cent., equal to proof spirit 83·54 per cent.; extractives, 1·05 per cent.; mineral matter, *nil*; and acidity reckoned as acetic acid, 0·02 per cent. The spirit is described as containing some of the oldest Scotch whiskies procurable and as a product derived from the careful blending of some of the best whiskies distilled in Scotland. These statements are so far borne out by the mellowness of its flavour and its freedom from crude derivatives. The spirit is very soft to the palate and is quite free from any trace of "burning" taste. The results of analysis are satisfactory and coupled with the softness of flavour are quite in accordance with the statement that the whisky has been thoroughly matured. It is therefore dietetically suitable.

MONTAGUE ROSE CREAM SOAP.

(ARTHUR AND CO., 69, BERNERS-STREET, LONDON, W.)

This is a soap of excellent quality containing a maximum proportion of pure soap basis. We could trace no injurious constituents in it, but found two well-known antiseptics in small quantity which add to its value as a cleansing agent. It is delicately perfumed and contains a slight excess of fat and is accordingly free from the injurious free alkali found in coarse soaps. It is not only well adapted for the ordinary toilet purpose of a soap but is also emollient and antiseptic by reason of the particular medicaments contained in it which are well known as being beneficial to the skin.

ANTIKAMNIA CODEINE TABLETS.

(J. M. RICHARDS, 46, HOLBORN-VIADUCT, LONDON, E.C.)

We have previously shown that antikamnia is a compound of antifebrin, sodium bicarbonate, and caffeine—an admittedly useful combination in the exhibition of an antipyretic and analgesic. Codeine is now added to the combination with the object of ministering to the respiratory tract when in a condition of irritation or inflammation.

TROPON PREPARATIONS AND OATMEAL COCOA.

(ARTHUR REINER AND CO., DASHWOOD HOUSE, OLD BROAD-STREET, LONDON, E.C.)

Tropon is essentially dried albumin and therefore a powerful food. As we have previously shown, it contains very nearly the proportion of nitrogen present in pure albumin. Tropon is now contained in many articles of diet, thus adding very materially to their nutrient value. We have, for instance, examined tropon biscuits which contain nearly twice as much nitrogenous substances as is contained in the ordinary biscuit. The mineral matter, rich in phosphates, amounted to 2 per cent. and the moisture to 4·83 per cent. The biscuits have a satisfactory flavour. We have also examined tropon rusks and chocolate which are enriched in a similar way. Lastly, the same firm has sent us a sample of oatmeal cocoa, which combines both the nourishing and stimulating properties referable respectively to oatmeal and to cocoa. The admixture can be plainly ascertained under the microscope. There is little doubt that the combination is a valuable dietetic one, though obviously both ingredients may be taken separately, and,

perhaps, with advantage from the point of view of the respective flavours of each.

INVALID FOODS.

(C. SHIPPAM, CHICHESTER.)

The foods consisted of chicken broth jelly and beef-tea contained in vacuum sealed glass jars Both preparations were found to be in excellent condition when the jars were opened and careful search failed to reveal any objectionable preservative. The chicken broth jelly was practically clear, but on heating small flecks of albumin separated. The jelly possessed an excellent and delicate flavour such as would appeal to the invalid. The beef tea contained the real nutrient portion of meat as well as the extractives. Both are very acceptable invalid foods, possessing a high nutritive power.

DIGESTIVE FOOD AND BISCUITS

(DUNSTABLE'S FOOD CO., LIMITED, MILFORD WORKS, QUEEN'S-ROAD, BATTERSEA, LONDON, S.W.)

[illegible] dients are employed in both [illegible] and biscuits. As is so often the case the word "digestive" is here wrongly used. What is usually meant is digestible and in that way indigestion may be to some extent avoided by the use of such foods. In that sense we agree that this food is of value because it consists largely of one of the best-known digestible pulse foods which contains further a very high proportion of proteids. We found that the proportion of proteid in the food was nearly 20 per cent., which is a very high proportion. The moisture was 9 06 per cent. and the mineral matter 2 70 per cent. The cereal flour used also in the composition of this food possesses well-known nourishing qualities. Whilst admitting, however, these advantages in regard to these preparations we cannot view them as presenting any novel or striking feature

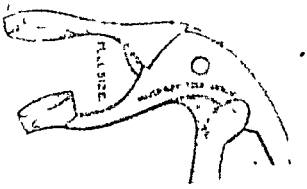
ASYLUM REPORTS.

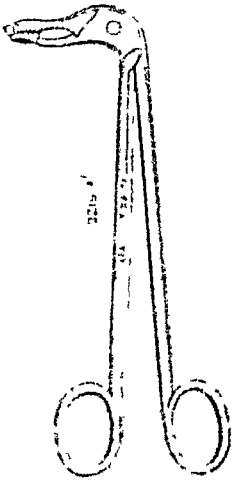
City of London Hospital for Mental Diseases, Stone, near Dartford (*Annual Report for 1899*).—The average number daily resident at the institution was 485 patients—viz., 241 males and 244 females, showing an increase of five on 1898. During the year there were 152 admissions—viz., 90 males and 62 females, of whom six males and four females were re-admissions. As regards bodily health, nine males and six females were in bad health and 21 males and 23 females were in feeble health on admission. Regarding the mental condition, nine males and one female among the admissions were suffering from general paralysis of the insane, 24 males and 10 females from the more acute forms of mania and 15 males and 10 females from acute melancholia. Dr. Ernest White, the medical superintendent, states in his report that the causation of insanity in the admissions was but little changed. Heredity, previous attacks, and intemperance in drink head the list, while mental anxiety and worry, adversity, and accidents come second. During the year the cases discharged as recovered amounted to 66—viz., 43 males and 24 females, a ratio of 13 6 per cent. on the average number resident. There were 36 deaths during the year among the patients—viz., 23 males and 13 females—and 23 post-mortem examinations were made. The total deaths amounted to 7 4 per cent. of the average number resident. Of the deaths two were due to senile decay, two to tuberculosis, five to chronic Bright's disease, six to chronic cardiac disease, and 10 to general paralysis of the insane. The ratio of deaths from tuberculosis is low and this is attributed to the healthy site of the building and to the system of ventilation and lighting of the wards. This institution receives private patients and 50 such patients, 29 males and 30 females, were admitted during the year. Of these 28—viz., 12 males and 16 females—were transfers from other asylums. At the close of the year there were altogether in residence 133 private patients (59 males and 74 females). Of this class (six males and six females) were discharged recovered during the year. The success of this institution continues unabated. The general health of the community has been good, a few mild cases of enteric fever, influenza, and measles having occurred, all of which recovered. It is hoped that "with the plastering of the walls throughout the building and the renewal of the floors these sporadic cases of enteric fever shall be got rid of." Two small fires occurred at the laundry without serious consequences. On Oct. 11th, 1899, the east wing of the new male hospital was opened for patients. The farm working for the year shows a net profit of £340. The electric fittings are completed and there is now electric light throughout. The new female hospital, the male hospital, and the general and foul laundries are nearly completed, and a chapel is being erected which will be finished by midsummer.

New Inventions.

A NEW TONSIL FORCEPS.

THE accompanying diagram illustrates a tonsil forceps or "punch" recently made for me by Messrs Mayer and Meltzer, 71, Great Portland street, W., for the removal of large flat tonsils which cannot be engaged in the ring of an ordinary guillotine. In such cases the tonsil is elongated in a vertical direction, and the great advantage possessed by this instrument is that its cutting action is from before backwards and not from above downwards, as in Beaulé's and Kretchmann's forceps. The latter action creates a difficulty which will be at once appreciated by those who are familiar with the instruments mentioned With the instrument made





[illegible] the largest [illegible] with anæsthesia, if [illegible] course of two [illegible] pain than is caused by other methods. The great saving of time by [illegible] of "[illegible]" [illegible] [illegible] HENRY [illegible], F.R.C.S. Eng., M.D. Lond., [illegible]

THE LANCET.

LONDON, SATURDAY, MAY 5, 1900.

ON Friday, April 27th, the Nottingham bench of magistrates resumed the hearing of a case in which a matter most important to the medical profession and the public arose. Shortly the circumstances stood thus. JOHN FRANK WOOLLEY applied to the bench for relief from a maintenance order upon the ground of the adultery of his wife, MARY WOOLLEY. Mrs. WOOLLEY had obtained a separation order against her husband in 1898. The solicitor for Mr. WOOLLEY said that in order to prove the wife's adultery he would call Dr. W. HUNTER who had attended the woman. At the commencement of the hearing, which took place on April 20th, Dr. HUNTER refused to state the nature of the patient's illness, saying that he was bound by an oath not to divulge anything respecting his patients. The case was therefore adjourned until April 27th. At the resumed hearing Mr. BARLOW, the solicitor for the husband, examined Dr. HUNTER, and, having drawn from him the admission that he had attended Mrs. WOOLLEY about a month previously, continued: "Was she suffering from illness?" to which Dr. HUNTER replied "Yes." Mr. BARLOW then asked, "What was it?"—a question which Dr. HUNTER, addressing the bench, still respectfully declined to answer. The husband was then called and gave evidence, after which Dr. HUNTER, recalled, in answer to Mr. BARLOW, gave his reasons for refusal as follows. They are so admirable that we quote them as supplied to us by Dr. HUNTER himself.

"My reasons for refusing to answer the questions are:—

Firstly, that it would be a breach of professional secrecy, which conscientiously I hold to be inviolable.

Secondly, that it would be an infringement of my graduation oath—which I am prepared to read if the magistrates wish it—an oath which, as a graduate of a Scottish university, I took not to divulge anything in connexion with my patients.

Thirdly, that the infringement of this oath might render me liable to pains and penalties at the hands of the General Medical Council, which Council might disqualify me from further practice.

Fourthly, that to answer this question might render me subject to an action at law by the defendant in this case.

Fifthly, that no high legal decision has ever been given as to the power of magistrates to demand or to extort answers to questions of professional secrecy in a civil court.

Sixthly, that in the case of KITSON v. PLAYFAIR Justice HAWKINS in his summing up said words to this effect: That he could quite understand a case—especially a civil case—where a doctor was quite justified in refusing to divulge questions of professional secrecy.

Seventhly, that to answer such questions would give solicitors and magistrates unlimited power to drag from medical witnesses questions of professional secrecy and confidence, and that therefore it is probable that people might suffer serious illness rather than call in medical advice so long as the possibility exists of these questions being made public in open court.

Eighthly, that—with the greatest possible respect to your worships and the magisterial bench in general—this is a point which ought to be decided by the highest legal court."

After counsel on the respective sides had spoken on the matter as affected by the Summary Jurisdiction Act of 1848, the bench retired to consider their decision and on returning intimated that they were not prepared to order Dr. HUNTER to answer the questions as they were of opinion that he had offered a just excuse for refusing. They would give facilities for an appeal to a higher court and the case would be adjourned for a fortnight.

The decision of the Nottingham bench is one which, whether or not it be strictly legal, is without doubt one of equity. The medical profession has no guaranteed position upon this matter such as is, and has been for ages, accorded to the members of the clerical and legal professions. The seal of confession is inviolable, and so great an authority as Lord COKE expressly refers to the legal secrecy of confession, although he was anxious to exclude cases of high treason from the privilege. Communications made to a solicitor are absolutely privileged—expressly in the interest of the client. But to the medical profession no such protection is accorded, although there is a tacit understanding amongst medical men that secrecy is an absolute necessity. There is, of course, a mercenary side to this view, for doubtless a medical man who had a reputation for letting out the secrets of his patients would very soon have no patients to betray; but apart from this we must consider the point so clearly set forth in the seventh reason given by Dr. HUNTER—namely, that people might choose to suffer from serious illness rather than confide their secret to a man from whom it might be obtained and through whose agency it might be made a subject of public discussion. The duty of a medical man being, if possible, to save life it may become necessary for him under certain conditions to communicate what he knows or suspects to a third party about a patient's illness. Take, for instance, the case of a wife being slowly poisoned by her husband, the poison being added to the medicine supplied by the medical man. In that case it is the medical man's best course to communicate his suspicions to another medical man and also to warn the husband that if the patient does not get better certain steps will have to be taken. Such a case occurred in the practice of the late Dr. CHARLES WEST and is reported by him.[1] But such a case stands upon a different footing to that of an illness which only affects the patient himself. Knowledge concerning such should to our mind be absolutely privileged. The point will apparently be argued before a higher court of law than a magisterial bench and the decision will be one of the most extreme importance, not only to medical men, but to the community at large. It will also be interesting to see which of Dr. HUNTER's reasons most impressed the bench. The counsel who represented Dr. HUNTER's patient laid stress upon the graduation oath. But every medical man is not a graduate of a Scottish or of any other university, and although

[1] Dr. Charles West: The Profession of Medicine. Kegan Paul Trubner, and Co., Ltd. 1898.

theoretically the Hippocratic oath is binding yet it has no legal force.

Whatever be the decision of the superior court we consider that the same law should exist in this country as is the case in the United States. There the Church, the law, and the medical profession are all equally bound to preserve their patients' confidence. The same ruling exists in France. In any case Dr. HUNTER will have gained the sympathy and the gratitude of his professional brethren for the firm stand which he has made and we may hope that the disabilities under which the profession of medicine at present labours will be before the dawn of the coming century for ever removed.

WE are all agreed in thinking that one of the greatest improvements in the treatment of the sick in the Victorian era is that which has resulted from the development of better nursing. The provision of a good nurse in severe cases, whether chronic or acute, immensely adds to the comfort and advantage of the patient. She—we are assuming that in most cases the female nurse is the better—saves the health of the friends and relatives of the patient by taking off their hands for a large portion of the 24 hours direct responsibility for the patient. She leaves them time for rest and for the duties of the household. If emergencies arise she is a source of suggestion and support. The various amenities of the sick-bed are practised with a tact, and a tenderness, and a skill that lessen the fatigue and disturbance of the patient. It is true that she has not the same human interest in the case that relatives have. This is both an advantage and a disadvantage, and the advantage prevails, always presuming that the nurse has the qualities proper to her calling. If she is not tactful, and tender, and skilful she has mistaken her career. The patient or the friends of the patient will refuse to give her that confidence which is essential to her work and they may even be justified in asking to have her replaced. But granted that she has these qualities, it is good that she is not a relative. Her emotions are not involved so as to hinder her self-possession. She can sleep well, and eat well, and take the air well, which important functions are all apt to be disturbed in the case of affectionate relatives, especially if the exigencies of the case are such as to require continuous attention night and day. All this being so, there is every prospect that nurses will be more and more in demand with the progress of civilisation and the increasing division of labour.

Now comes a difficulty—the question of cost. The modern tendency to over-train nurses makes them necessarily more costly; and we believe that we see an increase in this tendency. The result will be that great classes of the community will be practically unable to hand the advantage of good nursing. The cost is so raised by the inevitable expenses of the organisations, under whose care the nurses for the most part live while they are not in actual work, that the bill for nurses is very generally higher than the bill for medical attendance. This position is so real already that the advantages of a nurse are practically confined to the rich and to the poor. Thanks to the charitable instincts of the public it is possible in most districts now to get the help of a nurse for the poor without any cost to them, and an enormous amount of suffering is saved and much good is done by district associations for this purpose. On the other hand, the rich can have a nurse, or in a severe case two nurses, without inconvenience. But for the great middle section of the community the cost of nursing is growing such that it will be, if it is not already, practically prohibitive. Nursing will have to be regarded as a luxury beyond the reach of these classes. What would be thought of the medical profession if its help could only be had by the wealthy sections of the community—if nobody need apply to it who was not prepared to spend two or three guineas a week or at the rate of 100 to 150 guineas a year? For this, practically, is the present state of things as respects nursing, with the result that large numbers of cases have to go without its benefits. We know, of course, that the charge for nurses must in the end be regulated by vulgar rules of demand and supply, and we are prepared to be told that the value of skilled labour has so much increased that nursing cannot be done for less. Quite so; but the question is whether the public always gets the exact attention which the circumstances of the case demand. While there are many cases in which high training and large experience are needed in nurses, and where absolute attention is required of them hour by hour, there are thousands of cases in which the help of a nurse of good common qualities for a portion of the day or night, or for a daily visit or two, would be invaluable. For these cases little or no provision is made, only the costly article is supplied whether it is needed or not. We feel that nursing authorities and those who take trouble to organise the supply of nurses for the public cannot be congratulated on their success till provision is made for the care of slighter cases and till nursing can be supplied to the numerous middle and lower middle classes in such forms and quantities and on such terms as are practical.

It is not good for nurses any more than for the public that nursing should be considered a luxury of the rich or a charity for the poor. The high and religious conception of a nurse, which commands universal respect, is that she, like a soldier, is ready, when necessary, to endure hardship. It will be a misfortune if a different conception of the nurse and her wants comes to be entertained, if it comes to be thought that she is not available in humble homes, but must be regarded as one requiring to be waited on rather than as one who should relieve those already overburdened with duties. Surely the nature of woman and the fact that many women are yet without employment or function in society should suffice to correct the defect of which we are writing. Nursing should be as available for the sick of the middle classes as it is for the rich on the one hand and the poor on the other.

ON Saturday night last the Reform Club was the scene of a dinner to those two distinguished surgeons Sir WILLIAM MACCORMAC and Mr. FRANCIS TRUEMAN who have returned from South Africa after the discharge of duties the importance of which can hardly be exaggerated. The dinner was designed primarily to honour them, and with its object was carried out completely at the same time the occasion of honour to the Army Medical Service in a remarkable manner. And this was fitting, for we have

no hesitation in saying that the presence of eminent civilian surgeons in South Africa, able to appreciate the work of that service and to bear unprejudiced and enlightened testimony to its value, has been a great factor in convincing the nation that hitherto the work of this department has been unduly slighted. Lord ROSEBERY, who presided over the dinner, is certainly the most felicitous public speaker in England at the present time, and to our mind this is not because he is a humorist, a scholar, and a man of the world—though he is all three—but because he has extraordinary powers of sympathy. Lord ROSEBERY in a full-dress debate at St. Stephen's, or on the political platform, or giving away football prizes, or unveiling medallions, is always able to prove that he appreciates to the full the sentiments which have brought his audience together. With some of these sentiments he may agree, and with some he may not; but he never fails to show that he knows more than the bare facts of the matter under consideration and that he can gauge the feelings which those facts inspire. Hence his oratory is attended by unfailing success. Of Sir WILLIAM MAC CORMAC and Mr. TREVES Lord ROSEBERY said, in wishing health and prosperity to them, only what the circumstances which led to their presence as guests of honour at the Reform Club demanded; but the medical profession, which is honoured by any honour shown to its leaders, will be grateful to him that he did not stop at a eulogy of the two great surgeons but went on to include in his praise the medical organisation of the South African campaign and the Army Medical Service which has been responsible for it. "We are not merely," he said, "honouring acts of patriotism on the part of Sir WILLIAM MAC CORMAC and Mr. TREVES, but we are recognising something more which is not, perhaps, so much recognised as it ought to have been—we are paying honour to two non-combatant members of our army." Lord ROSEBERY could not, we are sure, have given greater pleasure to the two distinguished guests of the Reform Club than by thus pointing out that the occasion of honouring them was a good opportunity for publicly recognising the excellent work and personal bravery of that service which is called upon to undergo all the hardships and well-nigh all the dangers of war.

Sir WILLIAM MAC CORMAC'S speech in reply has no doubt been read in the daily press by most of our readers; while that portion of it which referred to the extraordinarily small amount of permanent damage that is done to the soldier wounded by the Mauser and Lee-Metford bullets is particularly familiar to those who have followed the story of the medical aspects of the war in THE LANCET. For in our columns Sir WILLIAM MAC CORMAC has detailed case after case where perfect recovery, sometimes without symptoms, has ensued upon injuries which are described at the present time in many of the recognised text-books as always terrible in their results and possibly fatal in their issue. There is another side to Sir WILLIAM MAC CORMAC'S speech to which we should like to draw attention. Like the consenting lady in the poem, while avowing that he would not talk politics Sir WILLIAM MAC CORMAC talked politics to some purpose, and we hope that his forecast of the ultimate benefit to our empire by the South African war will be justified. He held that the war was one of the best things that could have happened to England, because it had brought out the manhood of the national character and displayed our brave bearing in evil circumstances to other nations. In particular he said the events of the past six months would unite the colonies to the mother country, while they substituted in South Africa for a narrow and corrupt oligarchy the just and honest government which is synonymous with British rule. This is a fine picture, and when outlined for us, not by a professional politician or by a theoretical historian, but by a man of Sir WILLIAM MAC CORMAC'S position and opportunities of obtaining actual knowledge, we are bound to regard it as drawn from nature and not as a fancy sketch. Sir WILLIAM MAC CORMAC believes that the forces of law and order and the spirit of fairness which will be brought to bear upon the Transvaal and the Orange Free State as soon as their submission is obtained will speedily turn our foes into our friends. We trust that this will be so, and hope that no efforts will be spared on our side to bring about so desirable a result.

Two great points were made by Mr. TREVES in his outspoken acknowledgment of the compliment paid to him by the Reform Club. In the first place he gave the British soldier a fine testimonial for courage and endurance. It is true that no such evidence was required, inasmuch as for the last six months every newspaper published in our language has borne similar witness; but to our mind the surgeon's certificate is of particular significance and well merits to be put upon record. The courage of enduring before a fight, the courage of putting up with everything so that the foe may be reached, the courage employed in the actual assault,—all these are magnificent. But Mr. TREVES told the story of the courage displayed by the soldier when all incitements to be brave were gone, when all the glorious concomitants of war were absent, and when physical pain would have condoned in him the completest surrender to despair. Mr. TREVES found the wounded soldier animated chiefly by the desire to save his medical attendants from trouble and the resolution to reject all ministrations for himself until he was certain that there were no others whose plight demanded assistance more pressingly than his own. High as the public opinion of the private soldier has been throughout the war we venture to think that Mr. TREVES'S portrait of him, wounded but undaunted, suffering but unselfish, must tend to raise it higher. The second point which Mr. TREVES made was scored against the sensation-seeking women who have gone to South Africa masquerading as nurses. Dean SWIFT could hardly have said anything more apt, more contemptuous, and more wounding about these women than Mr. TREVES has done in bracketing them as nuisances with a plague of flies. We may be certain that after so pithy a summary of their irritating attentions the amateur nurses will spare the Army Medical Service and the sick soldiers in South Africa a further emigration from our shores. Indeed, we expect to learn that the next steamers that arrive from South Africa have brought back, with their diamonds and their trunks full of summer frocks, those who had previously selected our war hospitals as a theatre of self-advertisement.

Annotations.

"Ne quid nimis."

THE RETURN OF SIR WILLIAM MAC CORMAC AND MR. TREVES.

WE wish to add our hearty welcome and congratulations to the number of those which Sir William Mac Cormac and Mr. Treves have received on their arrival in this country from South Africa on the termination of their mission to the theatre of war. To ourselves and the readers of THE LANCET, however, the gratification, as far as Sir William Mac Cormac is concerned, is for selfish reasons not altogether unmixed with regret, seeing that we shall miss the appearance of the admirable series of articles, written while the observations and facts were still fresh in his mind, with which he has supplied the profession, together with his realistic pictures descriptive of the surgical and medical aspects of modern warfare. We may say that, in our opinion, the War Office exercised a very wise discretion in selecting Sir William Mac Cormac (and subsequently other hospital surgeons of distinction) for the work which he was called upon to perform; for, in addition to the high position which he occupies as President of the Royal College of Surgeons of England, Sir William Mac Cormac had already had a varied and very notable experience of the realities of war, conducted on a vast scale and on an historic occasion involving the end of a dynasty, and the remodelling of the map of Europe, as well as upon campaigns of lesser note. In addition to his experience in military surgery he had always taken a keen interest in the subject and had done his best so to systematise his investigations and observations as to raise the nature and treatment of gunshot wounds to the level of an exact branch of scientific inquiry. But there is no finality in such matters, especially where the rapid progress of modern discoveries and appliances in the art of war and in the surgical treatment of wounds has practically revolutionised our ideas. It must, therefore, have been with the keenest interest that Sir William Mac Cormac was able to contrast and compare the results of his past experience, when other weapons were used and when infection wound diseases were the despair of military surgeons, with the very different results which he saw on South African battle-fields and in South African war hospitals. Moreover, he had in the past rendered to the Royal Army Medical Corps most valuable aid in vindicating its claims and was therefore a *persona grata* to medical officers who had confidence in his knowledge and judgment as to the requirements of war and the practicability and possibility of their fulfilment or not under all its exigencies. To them he was a special judge and jury of their work. We have already given our reasons for approving the appointment of eminent hospital surgeons as consultants in the war-field and there is no need, therefore, to dwell upon those reasons now, but we may say that such consultants may be a very present help under circumstances of extreme difficulty, a source of confidence and satisfaction to the relatives and friends of the wounded, and a defence of the medical service against unfounded allegations. Mr. Treves has contributed to our contemporary the *British Medical Journal* a very civil and striking account of his experiences during the war. We are sorry to note that his remarks at the Reform Club Dinner have in some quarters been misconstrued. No intelligent person could have credited him with casting any reflection upon those devoted women—whether professional or amateur—who have perfect of such excellent and admirable work in alleviating the sufferings of our soldiers in South Africa. Probably there is no man in the world who has greater cause to estimate services such as these more highly than Mr. Treves, fresh from the war hospitals of South Africa. We understood him to refer exclusively to the butterfly type of women, who are out of place and, far from being a help, are a great hindrance on such occasions. The presence of such as these, no doubt, called forth the remonstrance which Sir Alfred Milner had previously made. At the theatre of war the drama that is enacted is too realistic and terrible to admit of emotional idlers taking any serviceable part in it.

EGYPTIAN VITAL STATISTICS.

DR. ENGEL BEY'S statistical publications represent a vast amount of labour under circumstances of unusual difficulty, but although belated and somewhat discursive they are always interesting. The third part of his *résumé* of the quinquennial period 1886-90, which has only just been issued, deals chiefly with the mortality in the towns of Lower Egypt up to the age of five years. In Europe the deaths among children between the ages of one year and five years generally amount to a little less than 50 out of every 1000 living, whereas in Cairo (where alone the necessary data were forthcoming) they exceeded 86 per 1000. In the towns of Lower Egypt infants of less than 12 months survive in a higher proportion than do their European cousins, while between the ages of one year and three years the deaths are relatively more numerous. This, as Dr. Engel points out, is no doubt the result of improper feeding after weaning or partial weaning. The following table (compressed from one given by Dr. Engel) shows the percentage of deaths at the several intermediary ages in each 100 deaths under five years of age.

Age.	Five cities in Europe (average).	Cairo.		Alexandria.	
		Natives.	Foreigners	Natives.	Foreigners.
0–1	68·4	51·0	59·1	57·3	21·2
1–2	15·5	27·3	24·5	20·2	27·0
2–3	7·4	10·0	7·3	11·2	11·5
3–4	4·6	5·7	6·3	4·2	7·4
4–5	3·1	2·0	2·5	2·1	3·1

The correspondence between the figures that refer respectively to natives and foreigners (chiefly Europeans) is noteworthy, showing that the death-dealing agencies are not due to racial idiosyncrasies, but to causes affecting all nationalities alike. It might perhaps have been anticipated that the offspring of European parents being more intelligently cared for would survive in relatively greater numbers during their second and third years of age, but apparently faulty feeding is equally to be blamed in this case too. One of the most fruitful sources of mortality among European children is diphtheria. In Alexandria it headed the list of fatal diseases and in Cairo also it committed serious ravages. Among the natives diphtheria is certainly far less prevalent, but unfortunately the art of diagnosis is still undeveloped in Egypt and dependence cannot therefore be placed upon the meaning of the disease in permits for burial. According to the mortuary returns the most [illegible] causes of death are gastro-enteritis and affections of the nervous and respiratory system, but Dr. Engel has shown that in a large proportion of the cases the [illegible] measles. Measles and the [illegible] are [illegible] responsible during the quinquennium for at least [illegible] deaths, or one third of the whole, in the towns of Lower Egypt among infants between one year and three years of age; more than half of the cases occurring in the second quarter of the year and rather less than one-third in the third quarter. In 1893 [illegible] rise to [illegible] in Cairo and Alexandria, but in

the course of the four succeeding years the numbers decreased as follows: 1887, 553; 1888, 372; 1889, 210; 1890, 159. The reason assigned for this desirable declension is encouraging, the steadily lessening mortality being thought to depend upon a better understanding of private hygiene, together with a more intelligent treatment of the affection. Scarlet fever, although supposed to be introduced every year into the country, is very rare in Egypt; during the quinquennium only 16 fatal cases were reported. This immunity, which is shared by Algeria, is not in any way due, Dr. Engel believes, to climate. With Körösi of Budapest he concludes that there is a natural antagonism between scarlet fever and measles; that the two diseases cannot prevail in one place at the same time. In conclusion Dr. Engel formulates the following practical deduction from his investigations into the incidence of epidemic diseases in Egypt: (*a*) in ordinary times the deaths under one year of age exceed those between one year and five years of age; (*b*) infectious diseases as a rule affect children between one year and five years of age; (*c*) therefore, when the death-rate among children in the second category suddenly increases, rising above that of the "yearlings," an epidemic disease of one kind or another is certain to have broken out in the locality implicated; and (*d*) as a general rule that epidemic disease will be found to be measles.

ADAMS v. THE BRITISH MEDICAL JOURNAL.

ON April 30th Mr. Justice Lawrence and a special jury heard the case of Adams *versus* the *British Medical Journal*. The plaintiff, who is Mr. Charles Adams, is the editor of the *Verulam Review* and he sought to recover damages for libel. On Oct. 17th, 1898, Mr. Adams wrote to sundry experimenters who had licences under the Vivisection Act saying that the Home Secretary had informed him that "having in the course of your work last year applied for and obtained a certificate authorising experiments on dogs, &c., without anæsthetics on the express grounds that the experiments in question could only be so performed, you then, notwithstanding the certificate, performed them under anæsthetics, thereby plainly showing the incorrectness of the ground on which your application was based. Please observe that the statement is Sir Matthew White Ridley's, not mine. And as it certainly appears to cast a serious slur either upon your good faith or your professional competency I think it only right before making use of it to ask whether you admit its accuracy. If you do so pray do not take the trouble to write. Silence will be taken as assent." This letter was signed, "The Editor, *Verulam Review*." Mr. Justice Lawrence said of this effusion, when it came before him in the course of the trial, that "a more impertinent letter was never written by one man to another," a view which we endorse. The *British Medical Journal* in commenting on the letter alleged that it was misleading to drag in the name of the Home Secretary, for the facts were set forth in a printed paper which anyone could obtain. Further, the *British Medical Journal* stigmatized the editor of the *Verulam Review* as being "either ignorant of the terms of the licence or too careless to ascertain them," and finally printed a letter from the Home Office to one of the experimenters denying that the Home Secretary had ever made the observations attributed to him by the editor of the *Verulam Review*. That gentleman demanded an apology and withdrawal from the *British Medical Journal* which was refused and hence the action, which was begun more than a year ago and has been three times adjourned. Evidence was given by Professor Sims Woodhead, Dr. G. V. Poore, and other medical men to show that the only experiments performed without anæsthetics were hypodermic and other inoculations. The jury returned a verdict for the defendants. If we allow to Mr. Adams the honesty, however mistaken, of a fanatic, yet his methods of argument are, to say the least of it, peculiar. He charges medical men with getting certificates to perform experiments without anæsthetics and then abuses them, as showing either a want of good faith or incompetence, because they performed (or, rather, he said that they performed) experiments upon anæsthetised animals. He might just as well write to a country gentleman and say, "Sir, the Inland Revenue authorities inform me that you took out a game licence. Your keeper, however, tells me that you shot nothing but rabbits. This is either a slur upon your good faith or shows that you do not know the meaning of the word game." We congratulate our contemporary upon the only possible result of an action which has been pending for so long a time.

THE MEDICO-PSYCHOLOGICAL ASSOCIATION.

THE next general meeting of the Medico-Psychological Association of Great Britain and Ireland has been fixed for Thursday, May 10th, and will be held under the presidency of Dr. J. B. Spence, at 11, Chandos-street, Cavendish-square, W., at 4 P.M. Much interest attaches to Dr. H. Maudsley's paper on "The New Psychology," which will take the form of critical remarks on the methods and aims of the new psychology, especially in reference to children and psycho-physical research, for not only is the subject an important one, but it is intimated that several psychologists and others interested in metaphysics will take part in the discussion. Dr. A. W. Campbell has promised to give a microscopic demonstration illustrating the arrangement of nerve fibres and nerve cells in the cerebral cortex of a series of idiots' brains; and Dr. W. J. Koenig will contribute a paper in English on "Pupillary Anomalies in Paralysed and Non-paralysed Idiot Children and their Relation to Hereditary Syphilis." On the evening of the day previous to the general meeting the Educational Committee will meet at 36, Queen Anne-street, while in the forenoon and early afternoon of May 10th other committee meetings will be held at Chandos-street. In the evening members will dine together at the Café Royal, Regent-street, at 7 P.M. Tickets for the dinner can be obtained (price 7*s.* 6*d.*, exclusive of wine) from the honorary general secretary.

CHARITY ORGANISATION AND PAUPERISM.

NOWHERE more than in the huge populations of London parishes should guardians of the poor be grateful for any help and coöperation to the experienced and systematic workers of the Charity Organisation Society. Such authorities are apt to be conceited from the very scale of their own experience. But it is that very scale which makes scientific investigation difficult, if not impossible. We are glad to see that the guardians of Islington, with its teeming population, are accepting the help of the Charity Organisation Society in the application of tests to prove the *bona fides* of applicants for relief. According to the *Islington Gazette* the result is very satisfactory to both parties. In the last twelve months in one district the society has dealt with 68 cases referred to them by the guardians. Of this number 21 families have been assisted, we presume by the society. Of the 47 cases not assisted 32 were proved to be of bad character and destitute principally through drink. Nine were cases of chronic illness and distress, three objected to inquiry and withdrew, and one, a girl, for whom a home was found, objected to go to it and disappeared. Three other cases were found to be able to help themselves. Disease is an unfailing element in poverty, but it is not so operative as the element of drunkenness which it is the wish of all true reformers to remove. The joint effort of legal and voluntary authorities in Islington to discriminate cases

of poverty is worthy of all imitation and is one of many signs of a real advance in the methods of society for its own elevation. It is beneficial all round; the rates of the parish are saved by it, and the deserving poor are helped in a way which is agreeable to their feelings of self respect.

"QUACKS AND ABORTION."

OWING to the success of recent prosecutions and the publicity given to them the number of advertisements of quack medicines professing to procure abortion in pregnant women has considerably fallen off. That the sale of these concoctions was not likely to cease altogether was obvious, and we note that two persons, a man and a woman, have recently been committed for trial at St. Austell in Cornwall on a charge connected with the supplying of drugs for illicit purposes to a second woman. The man, a painter by trade, was originally charged with being drunk and disorderly, when letters found on him called the attention of the police to the more serious offence upon which he will in due course be indicted at the assizes together with a woman who seems to have acted at times as an intermediary in handing certain drugs and powders produced before the magistrate to their ultimate recipient. With the case pending against these persons we have nothing to do, but we may express a hope that the Cornish police will leave no stone unturned in the effort to bring home their responsibility to those who actually compounded and supplied the articles with which the alleged crime was to be committed. A painter by trade is not likely to have manufactured them himself and the person charged with him does not seem to have done so either. As far as the persons who buy and take these compounds are concerned no doubt the reading of newspapers and the knowledge of physical danger or of danger from infringing the law have deterred them during the past few months to some extent, and public feeling may also have been aroused against this form of crime.

THE MINUTE STRUCTURE OF THE MEDULLARY SHEATH OF NERVE-FIBRES.

IT is to be expected that with the application of new methods of staining and mounting specimens for microscopic examination new structural characters will be observed in the various tissues, or at least that more accurate conceptions will be obtained of features that have been imperfectly noticed by previous workers. An article written by Mr. William H. Wynn in the April number of the *Journal of Anatomy and Physiology* for the present year describing the minute structure of the medullary sheath of nerve fibre is a case in point. Kölliker writing in 1852 with the means of examination then at his disposal, could only describe the medullary sheath as a "[illegible] white layer," and subsequent microscopists gained no further insight into its structure till Ranvier, in 1871, described the nodes which bear his name and which were brought into view by picrocarmine and silver nitrate. The attention of histologists having been thus specially directed to the structure of the nerve fibres a great number of researches were made by well known observers with the result that the sheath was [illegible] all to be composed of a supporting framework or stroma in the meshes of which a fatty substance or myelin was contained. The disposition of the fibres or trabeculae forming the stroma has been the subject of much difference of opinion, and reticulated [illegible] of various forms have been frequently [illegible]. The researches of Mr. Wynn have been chiefly made on [illegible] of the [illegible] nerve [illegible] [illegible] [illegible] solution of [illegible] [illegible] of the Weigert-Pal process. The appearances then seen under a low power are that the axis cylinder is more or less deeply stained in its whole length, but the medullary sheath presents alternate stained and unstained portions. The stained parts are funnel or cone shaped with thin apices pointing in the same direction in any short length of the nerve. The cones appear to be solid and structureless, their wider end is as wide as the diameter of the sheath itself, whilst their smaller end embraces closely the axis cylinder. Examination with higher powers shows that the cones are not complete but are composed of several separate pieces which unite at the [illegible] in contact with the axis cylinder and become free at the wider part of the cone. These cones are placed at regular intervals of about their own length and [illegible] to [illegible] the whole of [illegible]. If a transverse section of a fibre is made the strongly stained axis cylinder is seen in the centre surrounded by a ring of medullary substance which is broken up by radially [illegible] into four, [illegible] or even eight segments. This [illegible] ring occupies different positions in different specimens. It may be immediately beneath the primitive sheath, the space between it and the axis cylinder being unstained, or it may immediately surround the axis cylinder, leaving an unstained portion outside it and between it and the primitive sheath, or, lastly, it may occupy an intermediate position. The stained portions, including the axis cylinder and the cones, with their segments, are highly protoplasmic and are not composed of neurokeratin, which would not stain when treated by this method. The protoplasmic framework of the medullary sheath, it is thus seen, consists, first, of two thin layers, one beneath the primitive sheath, the other round the axis cylinder, both sheaths appearing to be continuous at the nodes, and, secondly, of a chain of cones connected with both layers of [illegible], the base of each cone being in the peripheral layer and the apex in the central layer, and being composed of usually six segments. The neurokeratin network usually described in books Mr. Wynn believes to be artificially produced from the protoplasmic layer beneath the primitive sheath. The incisures of Schmidt or Lantermann also may be, he thinks, ruptures in the medullary substance between the cones. Some good microphotographic plates illustrate the statements made in the text.

THE PLAGUE IN AUSTRALIA.

THE plague statistics in Sydney for the week ending March 24th were as follows: admitted 10, [illegible] 3, remaining under treatment [illegible] the beginning of the week, [illegible] remaining under treatment at the end of the week, [illegible]. Up to March 24th the total cases were [illegible], [illegible] 12 deaths. The total [illegible] were 105 [illegible] there were five [illegible] [illegible] two [illegible] During the week two or three cases were reported in which the influence of [illegible] which the [illegible] of [illegible] or at [illegible] contact with [illegible] necessarily [illegible] [illegible]

[illegible]

had apparently originated, and for "contacts." But management of epidemics in countries governed by ballot-box is far from being a simple matter, and although the plan mentioned had been followed with some success very large numbers of persons who had in reality no occasion for this special protection received it by order of various Ministers. The Government also felt the expediency of doing something to appease the growing alarm, and after leaving everything to the department until its proper functions were almost suspended in favour of matters which should have been transacted, and which could have been much better transacted, by laymen, took the important step of declaring a small part of the city an infected area and of placing a still smaller portion within it under the maritime quarantine law. The implied definitions were justified by existent facts; but, unfortunately, the representations of the department, which showed the impossibility of applying maritime quarantine law to such an area, as well as its opinion that all that was likely to be of service could be done quite well under the Public Health Act, were disregarded. Secondly, the Public Health Act having been persistently neglected by the city council, within whose district the areas lie, in favour of its lenient, inefficient, and slow-moving Act of Incorporation, the department had arranged its plans so that it should for the nonce supersede the council, and, by way of sparing its susceptibilities, had caused the mayor to be appointed a member of the Board of Health—the superseding authority. The department was then ready to act in a summary and decisive manner, but at the last moment all was returned to the hands of the council—which, as usual, was not merely unprepared, but showed itself to be devoid of knowledge which any respectable inspector of nuisances would regard as elementary. Under these circumstances there was naturally a hopeless division of authority, but it was satisfactory to find that the reporting, identification, removal, and isolation of new cases, and the subsequent disinfection of premises, proceeded with regularity and promptitude.

WHAT IS A CUSTARD?

THERE is a tendency nowadays to reduce everything to a consolidated state and it has been predicted that some day it will be possible to carry a 24-hours' ration in the waistcoat pocket. But there is a vast difference between the chemistry of food and its actual value within the body, and we are not sanguine that life will ever be sustained satisfactorily by highly concentrated nourishment. In natural food there exists a factor which determines very largely whether that food is really able to support the vital processes, while it is known that in many prepared foods for some reason or other there is absent a vigour-giving quantity. The fact of sterilised milk sometimes giving rise to scurvy rickets in infants which may be avoided by the addition of fresh fruit or meat juice is an example. Next to the craze for consolidating foods is that of devising substitutes which are vaunted as equal to, if not better than, the original article. In this case distinct harm may be done. For instance, the public meet everywhere with announcements that they may dispense with eggs in the preparation of a custard. Custards without eggs would appear to be an article of extreme convenience to the cook, but it may lead to a very serious result to the invalid. The custard without eggs is usually a powder consisting of little else than starch coloured with turmeric (in one case we found a fluorescent aniline dye) to give it the colour of the yelk of egg. A custard prepared with custard powder is thick with starch, whereas a true custard is thick with the albumin of egg. It is true that it is usually suggested that the powder should be boiled with milk. Now such a powder is by no means a substitute for the true custard which is composed of eggs and milk. We have examined several powders and the albumin found in them ranged from 3 per cent. to *nil*, while in all there was absolutely no fat. The white of dried eggs contains about 80 per cent. albumin and 14 per cent. fat and the yelk about 30 per cent. albumin and 60 per cent. fat. Though it is of little importance when such a substitute is consumed by persons in health, yet in the case of an invalid the custard powder can in no sense be regarded as suitable. Indeed, the custard powder would not only be a starvation diet to the invalid but positively a source of injury in some cases. A custard containing little else than starch would be injurious to patients suffering from diabetes, but in this disease eggs and milk as in a true custard are a permissible and valuable diet. The true custard is a very nourishing and, as a rule, a very acceptable preparation to invalids and it should be pointed out that a custard powder without eggs cannot possibly replace the fresh egg. It is possible—nay, even probable—that amongst the poor the custard powder is regarded as a really efficient substitute for the true custard containing eggs and milk, but it is wrong to convey such an erroneous impression. The custard powder without eggs contains a very small proportion of albumin which is alone able to support the vital processes. In other words, a custard powder would be the slenderest straw for an invalid to rely on and some declaration should be made that custard powders without eggs are not suitable for invalid purposes. A true custard is very commonly an important portion of an invalid's diet, and it is very desirable that no false impression should be made as to the real nutrient value of substitutes for custard. The subject seems to be so important as to demand a legal definition of the custard, in which case the Food and Drugs Act might provide a remedy against any possible chance of deception in this regard.

SEPTIC THROMBOSIS OF THE CAVERNOUS SINUS.

IN the *Intercolonial Medical Journal* of Australasia for February Dr. J. Jamieson has published a case of this rare condition which presented the unusual feature of being apparently due to carious teeth. A woman, aged 22 years, had two teeth extracted for toothache and at the root of one of these, on the right side, an abscess was found. In the evening she had a rigor and on the next day she was feverish. After four days she had to take to bed. Seven more teeth were subsequently extracted. About 10 days after the first extraction she was admitted to hospital complaining of severe pain in the right temple and eye. The right side of the face was much swollen. The right upper eyelid was slightly discoloured but not œdematous. The temperature was 106·2° F. and the spleen could be felt. On the following day she had a slight rigor. The eyelid was more discoloured and was swollen. Next day the temperature was 105·8°. The eyelid was much swollen, reddened, and œdematous. The eyeball was bulging and there was chemosis. The fundus was normal. On account of increased proptosis and chemosis the conjunctiva was incised and a probe was passed to the back of the orbit, but only serous exudation escaped. The patient was delirious and had severe diarrhœa. Gradually the eyeball became fixed and the pupillary action lost, but some vision was still retained. On the eighth day after admission chemosis and œdema of the upper lid were observed on the left side. On the following day proptosis on the left side was observed, the temperature rose to 109°, and death occurred. At the necropsy the right cavernous sinus was found full of clots, partly firm and adherent, partly broken down and fœtid. This condition extended through the circular and transverse sinuses to the opposite side, where the anterior portion of the cavernous sinus was slightly

affected. An emissary vein passing through the foramen ovale was plugged. Pus which had apparently followed the maxillary branch of the fifth nerve welled up through this foramen. The vein passing through the foramen Vesalii was plugged with fœtid clot from the cavernous sinus to the pterygoid plexus. Dr. Jamieson thought that septic infection passed from the jaw by the dental and maxillary veins to the pterygoid plexus and thence to the right cavernous sinus.

MILK STANDARDS.

DAY by day evidence accumulates in favour of a higher rather than a lower standard for genuine milk being adopted for the purposes of public control. Thousands and thousands of analyses made of mixed milk have shown that the composition of genuine milk seldom falls below the standard adopted by the Society of Public Analysts. Indeed, there is little doubt that even this standard allows of the watering of some milks. Further evidence in favour of a higher standard has recently been brought forward by Mr. G. D. Macdougald, F.I.C., Public Analyst for Dundee and county analyst for Perthshire and other Scottish counties. The average composition of the entire series of 12,069 milks was as follows: fat, 3 82 per cent.; non-fats, 8 63 per cent.; and total solids, 12 50 per cent. Of course, the quality of milk is subject to variation according to the season. It should be pointed out that this important subject is being discussed by a Departmental Committee and it can hardly be supposed that their labours will be protracted since there is a vast accumulation of facts at their disposal connected with the whole question. We should like to add that hospital authorities would do well when agreeing upon a contract for milk-supply to demand an article showing a good standard quality. In no case, it seems to us, is milk adapted for invalid purposes (in which frequently it is the only food that can be given) which contains less fat than 3 5 per cent. and non-fatty solids less than 8 5 per cent.

THE INTERNAL SECRETION OF THE KIDNEY.

AN article on this subject founded on experiment by MM. Chatin and Guinard of the University of Lyons appears in the *Archives de Médecine Expérimentale* for March, and is on the whole unfavourable to the employment of renal juice as a therapeutic agent. The investigations made by Dr. Brown-Séquard in 1869 on the juice of the testes led him to suggest both on clinical and experimental grounds that the kidneys might possess special attributes and that uræmia might have more complex causes than mere auto-intoxication due to the non-elimination of excretory products. Later authors have adduced similar arguments to those advanced by Dr. Brown-Séquard, and have used others drawn from therapeutics. The clinical argument is that absolute anuria may exist for several days without uræmic phenomena appearing, although auto-intoxication ought to occur within three days, and observations to this effect have been made by Merchlen, Féréol, and Fowler. Féréol's case is typical; his patient had complete suppression of urine for eight days from calculi, and yet recovered without having had any symptoms of uræmia or any accessory symptoms such as vomiting or sweating. The only symptoms noted were that the pulse and the temperature in the rectum were both slightly lowered. In Fowler's cases, amongst 93 patients who suffered from anuria only 19 presented symptoms of uræmia. From these facts Dr Brown-Séquard drew the conclusion that the kidneys form an internal secretion, the suppression of which produces these serious toxic symptoms which play so large a part in uræmia. Uræmia he believed to be not the result of the suppression of the renal excretion alone, but of the suppression of both the secretions of the organ, the internal as well as the external. The arguments, founded on physiological experiments, were also based on the experiments of Dr. Brown-Séquard and also on those of Meyer. The results of the experiments of both of these observers were that animals previously nephrectomised lived longer when kidney juice was injected into them than when they were not so injected. An improvement in the method of experimentation was made by Vitzou, who, instead of injecting kidney juice, used the defibrinated blood of a healthy animal. Vitzou found that nephrectomised rabbits which were not subjected to treatment lived from 16 to 32 or rarely 34 hours after the operation, whilst those that were treated lived 66 hours. Dogs that had both kidneys removed died in from 24 to 40 hours, but when injected with renal venous blood they lived for four days and 13 hours as a maximum period. MM. Chatin and Guinard quote the conclusions of several other observers to which their own are opposed. They then give the details of their own experiments. The kidneys were removed with every antiseptic precaution in three dogs and the serum from the blood of the renal vein of a goat was immediately injected into two of the dogs and repeated after eight hours and again on several occasions. The non-injected dog lived 63 hours, the other two lived 41 and 53 hours. Four other experiments were made with uniform and concordant results. In all cases the dogs into which the serum of the renal venous blood was injected died sooner than those in which no treatment was adopted. These observers consider, therefore, that the question of the existence of an internal secretion of the urine cannot as yet be satisfactorily answered and that no hasty generalisation should be made.

THE CHEMISTRY OF THE NEW HALFPENNY POSTAGE-STAMP.

THE nasty habit of licking postage-stamps with the tongue is, we fear, fairly universal in spite of the repeated warnings which have appeared in our columns from time to time as to the real dangers of the practice. Cases have been reported in which blood-poisoning was set up from this cause, a result which may be referred, of course, to the bacteriology of the postage stamp rather than to its chemistry. Quite recently the postal authorities have made an alteration in the colouring of the halfpenny postage stamp in order to conform with the colour of the stamp of the same value in other countries. The halfpenny postage-stamp is now coloured green instead of red. Green colouring matter is generally associated with arsenical compounds, but now that a fresh green or chlorophyll and chromes have been introduced arsenical colouring are quite unnecessary. However, we have recently made a chemical examination of the new halfpenny postage-stamp and the results are of interest. The colouring constituent was found to be a mixture of Prussian blue and a chrome colour. There was no lead present or arsenic or any other mineral impurity. In short, we could not nothing in the colouring to which objection could be taken considering how common the practice of licking stamps is. The stamp gives up part of its coloured colouring when it is carefully boiled on a piece of gelatine foil. The ash that remains shows perfectly the original design and lettering, but the colour is altered to a pale yellow-brown consisting of a mixture of iron and chromium. The borders yields a white ash as if to relief. When carefully obtained the ash is a perfect counterpart of the original design, being distinguished by a [illegible] of the original [illegible] stamp. We also examined the gum and found it to consist of the so-called French gum which is [illegible] for a [illegible]. From the point of view of the chemistry of the new stamp there is no reason to suppose that it contains [illegible] stamps and that [illegible] harmless, and the

bacteriology of the stamp has to be reckoned with and that postage-stamps are liable to be infected with pathogenic organisms admits of little doubt.

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TUBERCULOSIS IN SHEEP.

IN the *Journal of Comparative Pathology and Therapeutics* for this quarter Professor McFadyean has recorded the first authenticated case of tuberculosis which has been seen in this country in the sheep. The specimen consisted of part of the side of a sheep seized in a London slaughter-house. On the inside of the chest-wall and upper surface of the sternum there were clusters of nodules very like the "grapes" so frequently found in tuberculosis of cattle. These contained caseating and partially calcified contents. No bacilli could be detected on microscopical examination, but their presence was effectually demonstrated by experimental inoculation under the skin of each of two rabbits. These animals died about five months later, the carcases upon post-mortem examination showing the lymphatics nearest to the seat of inoculation to be enlarged and caseating and numerous tubercles to be present in the lungs and kidneys. Tubercle bacilli were found in the lesions in the rabbits. A third rabbit was inoculated by material obtained from one of the others and it died three months later from tuberculosis; whilst a fourth rabbit inoculated from one of the lung tubercles found in the third died three and a half

months after the commencement of the experiment, and from the lungs of this animal a pure culture of tubercle bacilli was obtained. Professor McFadyean draws attention to the fact that, although this is the first case which has been recorded as occurring in England, tuberculosis of the sheep is met with to a certain extent in the German slaughter-houses. According to Friedberger and Frohner (Captain Hayes's translation) only five cases were found amongst 340,000 sheep killed in the Berlin abattoir during one year (1888–89), and out of 130,000 sheep killed in 1894 in Saxony there was a tuberculous percentage of 0·15. It is generally thought that the open-air life led by sheep is the main factor in causing their freedom from the disease and Professor McFadyean ascribes the more frequent occurrence amongst German sheep to the fact of their being housed in some districts during the winter months—not so much that the open-air treatment in itself has such an invigorating influence as that it places obstacles in the way of infection from animal to animal.

HONOUR WHERE HONOUR IS DUE.

THE dinner given by the Reform Club to Sir William Mac Cormac and Mr. F. Treves has been made naturally the subject of considerable comment in the press. It has been brought to our notice that several of our contemporaries have fallen into the error of attributing to the civilian advisers of the War Office the responsibility for the organisation of the Army Medical Service in South Africa. To the Medical Department of the Army, from the Director-General down to the latest surgeon to obtain his commission, is due the credit for the organisation of which Sir William Mac Cormac and Mr. Treves have been able to speak so highly, and, in our opinion, not the least valuable piece of this organisation was the enlisting for consultative purposes of the aid of eminent civilian surgeons.

THE HUXLEY MEMORIAL.

ON April 28th a large number of those representing science, literature, and art, not only in our own land but in foreign countries, assembled in the Natural History Museum, South Kensington, to honour the memory of Thomas Henry Huxley. The occasion was the unveiling of a statue by Mr. Onslow Ford, R.A., and the ceremony was performed by the Prince of Wales. Professor Ray Lankester briefly explained the inception of the idea, Sir Joseph Hooker formally handed over the statue to the trustees of the British Museum, and Sir Michael Foster followed, closing his speech with a few words of congratulation to the Prince of Wales on His Royal Highness's late happy escape. After the Duke of Devonshire had said a few words in his capacity as chairman of the memorial committee the Prince of Wales unveiled the statue and briefly referred to the time, 15 years ago, when he unveiled a similar statue of Charles Darwin. He would not, he said, in the presence of so many eminent men of science do more than endorse the words which had fallen from former speakers. The statue is of white marble upon a pedestal of yellow marble. Huxley is represented in academical robes and standing. The likeness did not seem to us to be quite successfully caught, but the kindliness and strength of the man are very obvious and they were two most marked qualities in him.

THE dinner in aid of the funds of the Medical Graduates' College and Polyclinic will take place on Thursday, May 31st, at 7.30 P.M., at the Trocadéro Restaurant, Piccadilly-circus, the Right Hon. Lord Strathcona and Mount Royal in the chair. Preparatory to the dinner a conversazione will be held in the College on Thursday, May 23rd, from 6 to 7 P.M., to inspect the new premises.

THE members of the Glasgow University Club, London, will dine at the Trocadéro Restaurant on May 19th, at 7.30 P.M., the Earl of Rosebery (Lord Rector of the University) in the chair. Members who intend to be present should give notice to Dr. Norman M. MacLehose, 13, Queen Anne-street, W., or to Mr. James H. Dodds, Dover House, Whitehall, S.W.

THE annual dinner of old students of King's College, London, will be held at the Holborn Restaurant on Monday, June 18th, with the Hon. Sir John Alexander Cockburn, K.C.M.G., F.S.A., K.C., M.D., Agent-General for, and formerly Premier of, South Australia, in the chair. H.R.H. the Duke of Cambridge has signified his intention of being present.

THE annual meeting of the Association of Asylum Workers will be held at 11, Chandos-street, Cavendish-square, W., on Monday, May 14th, at 4 P.M., when Sir James Crichton Browne, M.D., LL.D., F.R.S. (President of the Association), will preside. All interested in asylum work and workers are cordially invited to attend.

THE Colonial Office has received a telegram from Hong-Kong dated April 28th, 1900, stating that 52 cases of plague had occurred in the previous fortnight, 98 cases of plague have occurred in Hong-Kong altogether this year.

THE Past and Present West London Hospital Dinner will be held in the Empire Rooms of the Trocadéro Restaurant, Piccadilly-circus, on Monday, May 21st, at 7.30 P.M., Dr. Donald Hood in the chair.

SIR HENRY HARBEN will open on June 20th the new "open-air" wing which has been contracted to accommodate 40 patients at the North London Hospital for Consumption, Hampstead.

WE regret to announce the death, at the advanced age of 80 years, of Mr. George Vines Ellis, Emeritus Professor of Anatomy in University College, London.

THE Departmental Committee appointed to inquire into the use of preservatives in foods, having taken evidence on Wednesday last in the rooms of the Chemical Society, Burlington House.

ROYAL INSTITUTION.—The Friday evening discourse at the Royal Institution April 27th was delivered by Lord Kelvin, who chose his subject, Nineteenth Century Clouds over the Dynamical Theory of Heat and Light. There were only two of these "clouds." The first was associated with the molecular theory of matter and was summed up in the question, How could the earth move easily and freely through an elastic solid, such as the luminiferous ether was supposed to be? To this question a definite answer had yet been found. The second cloud was the Maxwell-Boltzmann doctrine of the equipartition of energy, some [illegible] of which Lord Kelvin [illegible] explained.

UNIVERSITY COLLEGE, LIVERPOOL.—[illegible] Graduates' Club [illegible] Dr. John H. [illegible] Westbrook [illegible] College [illegible] Wednesday, May [illegible] in May.

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UNIVERSITY COLLEGE, LIVERPOOL: POST-GRADUATE COURSE. Arrangements have been made by Dr. John H. Adams, Dr. Arthur F. Chamberlain, and Dr. W. H. Hamilton [illegible] for a course of post-graduate study for medical men, to be held in Liverpool during the month of June. The course will consist of lectures, demonstrations, and practical work in the laboratories of the University College, Liverpool. The fee for each course will be [illegible]. A series of [illegible] courses will be arranged early in May.

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THE WOUNDED IN THE PRESENT WAR.

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UNIVERSITY [illegible] [illegible]

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UNIVERSITY COLLEGE. [illegible]

CONFERENCE ON MEDICAL ORGANISATION AT MANCHESTER.

DELEGATES from over 50 medical associations and societies representing 4000 members met at the Memorial Hall, Manchester, on May 1st, for a three days' Conference on Medical Organisation. The Conference had been convened by the Medical Guild of Manchester to ascertain the opinions of the profession on questions needing reform, to instruct public opinion thereon, and to effect improvement in medical organisation.

Mr. Alderman F. H. WALMSLEY, M.R.C.S. Eng., (Salford), President of the Medical Guild, opened the proceedings and Mr. G. A. WRIGHT, F.R.C.S. Eng. (Manchester), was elected President of the Conference.

THE MEDICAL ACTS.

Mr. VICTOR HORSLEY then addressed the meeting upon the Medical Acts. He said:—

MR. WRIGHT AND GENTLEMEN,—I feel the honour you have done me in inviting me to give my views on the Medical Acts, because this meeting is the first of its kind and I hope it will be one of a series of important meetings of the profession, in which we shall have all the medical societies of the country brought together to discuss questions affecting the profession; and all the more so because it seems to be impossible to secure a similar discussion through the channel of the British Medical Association. I am not in favour of multiplying machinery in our profession, but it is evident that the annual general meeting of the British Medical Association does not cover what the programme of this Conference includes. I have much pleasure, therefore, in taking part in the proceedings, and it is my business to lay before you what is the fundamental position in medical reform, viz., the amendment of the Medical Acts.

I should like to admit that even among ourselves we are not all agreed as to the direction in which the Acts should be amended. I do not propose to waste any time in going into details as to how these Acts stand at the present time, but I wish to lay before you what I believe to be most advantageous in the way of amendment and I am gratified to find that my views are in consonance with those of the gentlemen who are going to move resolutions. The most fundamental question of amendment is that of representation on the General Medical Council and it is a question merely of practical politics. No Government will interfere with vested interests if it can possibly help it; and, moreover, there is a large body of professional men who are more or less satisfied with the work and methods of the medical corporations—I mean not only those who are hide-bound against all suggestions and protests, but I include the far larger mass of apathetic members of the profession. A large number of the profession are more or less satisfied with the present work of the corporations, and that is our first difficulty when we come to the House of Commons for reform on the question of representation. It seems to me that if the Members of the House of Commons were told that this is a question of fundamental political value—that is to say, that we consider that the practitioners throughout the kingdom, as members of the profession, have an inherent right to be represented more fully on the Council, some beginning towards a change might be effected. I must lay stress on the fact that the General Medical Council is unlike any other body under the Government, because it is like a department of the Government in a certain way, for it holds within its hands judicial power over every member of the medical profession. Any ordinary member of the community has an indirect voice concerning the appointment of those who judge his actions in regard to the community in general, and each member of the medical profession has a certain degree of representation on the General Medical Council which should, more or less, give a relationship in regard to the appointment of his judges; and yet we perfectly well know that representation is such a farce that it cannot be said that any member has any voice in the appointment which he should have in regard to his judges. If Members of the House of Commons understood that our feeling is that we should have proper representation to protect our own professional and personal interest, that would form the strongest argument to induce members to look favourably on our views. There is another point. I have often heard it quoted in the Council that in the House of Commons it is not fully understood that the General Medical Council is the arbiter of medical education. The requirements of medical education can only be properly estimated by those who are in the active conduct of their profession. The General Medical Council at present is an honourable retreat for members of the profession who have practically given up their work and who have lost all touch with the centres of education in the medical schools. If the House of Commons understood that movement for the increase of preliminary education came not from the Council itself but from the ranks of the profession, then the Members would recognise that a man in active work in his profession was a better judge of what lines education should take than the man who has more or less retired from professional work.

The Government and the General Medical Council.

I turn now to the next point in relation to the Government which the General Medical Council has to deal with and I will first consider reciprocity. The General Medical Council at the present moment is looked upon by the Government as the only representative body in the profession with which it can hold any communication. I do not think that fact is quite realised. The Privy Council is the department of the Government that has to do with our profession, and as a matter of fact I may mention that in connexion with the Midwives Bill the President of the Privy Council has refused to receive a deputation from the British Medical Association whereas he is in constant communication with the authorities of the General Medical Council. He listens to the General Medical Council, but he will not listen to the British Medical Association—the only body practically which represents the practitioner. What is the working result of all this? As regards reciprocity, until two years ago the Privy Council was entirely misled by the General Medical Council, but by dint of hard fighting we first got the General Medical Council to recognise what the actual position of the profession should be in relation to reciprocity, and then that was duly furnished to the Government. Owing to the difficulty in Italy, whereby a few of our colleagues are placed in the position that proposed legislation may compel them to take an Italian diploma, the question is being brought up again, and now the Privy Council has furnished the General Medical Council with a scheme whereby complete reciprocity shall be established between this country and Italy, although the advantages to this country are to my mind extremely shadowy. I may further point out that the whole of the difficulty, as far as our colleagues are concerned, could be avoided by the simple plan that new legislation of the kind should not be retrospective. If that were insisted on—and I shall endeavour to see that that point is urged—if the Privy Council would adopt that view, the present difficulty would disappear, and the question of reciprocity would be returned to the respectable limbo from which it has been dragged. On this question of reciprocity, surely the only reciprocity that we should contemplate is reciprocity between this country and its colonies. We should welcome a kind of federation of medical interests between the home country and the colonies, a parallel to imperial federation. I would, however, warn you that there is a certain party in the General Medical Council—who are extremely anxious, in spite of the notorious fact that every country on the continent, one after another, has closed its door to them, to open our doors as widely as possible to foreigners. With regard to the midwives question and its relation to the profession and to the Government the President of the Privy Council is acknowledging the General Medical Council as the only body representing the profession with which he should deal; and as I pointed out more than two years ago to the profession the attitude of the Privy Council is not favourable to the profession. The General Medical Council laid down certain principles which should safeguard the triple qualification under the Act in 1886, and these principles were duly forwarded to the President of the Privy Council who acknowledged them, but who now at this late hour is extremely anxious that perhaps the most fundamental of these should not be carried into effect. This is really a serious question. It is perfectly obvious that we cannot stand against a certain trend of opinion if that be held in the House, and we cannot block it. Much treacherous and misleading nonsense has been spoken to the profession on this subject. How far and what essential principles in the way

of protecting the triple qualification should be forced on the notice of the Government? But in this particular question the matter is not being fought fairly in many directions, and the point which I now wish to lay stress upon is this action of the Government. The Government has repeatedly stated that the present Midwives Bill is not a Government measure; nevertheless, two years ago it was thought that the Government was forwarding it, and now from direct communication with the officials of the Government it is found that they are absolutely hostile to the amendments and proposals of the profession, and that they favour in every way the proposals of the opposite party. On the question of practice it seems to me that the General Medical Council is put in this position with the Government, that it is the only body to which the Government can turn on questions affecting our practice, and we have therefore a right to claim greater representation on that Council. We naturally come to the other reforms which call for immediate attention, and you may remember that I reported some 18 months ago to the profession that the General Medical Council was in a state of financial instability. At the last session we discovered that, owing to the peculiar advice which we received from the legal advisers of the Council, the financial condition of the Council was in a condition of absolute and utter chaos. At this next session this matter will be brought out. I endeavoured to have it brought out at the last session in open discussion, but as usual the opponents of free speech moved that we should go *in camera*, and I cannot say what passed; but I hope we shall discuss the matter in this session in an open way. The financial arrangements of the Council being in a state of chaos, their re-organisation involves the re-organisation of the Council. At the present moment there is a General Medical Council and one branch for England, another for Scotland, and another for Ireland. These branches are absolutely useless; what we want is simply a central registration bureau and a Council elected from all parts of the kingdom. It is on account of the condition of these branch councils that this state of financial confusion has been brought forward; therefore, to put the matter right we must include these branches in the scheme of reform. There is another question—viz., the approximation of our plan of registration to that of the lawyers. Like the lawyers we should have an annual registration fee, and let me urge this upon you as a *sine qua non*—it should form one of the chief factors in the platform of the reform of our Medical Acts. If we only had a small registration fee, one-tenth of what the lawyers pay, annually our numbers are such that the income of the General Medical Council will be more, than ample to carry out the work that it ought to do and with greater effect. But I am aware of this—that there is an inherent opposition among the members of the profession to this suggestion of an annual fee. I do not know why, but there is the opposition, and it seems to me that it should be the duty of this conference to indicate the advisability of such an annual fee. If we had a strong financial position we should then have greater influence with the Government, for the Government of course looks upon all bodies that approach it in a kind of materialistic way, and if it knows a body is wealthy it considers that its stake in the country is greater. If then we can show that we are actually wealthy the Privy Council will receive us with more favour. The main question is our need of votes in the House of Commons, and it is obvious that something must be done in that direction.

Medical Protection.

Next comes the question of the protection of our work which also must come through a Government department—I mean, through the courts of law. The Government at the present time, as I said before, together with the House of Commons, shows a distinct tendency to observe and protect vested interests. I have contended for a number of years that we have vested interests bestowed on us by the Medical Acts. The Medical Acts conferred on us the right to practise, and by implication that right is not granted to anyone else. This question has been discussed with immense heat and as yet we are still in this position, that at the present time the whole of this matter as to who has the right to practise is in the hands of the magistrates throughout the country and, further, that inasmuch as by our present constitution the magistrates are given by the Government the right to determine what is a question of fact, we are handicapped by reason of the circumstance that they do not confine themselves to the question which is put before them by the Legislature, but they go into questions of law. Having thus gone into questions of law we are then faced with this position, that any magistrate may give what decision he likes, though it may be totally contrary to that which a brother magistrate, sitting perhaps on the same bench, has decided, and yet carrying with it the same validity in the eyes of the law. I have selected and published in the *British Medical Journal* a number of cases in which our right to practise has been attacked and has been defended with or without success. The most striking example of the kind I allude to is the decision given in the Alabone case, in which a man who had been struck off the Register for infamous conduct was summoned for using certain bogus American degrees, giving such indications as to make them resemble American diplomas or degrees which are registrable under the present Act. Yet the lawyers of the General Medical Council presented the case to the magistrate in such a way that the magistrate decided that Alabone carried on a perfectly genuine practice and that his bogus diplomas were genuine diplomas. It is impossible to understand how any judicial mind could have come to such a conclusion, but there are the facts, and you have to face them. As to the action of the lawyers of the General Medical Council and their responsibility I have given notice that I shall draw attention to it. I do not think that we shall derive great benefit therefrom, but we shall have the opportunity of making a criticism which is wanted. To return to the question of how we are to meet this difficulty, I think it is extremely simple, and that is to adopt loyally and work earnestly for the amendments which the British Medical Association is bringing forward, and I will tell you how the matter stands. The Parliamentary Bills Committee prepared a draft Bill and that was duly sent up to the Council and was treated by them in, I am afraid, a not unfamiliar way, that is to say, they cut out all the important parts and returned the Bill in an emasculated condition, of no use to anybody. This action has now so far been negatived that we are very much where we were before, and the Parliamentary Bills Committee is going to bring forward the same amendments, and I hope the Council will adopt them and help to carry them forward to the Government. I have now arrived at the end of the time allotted to me and I would ask you to regard these matters from a practical point of view as being at present only able to be worked through the British Medical Association, and I trust you will give your help to raise the present position of the association into one of active energy.

Dr. T. W. HIME (Bradford and West Riding Medical Union) regretted that it was not possible to have any resolution passed on Mr. Horsley's speech. He did not make any allusion to those malarious mosquitoes who rejoice in having a peck and bite at Mr. Horsley now and then because he is not painted exactly all over according to their colour, and he could only suppose that every noxious insect must have some use in living. Mr. Horsley worked against the greatest odds for the sake of the profession and his labours should be properly recognised.

Dr. WILKINSON, in the place of Dr. OWEN MCLEAN (Birkenhead), moved:—

That in the opinion of this Conference the Medical Acts require amendment, amongst other matters, in regard to prevention of the public against illicit practice and in regard to death certificates and the Inebriates Acts.

An amendment proposed by Dr. WOODCOCK raised a long discussion, but in the end the motion was carried.

Dr. A. COX (Gateshead) moved:—

That believing that general practitioners are inadequately and inadequately represented on the General Medical Council this Conference is of opinion that there is an urgent necessity for an increase in the number of direct representatives and appeals to the Privy Council and corporate bodies to secure the made of elect all direct representatives for, that the representatives be chosen from amongst and by the medical practitioners of Universities and Colleges and by the members of the corporate bodies, and that such a scheme be adopted to give effect in any proposed Bill to amend the Medical Acts.

Mr. F. H. TINKLER (Hyde) moved the following as an amendment, which was not carried on being put to the vote:—

That it is desirable that the constitution of the General Medical Council be so altered that at least [illegible] of its members shall be elected representatives of the profession and that [illegible] of the Medical Acts [illegible] be carried into effect.

The original motion was then carried.

Dr. WILKINSON, for Dr. OWEN MORRIS (Birkenhead Medical Society), moved the following, which was carried:—

That it is desirable that general practitioners should have a much larger representation on the General Medical Council.

The conference then adjourned until 2 P.M. when Mr. R. B. ANDERSON, F.R.C.S. Eng., read a paper on "A Medical Polity: Corporate and Medical Reform."

THE MIDWIVES QUESTION.

Dr. A. COX (Gateshead) moved:—

That this Conference protests against any legislation that will have the effect of giving a legal status to midwives as a class.

He said the feeling of the profession was voiced at the Newcastle meeting, when a resolution was passed condemning any midwives legislation.

Dr. DOLAN (Yorkshire Branch of the British Medical Association) said the question was, did they wish to end or mend the midwives? and the answer was, end the midwives.

Mr. VICTOR HORSLEY said that he would not detain the meeting more than a few minutes. He asked what was that Conference going to do if it carried Dr. Cox's motion? If Dr. Cox's motion was carried surely the other motions that appeared after on the paper were absolutely out of order. When he read the programme he was interested to see the motion, and he thought that they would learn something on the question, but if their sources of inspiration were to be swept away it would be a great disappointment. As to the general question whether there should be any legislation or not, he would like to indicate that that matter had only apparently reached a head during the last month. He had been interested for a number of years in this matter, and to his recollection the facts had been discussed from top to bottom as to what kind of legislation was going to be adopted, but there had arisen at the end of last year a kind of gathering of the storm to oppose any legislation of any kind. Within the last month he had heard Mr. George Brown, in the Parliamentary Bills Committee, declare that it was permissible that midwifery nurses should be registered. No answer had been given as to what a midwifery nurse was, and they were thus brought to the conclusion that those at the Conference were really working to take measures in Parliament to absolutely exterminate the midwives. There could be no other logical conclusion, and they had heard Dr Cox say "Hear, hear," so it was clear that Dr. Cox wished that Conference of intelligent beings to take a share in the idea that the medical profession was to publicly work for the extermination of midwives. He (Mr. Horsley) could not agree to that, and he really did not suppose that that Conference could agree to it.

On being put to the vote the motion was carried by 19 votes to 16. On a vote by ticket so as to determine the voting by the number of members of societies represented by delegates the numbers were, for the motion 2204, against 1935.

MEDICAL EDUCATION.

Dr. A. STEWART (Manchester) moved:—

That while appreciating the action of the General Medical Council in raising the standard of preliminary education this Conference is of opinion that a still higher standard would further raise the status of the profession, collectively and individually, and promote the public welfare.

This was seconded by Dr. WILKINSON and carried.

Dr. S. CRAWSHAW (Ashton-under-Lyne) proposed the following motion:—

That it is desirable that every medical student should, subsequently to the date of his passing the examination in anatomy, physiology, and materia medica, be compelled to spend, as part of his curriculum, 12 months with a general practitioner.

Mr. GEORGE JACKSON (Plymouth Medical Society) seconded the motion.

Mr. ANDERSON moved as an amendment:—

That it is desirable that the right and opportunity of receiving pupils be restored to general practitioners, and that medical students be required under suitable regulations to spend one year as the pupil of a general practitioner either as part of his curriculum or in addition thereto.

This was accepted by Dr. CRAWSHAW instead of his proposition, and on being put to the vote was lost, only nine voting for it.

The Conference then adjourned.

The delegates to the Conference re-assembled on May 2nd at the morning session of the second day of the meeting under the chairmanship of Dr. E. JIPSON (Durham).

Dr. NASH raised a question as to the method of voting and Dr. WOODCOCK said that they ought to decide on the matter. It lay between one of two things: either they were playing at delegation or they were seriously representing the societies who had sent them. But the chairman decided that the committee must be the judges in the matter.

The following motion was proposed by Dr. DIXON (Birkenhead), seconded by Dr. HELME, and carried:—

That it is not desirable that midwives should be registered according to the provisions of the Bill at present before the House of Commons.

Dr. HELME moved:—

That this Conference, recognising the possibility of legislation for the registration of midwives, is of opinion that in order to minimise the danger of such legislation it is essential to provide for the following: 1. The midwife (*a*) shall attend the mother and child after labour; (*b*) and shall restrict her practice to natural labour. 2. Imposition of penalty for practice as well as for assumption of title. 3. Imposition of penalty for malpraxis and misconduct. 4. Compulsion of midwife to send for a doctor in case of anything abnormal or illness on the part of mother or child. 5. Direct medical supervision. 6. Direct representation of general practitioners on the Midwives Board.

Dr. HELME'S motion was seconded by Dr. RITCHIE, and carried unanimously.

The Conference then proceeded to hear a paper by Mr. GEORGE BROWN upon

MEDICAL CHARITIES: THEIR RELATION TO THE PUBLIC AND THE PROFESSION.

Mr. BROWN said: Whilst engaged a few days ago in searching for some reports and documents to assist me in preparing this paper I came across a copy of the long-defunct *London Students' Gazette*, bearing the date November, 1872. For that issue I wrote the first article, which was entitled "Precept and Practice," in which I pointed out that whilst our hospital teachers embraced every opportunity of impressing on the student's mind the high and noble character of the profession he aspired to enter their own every-day conduct in the pursuit of their calling was only too often calculated to bring medicine into disrepute. Among the practices I referred to as popular in the pursuit of notoriety and fees was the founding of special hospitals which was just then being extensively adopted with great success by specialists in diseases of the skin, throat, rectum, and other organs which require occasional attention of a reparative character. In that article I thus described the *modus operandi* adopted by the specialist in founding a hospital: "He hires two rooms on the ground-floor of a house in a by-street, one as a consulting-room, the other as a waiting-room, with a cupboard for dispensing, and then paints on the front of the house (if eyes are his speciality), 'The British National Universal and General Hospital for Diseases of the Eye.' A clergyman having been induced to become patron, a few private friends having consented to act on the committee, and the dispenser having expressed his willingness to receive subscriptions and donations, the claims of Dr. Retina's 'British National Universal and General Hospital' to public support are advertised in all the daily papers." Although well-nigh 28 years have elapsed since this description of one method of founding hospitals was written, it is equally applicable to the means adopted by the founders of special hospitals at the present time. These so-called hospitals are, to all intents and purposes the private property of the founders, who, although they may not derive any direct pecuniary benefit from them, find them extremely useful as a means of building up large and lucrative practices. That hospitals should be multiplied in this manner, and allowed to compete with old-established hospitals, is degrading to the profession and nothing less than a public scandal, and I feel sure that you will agree with me that steps should be taken to make it an indictable offence to solicit subscriptions from the public for so-called hospitals which are in reality only bogus institutions.

Hospital Abuse.

The question of hospital mismanagement, especially as regards the abuse of the out-patient departments, has occupied the attention of the profession more or less urgently for at least 30 years. To what extent the question was a burning one before the seventies I cannot say without searching through files of THE LANCET or the *British Medical Journal*, but I have documents in my possession relating to proceedings at meetings held at the residences of leading London consultants in 1870 of committees formed to consider the administration of out-patient hospital relief, which was then recognised as a gross abuse of charity. These committees were appointed at a meeting attended by a large number of the leading hospital physicians and

surgeons in London which was held at the rooms of the Royal Medical and Chirurgical Society on March 24th, 1870, and over which the late Sir William Fergusson presided. The members met on several occasions, but their action never got beyond the inquiry stage, except to pass some very pious resolutions which no one took the least notice of. Why this federation of consulting physicians and surgeons to remedy the abuse of hospitals came to an end without achieving any satisfactory results I am [illegible] that they speedily found [illegible] would have to throw up this [illegible] would mean to a consultant [illegible] the foremost rank. Since this [illegible] class appear to have washed their hands of the hospital reform question. Now and again we hear of a hospital physician or surgeon who has the courage to unburden his soul, as was done recently by Mr. C. H. B. Keetley, senior surgeon to the West London Hospital, at a public meeting convened by the Charity Organisation Society. During the last 25 years many attempts have been made by medical practitioners to remedy the abuse of hospitals, but it must be confessed that the results have been most disappointing. The question has been made the subject of inquiry by the Medical Defence Association, of which society I was the honorary secretary from 1875 to 1887, when it was dissolved; by a special committee of the British Medical Association; by a special committee formed by the Charity Organisation Society; by the Hospital Reform Association, of which Mr. Garrett Horder is the honorary secretary; and by the Incorporated Medical Practitioners' Association. The meetings held by these societies and the large mass of literature bearing on the question which they have circulated must have done much to enlighten the public as to the way the funds contributed to hospitals by charitable persons are wasted, but as far as reform is concerned nothing has been gained. In London abuses in connexion with out-patient departments appear to me to be more common now than at any previous time within my recollection. I have been associated with all the societies above named and it is a great satisfaction to me to have reason to believe that our efforts to educate the public have to some extent been successful. The large falling off in subscriptions to hospitals in recent years and the difficulty—ever increasing—which the committees of hospitals have in meeting their expenses may fairly be accepted as evidence that public confidence in the administration of hospitals has been seriously shaken. The Charity Organisation Society deserves great credit for publishing a most instructive series of cases of hospital abuse collected from practitioners resident in different parts of London, the perusal of which should cause subscribers to take greater interest in the hospitals they support.

It will be in the recollection of many of you that in 1891 the British Medical Association appointed a special committee to inquire into the administration of medical charities. This committee has been reappointed annually, and during the whole period I have had the honour of being a member thereof. In conjunction with two or three other members I have repeatedly made personal visits to several of the larger metropolitan hospitals and to many special hospitals during the hours for seeing out-patients in order to ascertain what precautions are taken by the authorities to prevent the admission of unsuitable persons. At our first visit to the leading hospitals we found that it was quite exceptional for any steps to be taken to exclude well-to-do persons from the out-patient departments, and it was clear, from the dress and general appearance of the patients waiting in the out-patient rooms, that many of them were far removed from the class who could rightly demand gratuitous medical aid. The secretary of one of the hospitals when we called his attention to the well to-do appearance of the patients said, by way of excuse, "If I were to exclude such people from the hospital I should soon have the surgeons after me with the injury. Where are all my well dressed patients?" This remark gives the key to solve the question why so much abuse of hospitals exists. The medical staff do not really desire medical reform, preferring, for reasons I need not discuss on the present occasion, to attend "well-dressed" patients rather than minister to the needs of the very poor. If hospital physicians and surgeons earnestly desire to check hospital abuse they have it in their power to do so at once without any help or pressure from general practitioners and hospital reform committees.

The Number of Hospital Patients.

In order that you may have some idea of the wholesale pauperisation of the population of the metropolis which is being effected by hospitals and dispensaries I have taken some figures from "Churchill's Medical Directory" for 1899, and I find that according to the returns published in that reliable publication upwards of 95,000 in-patients and about 1,950,000 out patients were recipients of medical relief at the various metropolitan charities. These numbers do not include patients attended at the various fever hospitals, lying-in hospitals, and lunatic asylums, or the scores of thousands of paupers who claim, as a right, free medical attendance at the Poor law infirmaries and dispensaries. Of course the figures which I have put before you respecting numbers treated as out patients in hospitals and dispensaries are altogether misleading, but they are official, and I am not responsible for them. It is incredible that nearly one half of the population of London should resort to hospitals in one year for medical relief, but we must remember that many patients go from hospital to hospital in the course of a year and figure on the returns issued by each institution visited, whilst in other cases the same patient is counted two or three times over in the same annual return. We may therefore, I think, fairly reduce the number of out-patients relieved by one-half. This would leave about 1,000,000 as the number of persons above the rank of pauper who receive charitable medical relief, partially or wholly, at metropolitan hospitals and dispensaries. Are we to be told that there is anything like this number of persons living in London who, not being paupers, can be classed as among the deserving poor, who are entitled to free or assisted medical relief? In my opinion, if we exclude *bona fide* paupers, there are not the tenth part of a million persons residing in the metropolitan area who are unable to pay the fees of a private practitioner when sick. The thousands of pounds, therefore, spent in [illegible] the ren dering 960,000 out- [illegible] be spent in paying the [illegible] London Stock Exchange [illegible] a trip to Palestine and back by Cook's Tourist Services.

What is the Remedy?

It would weary you were I to occupy your time by going into details as to the injury done to the profession, especially to general practitioners, by the abuse of hospitals. But it is not only the general practitioner who suffers from loss of practice; consultants lose many fees through the facilities given to the public for obtaining their advice free of charge by means of the "open door" of the out-patient department. At 20 years ago patients of the artisan class who paid the minimum fees for visits and medicines, if they asked a consultation, would seldom hesitate about paying a fee of one or two guineas to a consultant; now it rarely happens that I can get a fee for a consultant even from patients who can pay 7s. 6d. or half a guinea per visit. They all say, Why should they pay a consultant's fee when they can get his advice for nothing at the hospital? One of my patients who in addition to a town residence keeps up a large country house surrounded by many acres of ornamental grounds has had his children attended at hospitals free of charge, and no questions have been asked. If hospital physicians and surgeons could realise the injury done to themselves by the use of hospitals they would, I think, be more ready to help those who are working to bring about hospital reform. The abuse of hospitals and the injury thereby done to the public and the profession being admitted the question arises, What is the remedy? As a preliminary in solving this question we must try to determine the cause of the evil. Mr. Keetley in his address to which I have alluded says, "The money difficulties of hospitals as well as the abuse of out-patient departments are to a great extent due to the want of direct public interest in them. Hence management drifts into the hands of committees of hospitals often uninformed laymen, and always practically irresponsible." He says that the abuse of an Poor law general hospital which is governed by the people who find the money, the latter, and the said he said, is easy to cure, and he suggests as a remedy that a hospital should be governed by those who support it. I quite agree with my friend Mr. Keetley that this would be a remedy, but the difficulty is to get those who take an interest in hospitals to support them also by subscriptions. The [illegible] to do so. In my opinion if the hospitals are to be saved they must do so. They have been supported by public and [illegible]

but without result. The only other persons who can be expected to take any steps to reform our public medical charities are the lay officials, treasurers, secretaries, &c., and the honorary medical officers. It is idle to expect any reforming action on the part of the lay officials; their interests are bound up in maintaining the present condition of things. On the other hand, the interests of the medical officers would be served by a well-devised scheme of hospital reform, and, personally, I am inclined to hold them responsible for the evils of the hospital system which exist. They have been deficient in courage and have failed to recognise their duty to the public, or reform would have been brought about long ago. That they have a right to a predominant voice in the control of hospitals must be conceded. Hospitals could not be carried on unless they gave their time and skill to the service, and the value of these in a large general hospital exceeds, as Mr. Keetley says, the total subscriptions and donations. Notwithstanding this the medical officers of a hospital have very little voice in the management. It is not given to them voluntarily, and Mr. Keetley despairingly says: "No staff can win its rightful position by force. ..... Whenever a lay committee and a staff, or an important section of a staff, fall out, it is always the medical men who have to go. The cruel thing about this is that at a certain time of life resignation of a hospital appointment may mean ruin to a medical man." That this should be so is a disgrace and a scandal and points to a sad want of brotherly feeling in the upper ranks of the profession. The evil which Mr. Keetley deplores would not exist were it not that when a hospital physician or surgeon is forced to resign, or is dismissed, there are half a dozen other consultants ready to take his post. In the medical profession, unfortunately, the saying that "dog will not eat dog" does not apply.

As hospital reform is not to be looked for from the subscribers to medical charities, the lay officials and committees of management, or the medical officers, we must turn elsewhere, and I am inclined, though somewhat reluctantly, to favour State control which is advocated by many worthy and well-informed hospital reformers. Certainly we might fairly ask the State to pass a law to stop free trade in founding and running hospitals. No one should be allowed to appeal to the public for funds for any medical charity unless with the sanction of the Home Secretary or some public authority, and no new hospital should be started unless the necessity for it in the public interest were fully established. There is, I think, but little doubt that the time is rapidly approaching when the public will demand more control over hospitals. There is a feeling among a section of the public, and it appears to be growing stronger, that hospital patients are at times used for experimental purposes. I am not prepared to say what grounds, if any, there are for such suspicions, but in the interests of medical and surgical science they should be dispelled, and this can only be done by instituting a more perfect system of hospital management in which both the lay and medical elements are fairly represented.

Mr. G. JACKSON (Plymouth) suggested bringing the question before the public subscribing to the hospitals.

Dr. BRASSEY BRIERLEY considered that the posts of hospital physicians and surgeons should be only held for a limited period.

Mr. GEORGE BROWN said that abuse arose from the anxiety of the hospital committees to publish as large a number as possible of patients treated as a bait to the public for subscriptions. They must look to some State control to prevent hospital abuse. He agreed that there should be some limit to the time for a physician or surgeon to hold his appointment.

Mr. F. H. TINKER (Hyde) moved the three following propositions, which were carried:—

That it is desirable to emphasise the fact that hospitals and infirmaries are charitable institutions and that all persons who receive treatment there are recipients of charity.

That it is desirable that the governing bodies of hospitals should decide upon a reasonable income limit and exclude from the benefits of the charity any person whose income exceeds this; but the operation of this clause shall be waived in cases of accident or acute illness involving urgent danger to life and in cases of severe operations.

That in cases of accident the attention at the hospital be limited strictly to first aid unless the case be one of urgent danger to life or the patient come within the reasonable income limit.

The following motion was proposed by Mr. R. H. WORSENHOLME, seconded by Dr. WOODCOCK, and carried:—

That in the opinion of this Conference there is considerable abuse in connexion with medical charities and it is desirable that the profession should be adequately represented on the committees by which they are managed through their staffs.

Dr. DIXON proposed and Dr. MURPHY seconded the following motion, which was carried:—

That it is desirable that a visitor should be appointed at the various hospitals to inquire into the circumstances of patients applying for relief in order to prevent such abuse.

DEATH CERTIFICATION.

The following motion was proposed by Mr. J. S. WHITAKER, seconded by Dr. NASH, and carried:—

That it is desirable in the interests of the community to reform the system of death certification, so that in every case of death or stillbirth it will be necessary to have the cause certified by a registered medical practitioner, failing which an inquiry must be held by the coroner.

FRIENDLY SOCIETIES.

The Conference then adjourned to the afternoon session, when Dr. COX (Gateshead) read a paper on "Friendly Society Work and the Proposed Conciliation Board."

Dr. GLOVER said that he hoped the Conference would see their way to give the idea of a Conciliation Board a trial. He entirely disagreed with Dr. Ritchie who approached the idea with distrust, thinking the advantages would be with the friendly societies. The Conciliation Board was a board to hear both sides and was really originated by Dr. W. Bruce of Dingwall at the General Medical Council. Everyone said that the wage-limit would not come before the Conciliation Board, but though the friendly societies say it is impossible for them to admit it, this did not preclude its discussion. The idea of not making it retrospective was admirable. The friendly societies urged that the proper remedy was public opinion. The Council of the British Medical Association had asked him, as chairman of the committee of the General Medical Council, to arrange for a joint meeting between the committee of the British Medical Association and the committee of the General Medical Council, and this event was to take place on May 22nd. The question, therefore, was quite alive. Any general conclusions that might be reached by a central board would have to be elastic enough to admit of its application to local institutions. The General Medical Council would not sanction any of its members being on the Conciliation Board. If the profession refused to discuss the question then they would put themselves in a wrong position.

Dr. RATCLIFF-GAYLARD (Manchester) moved the following proposition, which raised a heated discussion, and was defeated by 19 votes to 17:—

That it is desirable that those who have the carrying out of the provisions of the Vaccination Act should perform their duties in such a way as not to trench upon the interests of general practitioners, and that instructions to this effect be issued to public vaccinators.

Dr. ALEXANDER STEWART (Manchester) read a paper on "Provident [illegible] Mr. G. JACKSON (Plymouth) read one also [illegible]

Dr. DIXON proposed and Mr. E. E. BOWDEN seconded—

That in the opinion of this Conference there should be in contract practice a minimum rate of 5s. per member per annum, and further, this Conference condemns the practice of canvassing in connexion with medical clubs.

This initiated a lively debate, the result being that the following motion was declared to be carried:—

That in the opinion of this Conference there should be in club practice a minimum rate of 5s. per adult healthy male members per annum; that contract work should in all cases be distributed among all medical practitioners in the town or district who are prepared to undertake such work; and further this Conference, whilst condemning the practice of canvassing any connexion with medical clubs, strongly insists upon the necessity of an income limit being made part of the contract.

The Conference then adjourned.

On Thursday, May 3rd, Dr. Glover addressed the Conference, taking as his subject

"SOME DEBATED POINTS IN MEDICAL POLITICS."

He said:—

GENTLEMEN,—The subject of my address to-night is "Debated Points in Medical Politics." I am sure you will all agree with me that I am safe in classing the Midwives Bill in this category.

The Midwives Bill.

I have never concealed my opinions on this subject, and I was a little surprised to find one of my critics—who, no doubt,

meant to be quite fair—suggest that I observed a discreet silence at the Newcastle meeting. It was not the main theme of my address then: I was not challenged on the subject. One of my friends there who very honestly differs from me, said: "We all know Dr. Glover's opinions on this matter; he has been consistent throughout and we know exactly what he will do." Nevertheless, I did even on that occasion express my concurrence with Mr Horsley's views on the subject. This afternoon I shall, with your permission, devote the most of my time to it, because in its present position it is a question of great public and professional interest; because it is a difficult one and one on which opinions may fairly differ, and, lastly, because I honestly believe that half the
would be removed if
and in all its bearings
plunge into the middle of the question. I ask opponents to

Mistakes of Opponents of the Bill.

I think the great mistake which the keen opponents of this legislation make is in being unpractical and in not taking the actual state of things into account. They seem to forget the actual facts of the case. Now, what are the facts?

First, that midwives exist and that they attend, on a low estimate, 200,000 cases. They are employed not only directly by the poor, but by parish authorities and by maternity charities.

Secondly, that the title "midwife" exists and is recognised by law and can be taken by any woman and used for making a living. Nothing in the Medical Acts, not even the famous fortieth clause, is violated by the title or the practice of the midwife.

Thirdly, that any woman, however drunken, or ignorant, or dirty, may without hindrance use this title and under its name may infect lying-in women wholesale, may allow an arm to protrude from the vagina for 12 hours, or the bleeding of an uncontracted uterus or a placenta praevia to go on till the life of the patient is imperilled or lost. The opponents of legislation must see that this state of matters can scarcely be left alone. It must be ended or it must be mended. They misrepresent the advocates of legislation altogether—no
they say
of prac-
among them are a recognised and terrible danger to the life of lying-in women, and those who reject midwives Bills altogether are bound to find some other remedy for the tragedies that we know happen. But I shall be told that the opponents have

3 To have all lying-in women attended by medical men.

"Doctors can be had to attend confinements, it is said, for 5s 6d. and upwards!" I must be allowed to say that in my opinion no more unsafe, undignified, unsound, misleading statement was ever made or could be made by an enemy of the profession than this statement. Yet it is made by one who poses as the leader of the opposition, who was placed at the head of the poll for his opposition, and who no sooner got into the General Medical Council than he got out of it, chiefly on the question of fees, without even a sitting to fight the battle he was sent to fight or to convert the Council to his own views

Other opponents, who have too much knowledge and respect for the profession to make such statements, say, "Let all the women attended by midwives be attended by the parish doctor." Have the gentlemen who make such a suggestion as that ever considered how they were going to carry it out? It could only be done by an Act of Parliament, and Parliament would take till the year 2000 before it enacted the pauperisation of every woman now employing a midwife and abolished the title of midwife which exists in all countries and has existed in all ages.

I claim, gentlemen, to have shown, at any rate I believe—and all my reasonable opponents will give me credit for holding my opinions honestly and conscientiously and for having given reasons for the opinions I hold—that the other remedies for the existing evils of "Gamps" are unpractical or are founded on misleading statements. I think I are entitled at this stage to ask a question and to press for an answer. When did the recognition of the midwife by the medical man—of her existence, her title, her uses—become such a crime as it appears to be now? The chief advocates in the General Medical Council for legislation to secure some training and some character in midwives were the late Dr. Stokes of Dublin and Dr (now Sir Henry) Acland—than whom two more eminent men or high minded representatives of the profession it would be difficult to find But let us come down to the present moment and the rank and file of the profession and take instances of their cooperation with the midwife. It is universal I never heard of a medical man refusing to meet a midwife as such I shall quote three illustrations

1. In London the parish midwifery is done chiefly by midwives. If the midwife is in any difficulty she refers to the parish medical officer and he attends on her call and with her in the future course of the case. I never heard of a parish medical officer refusing to do this or being summoned before the General Council for doing something discreditable. But perhaps it may be said this is law; they cannot help themselves; they are legal officers acting under contracts

2 My second illustration is in the Royal Maternity Charity which was established in 1757. Its consulting physician is Dr Robert Barnes It has 46 district surgeons and 55 midwives.

3 My third illustration I find in the 140th annual report of the City of London Lying in Hospital.

The out patient department is worked by a consulting physician, Dr Clement Godson, and 11 district surgeons, some of them esteemed neighbours of my own, with names that may be known to some of you—viz, Mr. Arthur W. Galloway, Dr Major Greenwood, Jun., Dr. Chambers, Mr Hope Grant, Mr W F Blyth, Dr. P. W. Dove, Mr. H D Whitehead, Mr. W. Campbell McDonnell, Mr F H. Oliver, Dr. C E M. Kelly, and Mr. C Beauchamp Hall. There are eight midwives—trained, of course. They attend the cases and send for the district surgeon. I want to know what sin these gentlemen commit in accepting such an office, involving the recognition of, and cooperation with, midwives holding for the most part certificates from the Obstetrical Society? If this recognition and cooperation, which have existed 150 years and have survived the Act of 1886, are in unquestioned force to this day where is the inconsistency or the crime of approving legislation the essence of which is to provide for the classes who are independent enough to employ midwives on their own account the same security for training which you have in the midwives of these charities and the same assistance, when needed, from the medical profession? And I want to know, further, if when gentlemen clamour to have the representatives of the Obstetrical Society found guilty of infamous conduct in a professional respect for examining and certifying midwives as midwives they will be prepared to go further and demand to have the same verdict brought in with its terrible consequences against the 11 gentlemen I have named on the staff of the City of London Lying in Hospital and against Dr Robert Barnes for his countenance of the Royal Maternity Charity? Gentlemen, I claim to have shown that such a view of the midwife as is now forced upon us week after week by a few energetic opponents of the Midwives Bill is a reversal of the attitude of the profession on the subject and one which brings us into a very serious position We must either be very cheap midwifery cutsiders or let midwives do it. We cannot assume a top-lofty position without bringing on the profession a great responsibility. Our position to all legislation on midwives means the continuance of the old midwife, untrained, untidy, with no sense of puerperal hygiene, and all the clinical consequences to lying-in women of such an anachronism These consequences are so obvious, they are so frequently illustrated in contested inquests that something must be done. Things cannot remain as they are False and hallucinatory opinion is too decided in favour of legislation for them. The profession has to make a choice of its attitude and let some of my friends who refer from me to look past it. You cannot leave things as they are. Days when and so forth. The medical profession cannot, if it would, avoid responsibility. It can largely control.

The Attitude of the Profession.

This brings me to the present situation and the attitude of the profession. [illegible] This is [illegible] where we have to be [illegible] opinions [illegible] [illegible]

which is to the principle of all such Bills, to all proposals for dealing legislatively with midwives. But they say, at any rate, and particularly, we object to *this* Bill. Now, gentlemen, this objection has been made to every Bill that has ever been produced. It will easily be understood that such a position cannot be indefinitely kept up against a measure in regard to which there is a strong favourable feeling in Parliament and in the public mind. The real alternatives, as I now propose to show, are between this Bill and something worse.

The Two Alternatives.

I maintain that the General Medical Council and the Direct Representatives who are giving a conditional support to this Bill know what they are doing and that they are doing the best thing in the nature of the case. They are insisting on certain points being observed in such legislation, of which I would point out three or four.

First, that the *practice* of the "Gamps," subject to the life-interest of those already in practice (and that conditional on evidence of good character), shall cease.

Second, that the practice of the new midwife shall be subject to limitation and regulation, to be superseded or supervised whenever the cases become unusual or irregular; whenever emergency arises in mother or child. This is the traditional condition of all midwives' work sanctioned by the profession, and it is proved to be safe and satisfactory for lying-in women. I shall prove that if anybody doubts it or challenges me to do so. I may here once for all meet a question which is often put—I think not very reasonably—by those who object to the Midwives Bill. The question is this: "Would you like a friend of yours to be attended by one of these midwives with three months' training?" Certainly so, I answer, in preference to one with no training at all. That is the alternative of those who are attended by midwives.

Third, that the influence and opinion of the medical profession shall be felt and shall be predominant in the framing of the rules which are to regulate the practice of midwives and in the administration of the discipline of those who violate these rules. This is provided for in the Bill first, by the predominance of medical men in the constitution of the Midwives Board, and, secondly, by clauses which require that the rules framed by the Midwives Board shall be subject to the approval of the General Medical Council—rules, that is, for the training of midwives and for regulating, supervising, and restricting within due limits their practice; for deciding the conditions under which midwives may be suspended from practice; for deciding upon the removal of the name of any midwife from the roll of midwives; and for disobeying the rules and regulations laid down under the Bill by the Central Midwives Board or for other misconduct, &c.

The consideration of the rules of the Midwives Board by the General Medical Council will, of course, involve some demand on the Council's time. The General Medical Council has stipulated that the cost of this time shall not fall on the Council's funds provided by medical men, but shall be met by the State. Such, then, are the principal conditions insisted upon by the General Medical Council on the various occasions on which it has been invited by the Government to consider the provisions of this Bill. And I should be scarcely candid if I did not take this opportunity of expressing my sense of the respect shown in this matter by the Government to the General Medical Council and through it to the medical profession. I say that the acceptance of legislation on these lines, and with these safeguards, is now open to the medical profession. This is one of the two alternatives which it has to choose.

There is another alternative to which I beg the earnest attention of my hearers and of the profession. The irreconcilables of the profession may possibly defeat this Bill. The rules of the House of Commons lend themselves easily to such a sort of success and, even now, in the crowded life of this memorable session it might be possible to find ways of blocking or imperilling the Bill. I do not think it is at all likely. But in any case such tactics will not long or permanently prevail. Even if the gentlemen who object to this legislation had all their own way; if they could return Direct Representatives entirely of their way of thinking on this matter, I venture to say they will not have achieved their object. We have had a rude reminder lately that even in medical questions before Parliament the medical profession cannot have all its own way. And I ask the profession to believe that the real alternative to which the Government may be driven by mere blind resistance to this kind of legislation, such as we have seen in the last few years, may be to give us a very much worse Bill than that we have now before us and which promises a real end to the dangerous midwife. It may be driven to say: "If the Medical Council does not represent the medical profession, if the profession is really represented by those who resist every Bill likely to remove a grave evil with the least risk to medical art and to the medical profession, then we must settle this question without their assistance and without their coöperation and create a perfectly independent class of midwives who shall lay down their own rules and carry out their own discipline."

This seems to me the real alternative to which such blank opposition as we have seen to this Bill exposes the profession. I cannot doubt that when the profession looks at the subject—not from a balloon and another world as some of our friends seem to do, but in the light of actual facts—it will see the real alternatives which are before it and will accept the Bill containing the safeguards I have mentioned, will endorse the action of the General Medical Council, and I believe it will say that the Direct Representatives who have faced the difficulties of the question and secured conditions which alone make the midwife safe have acted wisely and have done right. I believe it will clearly see that Parliament is bent on dealing with this question somehow and will prefer to take a Bill which gives the profession control over midwives to one which leaves them independent.

The issues raised by this question are not those of mere election position—whether I am to be at the head of the poll or at the foot of the poll—as some of my critics seem to think. I have had experience of both positions and I am entirely willing to leave such results, and even my exclusion from the poll altogether, to the broad and fair judgment of my fellow-practitioners. Far different and far more important are the issues than any personal details of the sort. The real question is whether, when a question of this sort has to be faced and settled by Parliament, Parliament shall receive the practical help of the profession in that spirit of level-headedness and educated common-sense which it has always displayed and which causes it to be consulted by successive Governments. We are largely dependent on the goodwill and the good opinion of Parliament. The profession has much yet to ask from it—and rightly to ask—including an extension of Direct Representation. I believe our leading statesmen were never more appreciative of our art and science and profession than they are to-day, and I should regard it as a misfortune if in this matter the profession showed itself unhelpful by being unpractical. And I should regret it the more as the whole responsibility and discredit of that attitude would fall on Direct Representation. I shall be no party to such an attitude, and in trying to put this inevitable legislation into the best form I am convinced that I shall best serve the interests of the profession as well as of lying-in women.

THE WAR IN SOUTH AFRICA.

THERE is but little of real importance to be chronicled regarding the progress of the war; at least, such appears to us to be the case. The efforts that were being made last week not only to relieve Wepener but also to capture the Boer forces engaged in its investment have proved futile as far as the latter object is concerned. The Boers were not going to be caught in a *cul-de-sac* and they very skilfully made off at the right moment. The greater portion of De Wet's and Olivier's commandoes have evaded pursuit and have apparently rejoined their main army at Brandfort and Kroonstad. The retreat of the Boers has, no doubt, had the effect of clearing the right flank of Lord Roberts's force of their presence, but the result is nevertheless very disappointing. The fate of Mafeking still hangs in the balance and naturally causes much anxiety, for its immediate relief seems to be no nearer than it was (indeed, it is stated that Lord Roberts has asked Colonel Baden-Powell to hold out until May 18th), while its limit and power of holding out are daily decreasing. The surrender of the garrison of Mafeking after their long-sustained heroic

defence would be very keenly felt by the nation which has followed the history of the siege with sympathetic interest and admiration. Among the war incidents in our favour must be reckoned the recent explosion at the arsenal at Pretoria, but we do not know whether this involved the total destruction of all the plant or not or to what extent the damage is reparable so far as the arsenal as a manufactory of the munitions of war—of shot and shell—is concerned.

It was firmly believed some weeks ago at Bloemfontein that no advance was expected to take place before May. That month has arrived now, and there is every reason to believe that it must soon occur. Lord Roberts's move will presumably be the signal for Sir Redvers Buller's force to coöperate in the advance. Various estimates are given as to the strength of the Boer forces that are available to oppose us, but it is of little use speculating on the subject, for this has been throughout a war of surprises from its initial stage to the present moment.

The total British casualties, according to a War Office return published on April 25th, reported from the beginning of the war up to April 21st were as follows: killed in action, 213 officers and 2015 men, died of wounds, 50 officers and 483 men; missing and prisoners (excluding those found at Bloemfont . . . Royal Irish Fusiliers, . . . 3785 men, died of di . . . ntal deaths 3 officers and 44 men; sent home as invalids, 347 officers and 5802 men; total, 842 officers and 13,982 men. Total losses (exclusive of sick and wounded men now in British hospitals in South Africa), 14 824.

There must be a large number of sick and wounded men at present in our hospitals, for there have been several recent encounters with the enemy and the sickness (notably from enteric fever and dysentery) is mounting up, still, the ratio on . . . This reminds us that it . . . nt time to form any estimation for enteric fever. According to the experience and opinion of some it is of little or no value as a safeguard against that disease, but Sir William MacCormac is probably right when he says that it is premature to form any opinion until we have sufficient statistical data to afford a comparison between the inoculated and non inoculated in respect of their susceptibility to attack and as to any modification or not of the course of the fever observed in those who have been attacked after having been inoculated.

Dr. E. Symes Thompson, Gresham Professor of Medicine, has been recently delivering some lectures at the Gresham College on "Military Ambulance Work," which are interesting and instructive in their way, in that they trace out the history of the subject up to and including the present war, with the lecturer's comments and practical conclusions regarding the methods and procedures followed in South Africa, together with some of the statistical results obtained, but we cannot say that they add much to the practical knowledge of those who have given their attention to the subject of the medical aspects of modern warfare. The present war has, as might have been anticipated, added greatly to our knowledge and altogether changed or greatly modified many of our views in various directions, but the time has not yet come for harvesting the information or formulating the results. Great changes will be brought about by our present experience, and among these we may reckon that not only will the regular army medical service have to be increased and developed, but, still more, that the organization of a medical reserve on a large scale will have to follow. We must always have a thoroughly well trained and well-equipped Royal Army Medical Corps as the backbone of the medical service, but considering all the increased requirements of modern war and the enormous forces brought into the field it will, for financial reasons, be impossible as well as, for other reasons, inexpedient, to maintain a permanent service on an adequate scale to the exceptional needs of war, and we shall therefore have to provide a large reserve medical force on which to fall back in order to meet these and the occasion occurs.

A large number of civil surgeons have been employed in the war hospitals of South Africa, our different Red Cross societies, the colonies and private benevolence have established fully equipped hospitals there and have sent out hospital ships, the treasury has provided medical officers and material has been largely supplemented from various sources, and eminent hospital surgeons have acted as consultants, so that a great deal of experience has been gained in the present war in the way of finding out the medical organization and administration best adapted to secure the most useful and harmonious action of all in pursuit of a common object. All this will obviously hereafter be turned to account.

IMPERIAL YEOMANRY HOSPITAL

By ALFRED D. FRITH, F.R.C.S. Eng.

Our hospital is making most excellent progress towards completion. The wards, consisting of course of huts and tents, are arranged in three divisions under Mr. Raymond Johnson and myself (for surgical cases), and Dr. Washbourn (for medical cases). Three medical men are associated with each surgeon and five with the physician, and five dressers are attached to each surgical division. Eventually there will be three times 53 beds, which equals 171 in each division. To each 53 beds there are two day sisters and one night sister, thus there are 18 sisters on day duty and nine on night and this leaves six extra sisters on day and three on night duty to be told off by the superintendent to whichever wards are temporarily overworked. Miss Fisher (the superintendent), Miss Paterson (the operating theatre sister), and Miss Stevenson (the night sister), complete our total of 39 nursing sisters. In the middle of the hospital is a cross shaped building. The two operating theatres, one of which is devoted, except in times of stress, to the dental surgeon, form the cross-piece. The short head limb of the cross, separated by a roofed in lobby from the operating theatres, is occupied by Miss Brereton who presides over all surgical instruments and dressings and other paraphernalia. The long limb of the cross, similarly separated from the operating theatres by a lobby, is occupied as to the end nearest to the operating theatre by the x ray department and as to the foot of the cross by the dispensary. The x ray room opens by a four foot doorway into each operating theatre and another four foot doorway in the opposite side of each operating theatre renders it very easy for the patients to be carried on a stretcher or even in a bed from the wards into the theatre or into the x ray room for photographic purposes. The photographic dark room is placed in the furthermost corner of the dispensary, so that the plates there stored, of which we have a valuable stock, should not be spoilt by the proximity of the x-ray apparatus. We are singularly well equipped with this apparatus and already it has been of great service to us in the diagnosis and treatment of several cases. Our other special departments are in great demand, especially the dental department for whose assistance we have had to cable to England for two extra men to work under Mr. Newland Pedley. Our mortality, too, is of the lowest. He does 30 cases every day and he is making some very excellent results, even in some cases which looked at first sight as if they could not get well without operation.

The land occupied by the hospital is a narrow strip about 100 yards wide between the railway line and a long hill. The official staff and the orderlies sleep on the other side of the railway line. The nurses quarters are at one end of the hospital grounds and the officers mess and quarters at the other end close to the railway station. We now have water pipes laid down throughout the grounds and fed from the tank at the railway station. There are four stitches, one for the officers' mess, one for the hospital, one for the nurses and maids, and one for the orderlies. We have, of course, plenty of potatoes in the second mess, but a supply of fresh milk and eggs, for which we have to rely on the few farmers round about, is very scanty and very variable, and as to poultry, fresh vegetables, fruit, and such like, they are absolutely unobtainable. Meat and bread are sent up from the Army Service Corps at Pretoria. The meat is very fine, Cape Town and very good it is. The bread is not nearly as good as they can make it. They are endeavouring to improve it, of course. The patients are in wards of from eight to 11 beds, and the bed tents, which have four beds each, are so comfortable and roomy that the nurses of the hospital are using them for hospital purposes and are not requisitioning for more tents for recreation rooms and so on. They frequently make up altogether, for there are only three of four nurses at any one time, for there are only three of four nurses at any one time before the [illegible] Africans [illegible] as many as [illegible] were made of [illegible] one had to supply [illegible]

if it was raining the only safe thing was to pull a tarpaulin completely over your bed or to rig up an umbrella over your head. It really looked most odd.

As to the patients they comprise instances of pretty nearly every wound which has already been recorded in the medical papers. There are the same marvellous escapes which have struck every observer in this war. Men shot through the head and through the trunk in such a way that one would have thought the vital parts must be injured, are frequently seen with no symptom whatever remaining, only the two little marks where the bullet went in and out. The entrance wound often presents no worse an appearance than an ordinary flea-bite. The exit wound is, of course, naturally larger, especially if any bone has been struck or splintered, for then the small fragments give to the subsequent track of the bullet an appearance as if an explosive missile had been used. On the medical side typhoid fever, dysentery, and heat-strokes provide nearly all the cases.

With regard to tobacco, cake tobacco of a good but very powerful nature, such as is always sold to soldiers on active service, we can obtain in any quantity from the Army Service Corps at De Aar, but only the robust Tommy Atkins can smoke this. When he is not robust, as is frequently the case in hospital, and when he is not Tommy Atkins, as is frequently the case in the O.I.V.'s and Yeomanry, of whom we have a good many, then something milder, some of the packet tobaccos of commerce, is wanted, and these we have to buy at considerable expense in Cape Town. Similarly every man coming down from the front is pipeless—every pipe has been either lost, broken, or burnt out. We shall want quite two gross a week when our hospital is fully opened. Cigarettes, too, are in great demand. A patient is generally longing for their lighter attractions some days before a pipe has any allurement for him. I very much hope that some of our friends in England will arrange to send out some of these pipes, packet tobaccos, and cigarettes of any brand. It is undoubtedly cheaper to get them in that way because any firm of tobacconists could arrange to send them "in bond" and *duty free* when destined for troops on active service or in hospitals, and we have no funds available for the purpose, for of course such luxuries could hardly be charged to the hospital account for maintenance.

Our medical staff is producing a newspaper printed through the medium of a typewriter. The first number is just out and is really very amusing. It caused quite an excitement in the camp. Last night we had an open-air concert. Miss Fisher (the superintendent), and two of her nursing sisters, Mr. Rupert Guinness of the Irish Hospital, who was paying us a 24 hours' visit, and the clergyman (who, in default of our own chaplain, who is on the sick-list, had come over for the day and had held two services), were invited to the officers' mess for dinner at 7 o'clock. Then we all joined the throng around the piano on the central stage lit with hanging lanterns. Our own orderlies and patients, and the local guard of 50 men and the nursing sisters, must have made up an audience of well over 200, and from 8 o'clock to 10 30 we all very much enjoyed the really excellent performance. It was a lovely night. There is a great deal of "talent" among all branches, including the sisters, officers, orderlies, patients, and guard.

Another batch of patients, entirely composed of Yeomanry and C.I.V.'s, arrived to-day, collected from various parts of the Cape Colony. We are so pleased that the authorities have evidently appreciated our whereabouts and our desire to get hold of as many as possible of these two volunteer branches of the service. Difficult eye and jaw cases have again come in to-day and, as I have said before, it always gives me particular pleasure when our specialists in these departments are resorted to.

All the work of the hospital is beginning to run in its proper grooves now and of course this will be very much easier when all the huts are erected and the staff told off to their permanent daily duties. While we are in a stage of growth the constant changing of sisters from hut to hut, and of the corresponding duties of the medical officers, similarly, cannot be avoided and gives rise to more than a little difficulty, for the sisters and doctors hardly know one another yet, and certainly neither of them know any of the orderlies except the particular one or two by whom each has hitherto been served. The stores are nothing like all unpacked yet—some of them have not arrived. Those which are unpacked have not yet been methodically arranged in the storehouse, so that we are still higgledy piggledy in many respects. However, under the circumstances of time and place, and transport and weather, and deficiency of labour, now that most of the orderlies are occupied in the wards, I do not think that anything could possibly be going better than the Imperial Yeomanry Hospital is going.

Deelfontein, Cape Colony, April 2nd.

WITH THE IMPERIAL YEOMANRY HOSPITAL.

(FROM A SPECIAL CORRESPONDENT.)

THE ENCAMPMENT AT DEELFONTEIN.

DEELFONTEIN itself is a most salubrious spot. It has an elvation of over 4000 feet above the sea level; its air is pure and warm, and there is generally a gentle breeze which prevents the heat becoming oppressive. Its water-supply is abundant and of excellent quality. Recovery from both sickness and wounds is remarkably rapid. There are considerable differences of temperature during the 24 hours, for while it is often 90° F. in the shade during the daytime the temperature during the night falls very low and very heavy dews are the result.

It is now the rainy season and several very heavy rainfalls have occurred since the hospital arrived here. Tents are still very largely in use, and woe betide any tent dweller who has neglected to dig a trench round his tent, for in that case during a storm he will probably find the floor of his tent covered with water an inch deep in places. The winter is coming on, May and June being the two coldest months here. It is a common occurrence then for the water in one's tent to be frozen during the night.

A storm of rain is invariably preceded by a stiff breeze, which severely tries the stability of all the tents. Although no actual sandstorm has passed over the encampment this breeze carries along with it an immense quantity of the finest sand, which has a marvellous penetrating power. It enters one's boxes and bags by the tiniest crevices, it gets into one's watch and locks, it seems to saturate one's clothes, and everything is smothered with it. One can write one's name on the tablecloths and the white sugar resembles moist brown Demarara sugar owing to its admixture with sand. It get's into one's nostrils and irritates the nasopharynx and gives one a sore-throat, which is often accompanied by headache and pyrexia. It irritates one's eyes and grits between one's teeth. Sometimes diarrhœa seems to be a result of the sand that is unavoidably taken with one's food. Another irritating circumstance is that the sand that settles on one's face blunts the sharpest razor and makes shaving a nuisance.

Locusts and lizards are very plentiful here and they can be seen moving about just outside one's tent. A cloud of locusts passed over the encampment a week after our arrival in sufficient numbers to darken the sky and obscure the sun whilst they passed. There are four common species of poisonous snakes found in the locality. The puff adder is one of the most poisonous, but owing to its slow movements and the fact that it only bites by throwing its head backwards it is the easiest to escape from, as one can readily keep in front of it and so prevent it biting. Several snakes have been killed within the confines of the encampment. The number of flies here is enormous and their presence almost amounts to a plague. Their perseverance and persistence in returning repeatedly to the end of one's nose are worthy of a better cause.

The hospital encampment is divided into two unequal portions by the railway line from Cape Town. To the northern side of the line the tents for Dr. Washbourn and the medical officers are pitched and also those for the orderlies. The tents for the medical officers are small green tortoise ones and are protected by an awning which is most valuable in keeping out the heat and rain. In the larger ones two officers sleep together. The orderlies sleep in bell tents, six being quartered in each tent.

On the southern side of the line are situated the huts and tents for the patients, the commandant's office, the tent for Mr. and Mrs. Fripp whose portable house is not yet erected, the mess tents, the kitchens, the stores, and the nurses' quarters. The commandant's office is in a cottage of three rooms, one of which Colonel Sloggett, R.A.M.C., uses as his bedroom.

The medical officers' mess tent is a large marquee which is capable of seating from 90 to 100 people. All officers who are among the patients take their meals with them in the mess tent. About 40 sit down to dinner every night and

Colonel Sloggett is a most popular president of the mess. Attached to the mess tent is a large recreation tent which can be entered directly from the mess tent and which serves as a smoking-room and for concerts after dinner. Twice a week there is a guest night and members of the nursing staff are invited to dine with the medical officers. Mr. and Mrs. Murray Guthrie and Lord Iveagh's son have stayed here.

The hospital huts are corrugated iron buildings lined with wood. They are sent in sections from Cape Town and have only to be fastened together with iron bolts. Some larger huts capable of holding 34 patients have been brought out from England. All the huts are provided with wooden flooring and the site is carefully levelled before the hut is erected. Messrs. Peterson of Johannesburg are in charge of the erection of the huts. Kaffir and Hottentot labour is employed and a wagon and team of oxen are used for moving the stores, &c., from the trains to the camp. A railway siding has been constructed which leads from the station right into the encampment and saves an immense amount of labour.

Each hospital hut accommodates 20 patients comfortably and on emergency four more beds could be squeezed in. Iron bedsteads are provided for the patients in all the huts and larger tents, with mattresses, pillows, blankets, and sheets, which are a great luxury to most of the men, who for weeks have been compelled to sleep out in the open without any tent and with only one blanket to cover them. Tables and chairs are freely distributed between the beds and each man has his own eating utensils and a brush and comb. A flannel nightshirt or suit of pyjamas is given to each patient. Glass windows with wooden shutters are arranged on both sides of the huts for lighting and ventilation purposes.

The more severe cases are housed in the huts, whilst the patients who are recovering are put into tortoise tents and the convalescents sleep in bell tents. The tortoise tents are of two sizes, accommodating eight and ten patients respectively. Their furniture is practically the same as that of the huts, with the exception that sheets are dispensed with and the patients are closer together. The patients take a great interest in their tents and adorn the front of them with gardens in which they plant flowers found on the veldt and in which various mottoes are designed with whitewashed stones.

In each bell tent four convalescent patients sleep on trestle beds, and as they are up all day there is plenty of room for them. These tents are provided with little furniture.

The diet of the patients is excellent and is the same as that of the medical officers. Army regulation diet-sheets are used, in which plain milk diet represents three pints of milk daily, and milk diet consists of milk, bread, butter, puddings, and porridge. The convalescent diet includes meat (one pound), potatoes and fresh vegetables, cheese, &c. Most of the convalescent patients receive a bottle of stout per diem. These diets can be supplemented by the addition of such luxuries as custard, eggs, champagne or other wine, and fruit. Eggs are scarce and cost 7s. 6d. per dozen.

The amusements of the patients and camp are in the able hands of Mr. William Turner. An excellent golf course of seven holes has been marked out on the sandy bed of a dried-up dam of water, the only objection to it being that after heavy rains it is submerged. Cricket, quoits, and football are also possible. Daily papers are received each day from Cape Town and are distributed to the patients, as well as the illustrated papers and newspapers from England. Horses and a mule cart with a pair of mules can be hired from the general stores and riding and driving are thus provided for those who feel inclined for such exercise. A most excellent open-air concert was given recently, lasting for over two hours, at which the orderlies, assisted by the medical men and nurses, afforded a most amusing entertainment for the patients and for all who attended it. It was such a success that it is intended that it shall be a weekly occurrence.

The hospital is divided into three divisions under the leadership of Mr. Fripp, Mr. Raymond Johnson, and Dr. Washbourn respectively. In Mr. Fripp's division are Mr. W. Turner, Mr. Parkes, and Dr. H. W. Bruce, whilst Mr. Raymond Johnson is assisted by Mr. H. A. Ballance, Dr. J. B. Christopherson, and Mr. W. C. G. Ashbourne. In Dr. Washbourn's division Dr. H. W. Saunders, Dr. A. Elliot, Dr. L. E. C. Hardson, Dr. R. T. Fitzhugh, and Dr. G. E. Richmond are appointed. Each qualified man has from 30 to 40 beds allotted to him and is responsible for the treatment of these cases.

Three special departments are represented: by Mr. L. V. Cargill for diseases of the eye; by Mr. Newland-Pedley for dentistry and injuries to the mouth; and by Mr. Hall-Edwards for x-ray work and photography. The eye department of the hospital is most fully equipped and Mr. Cargill is able to operate on, or treat, any case of injury or disease of the eye as completely and efficiently as he could if he were in London. He has even brought with him an electro-magnet for use in the extraction of any fragments of shell which may lodge in a patient's eye. He has also with him all lenses and appliances for testing vision or ordering a pair of spectacles. One of his patients, an officer who was wounded at Paardeberg, was the first patient who entered the hospital. He was scouting with a small company of men and got within 15 yards' range of the Boers. Both parties took shelter behind boulders and then bobbed up and fired and immediately returned to cover. As soon as a man showed himself five or six bullets were fired, splashing on the rocks around. Lord Methuen telegraphed for Mr. Cargill and he went *viâ* Kimberley to Boshof to fetch the patient—through the enemy's country in a cart at night during the latter stages of his journey—and brought him to the hospital. The drive from Kimberley to Boshof was performed under cover of darkness and an unfrequented road was chosen. Boers were encamped on the top of the kopjes, but no shots were fired. In the middle of the night they were compelled to [illegible] ...es refused to continue [illegible] of going back for half [illegible] ...ning their heads round towards Boshof. The right eye of the patient was quite hopelessly lost and contained two foreign bodies which were found by the x rays before enucleation was performed. His left eye was also contused by another fragment which lodged in the eyelid and for an hour he was totally blind and was taken prisoner two hours afterwards by a party of Boers, but was afterwards given up to Lord Methuen. He is now doing well and the stump is quite healed. About a dozen cases of diseases of, or injury to, the eye have been treated.

The x ray department has already been of considerable service in the experienced hands of Mr. Hall-Edwards. It is most fully provided with both x-ray and photographic apparatus. A complete field outfit of Mr. Hall-Edwards's own design has been given for taking x-ray photos on the field if necessary, as well as a magnificent coil with a 15-inch spark on a moveable table for general work in the wards, together with accumulators and a dynamo for recharging them, which will be worked by hand. There is also a Mackenzie David-son's localising apparatus. The photographic outfit is very complete, consisting of a large stock of plates and four cameras, including one stereoscopic camera which will allow of a complete pictorial record of the hospital and its patients being kept. There is also a convenient dark room with water laid on. Mr. Hall-Edwards has under his care all apparatus for electric light and for telephone communication in the camp.

The surgical divisions of the hospital are most fully provided with instruments and surgical dressings. A part of one of the huts has been set apart as an operating theatre, which is admirably arranged for performing operations on the most approved aseptic principles. An excellent operating table has been brought from England, and there is every convenience for the surgeon to sterilize his hands and instruments before operating. Mackintoshes and sterilized holland overalls soaked in lysol for 24 hours are worn during an operation, whilst sterilized towels soaked also in lysol are arranged around the wound so as to give an aseptic field upon which instruments and sponges can be placed without fear of infection. In fact, an operation can be performed here with all the advantages of a large London hospital. A sterilizer for dressings and wound-wool sponges is in working order and the soiled dressings can be all cases destroyed in the destructor. Lysol, carbolic acid, and perchloride of mercury are used as antiseptic lotions; iodoform and alcohol are the principal antiseptic [illegible] broth, and cyanide gauze are the principal antiseptic [illegible] in request; and the usual antiseptic wools are provided in plenty. Every instrument, many of which are in duplicate, which could possibly be required in the commonest surgical operations has been brought here from England. The instruments and the operating theatre are in the charge of Sister Brereton as theatre sister.

About a dozen operations have already been performed with satisfactory results. One patient suffering from extravasation of urine had to be operated on within a few hours of

his arrival at the hospital and he is now making a good recovery. The operations so far have been chiefly for necrosis of bone, ununited fracture, radical cure of hernia, varicose veins, enucleation of the eyeball, and amputations of the finger. The x rays have been useful in localising pieces of dead bone.

Many of the men who have been wounded require no operative treatment whatever and with careful antiseptic dressing the wounds heal perfectly. One patient was shot through the chest, the bullet passing obliquely from above downwards and from behind forwards, but after suffering from hæmoptysis for a week the wounds healed perfectly and in a month he had quite recovered without any signs of disease in his lung.

March 31st.

THE HOSPITAL SHIP "NUBIA."

The hospital ship *Nubia* arrived at Southampton on May 1st with 28 sick and wounded officers and 270 non-commissioned officers and men from Durban. Most of the invalids came from Intombi and Mooi river hospitals and had gone through the vicissitudes of the siege of Ladysmith. The *Nubia* is a P. and O. steamer that for some years past has been chartered by the Admiralty as a transport, and she was turned into a hospital ship at Durban about Jan. 1st. She remained at Durban until April 1st, when she sailed for Cape Town and Southampton. She is the largest hospital ship afloat and was pronounced by Sir William Mac Cormac and other experts to be superior to any they had seen. There is every convenience and luxury in the wards, including swinging cots, electric fans, &c., and there are fine operating-rooms, and Roentgen ray rooms on board. Captain T. W. Gordon Kelly, Militia Medical Staff Corps, is the medical officer in charge, and under him there are a staff of five surgeons and seven nursing sisters.

(FROM OUR SPECIAL CORRESPONDENT AT THE BASE.)

The usual daily routine still goes on out here and very little of interest to your readers takes place. We get the hospital trains down with more or less regularity, conveying generally more sick than wounded patients, and since the relief of Ladysmith we have had several patients who had gone through the siege. With the exception of being pulled down and of showing symptoms of mal-assimilation of food the majority of the latter very soon pick up again and in a week or two are fit for duty. The Portland Hospital from Rondebosch has by this time moved up to the front, and any cases that are left have been distributed in the case of officers to Claremont and of the men to the various general hospitals.

I saw yesterday a "clip" of cartridges, Mausers, that had been brought down from the front by an officer which at first sight appeared to have been painted green, but closer examination proved that the bullets had been dipped in verdigris. I can personally vouch for the above as I handled some of the cartridges. If the "gentle pastoral Boer" has done this on his own initiative he deserves to be bayonetted wherever he is found, but I cannot help thinking that some of the many foreign friends of the "slim ones" are responsible for it.

Enteric fever amongst the prisoners (Boer) at Simon's Town is still very serious and the number of cases is great, the mortality being very heavy, though every possible effort is being made by the medical authorities to cope with the outbreak. There can be no doubt but that the Boers brought the disease down from the front with them, as none of the crews of the transports are suffering and our men are not affected. A special hospital has been established for their treatment at Simon's Town and all comforts and luxuries compatible with their condition have been provided.

The weather out here now is beginning to be much more wintry, and the change of temperature will be sure to exert a marked influence on the number of bowel complaints, in fact the majority of the patients coming down are suffering from dysentery in some of its forms.

As is only to be expected the delay in moving forward is increasing the sick-rate, as experience shows that both officers and men are much better and show a lighter sick return when on the move and at work. However, it cannot be helped, I suppose, but everyone will be much relieved when the time comes again for an advance.

Every home-going transport now takes its quantum of sick and wounded, and I [illegible] the resources of Netley are taxed to t[illegible] the fact remains that the voyage home works wonders, and by the time they arrive a great number of the patients are fit to return.

It is the intention of the authorities to begin the erection of huts in the place of the tents which are in use at present at Nos. 2 and 3 General Hospitals here; in fact as the rainy season is now beginning it would be impossible to treat the cases under canvas.

I sent you last week some drawings of interesting cases, and an assortment of the various bullets which I have met with since the war began, but I am sorry to say they went to the bottom in the ill-fated *Mexican* which took our mails and parcels. I am very sorry, as I had taken some time to collect them and they would have been of interest to your readers. However, I hope to be able to duplicate them before the campaign is over.

There is no doubt that the expansive bullet is being used very freely by the Boers, and several instances have occurred where they have been actually found in the possession of prisoners.

April 4th.

THE EXHIBITION OF THE ROYAL ACADEMY OF ARTS.

THE 132nd exhibition of the Royal Academy of Arts, which will be opened to the public on Monday next, does not present many features of novelty. To a more than usual extent the work of old favourites is upon the lines which has gained them their popularity, Mr. Abbey's big historical picture, the veteran Mr. Sydney Cooper's animal pieces, Mr. Goodall's Oriental scenes, Mr. Leader's landscapes, and Mr. Marcus Stone's illustrated story being especially familiar in design and treatment. The water-colour room and the departments devoted to sculpture (including medallion work), to enamels, and to miniatures become every year more popular with exhibitors and more worthy of attention, but the same improvement of standard is not perceptible in that large half of the exhibition which for most people means the whole exhibition and which consists of the 11 rooms of oil paintings. There are, of course, many pleasant pictures, there is much conscientious drawing, and there are a few good portraits, Mr. Sargent, Mr. Cope, Mr. Melton Fisher, Sir Philip Burne-Jones, and Mr. Bramley being happiest.

The success of two new Associates, Mr. La Thangue and Mr. Clausen, of recent years is maintained; the latter in particular being seen to advantage in at least five out of six contributions, while his influence has certainly been felt by other painters. For there are many more pictures this year than usual painted in cool greys, and subdued greens, violets, and browns. This is a relief to the eye of the spectator, which for several years has been much tortured by rows of pictures painted up to the Academy pitch. Mr. La Thangue in a little picture of a girl—No. 68, in Gallery III.—shows that the tendency to become melancholy when using lower tones need not be followed, for this beautiful piece of colouring is every whit as bright and far more pleasing than the garish confections of orange and purple that lately have been too common on the walls of Burlington House as specimens of colour arrangement. M. Bouguereau's picture—297 in Gallery V.—will be considered by many the best painted work in the exhibition. The pretty insipidity for which this painter is so often blamed is certainly present in the Virgin's face, but the picture is none the less a very fine one, while the Child is admirably drawn and painted. The man must be catholic in his tastes who can honestly admire M. Bouguereau and Mr. Sargent, but the French master is a fine painter, to whom most of our Royal Academicians cannot hold a candle.

The place of honour in the large Gallery No. III. is given to portraits by Mr. Orchardson of the Queen, the Prince of Wales, the Duke of York, and Prince Edward of York. This is a family picture, simply entitled "Windsor Castle, 1899, Portraits," and the stiffness of composition has been purposely adopted to bring the faces of the four generations into prominence. The portraits are distinctly good, and no one can see them without observing the remarkable likeness, especially about the eyes and lower

part of the mouth, which runs through the four generations. The Prince of Wales is portrayed once again in the same gallery by Mr. Ouless as Commodore of the Royal Yacht Squadron, where the face is stronger and graver, as befits the different environments, and a third time by Mr. Caton Woodville with not so happy a result. In Gallery III. hangs also what may turn out to be the picture of the year—the portraits by Mr. Sargent of Mr. Percy Wyndham's daughters, Lady Elcho, Mrs. Adeane, and Mrs. Tennant. This is a wonderfully effective picture, but to our mind time will be required to make the flesh look natural. The picture is splashed on to the canvas with a vigour that has its drawbacks as well as its advantages. Until the whites have approximated a little more to the shadows and the very rosy tips to the fingers and ears have become subdued the effect will remain too theatrical. Time will rectify this and restore the figures to the canvas, from which they now stand out in too marked a manner. A portrait in Gallery I. by the same master of Lord Dalhousie is exceedingly elegant, and shows quite well that Mr. Sargent has no need to be quite so coarse to get his effects. Of medical portraits there are this year only two—an accurate likeness by Mr. F. W. Carter of Dr. Saundby and a dignified portrait by Mr. H. S. Tuke of Dr. Henry Rayner. Each is a pleasant presentment of its subject and should give pleasure to the friends of the original. In the sculpture-room there is a good bust of Mr. Pickering Pick, a bust of Mr. McHardy, and a medallion portrait of Dr. Parkes Weber.

Among other pictures worthy of close attention we must mention No. 630, by Mr. F. M. Bennett. The subject is the Death of Ladas as he is going up to receive his crown at Olympia. The grey shade of acute heart-failure is well expressed and the grouping of the figures skilfully managed. No. 1074, Mr. Edgar Bundy's "Watercress," is also a very noticeable work. Mr. Goodwin's delightful fantasies, No. 463 and No. 575, together with his water colour representation of Berne, No. 1276, should also not be missed, and the same may be said of the charming little water colour, No. 1139, by the President; of Mr. Leopold Rivers's landscape, No. 1147; of the clever picture of old Boston, by Mr. H. Goodwin, No. 1095; and of Mr. A. Fisher's silver and enamel group, No. 2033.

One artist, Mr. William Small, has painted a picture—No. 1016 in Gallery X.—illustrating an episode in the day of a country practitioner with great fidelity. The child of a gipsy has been taken ill and the dog-cart of the medical man has been stopped as it is passing the encampment and the driver begged to give his advice. All the figures are life-like, the anxiety of the mother and father, the curiosity of the other children, and the complete absorption of the medical man in his stethoscopic inquiry, directed to the right of the sternum at the level of the third interspace, all being well depicted. But the little patient does not look ill, and although so careful a practitioner as Mr. Small has indicated will not be satisfied until he has made a thorough investigation, we guess that his diagnosis will be indigestion.

THE DINNER AT THE REFORM CLUB TO SIR WILLIAM MACCORMAC AND MR. TREVES.

On Saturday night last, April 28th, Sir William MacCormac, President of the Royal College of Surgeons of England, and Mr. Frederick Treves were entertained at dinner by their fellow-members of the Reform Club upon their return from South Africa. Lord Rosebery presided, and there were 100 members of the club present, including most of the medical men on the roll of membership, among whom we may mention Sir C. Nixon, Mr. Buckston Browne, Mr. Mayo Collier, Dr. R. Farquharson, M.P., Dr. S. H. Habershon, Dr. G. Hastings, Mr. W. H. H. Jessop, Dr. Stephen Mackenzie, Dr. R. D. Mapother, Mr. Malcolm Morris, Dr. G. Ogilvie, Mr. A. Q. Silcock, and Mr. T. S. Townsend.

Lord Rosebery, who was in the chair, after the loyal toasts had been duly honoured, proposed, with his usual fortunate choice of language, "The Health of Sir William MacCormac and Mr. Treves." After commenting upon "the rare occasions when the Reform Club is able to rouse itself from what may be called its habitual lethargy" and treating the audience to a well-chosen anecdote about Lord Beaconsfield, for the truth of which he refused to vouch, his lordship adopted a graver tone and spoke in terms that will not readily be forgotten of the Army Medical Department and all concerned in helping it during the present war. "We have had," he said, "gigantic preparations costing unnumbered millions sterling, and likely to cost as much more. We have given all ungrudgingly, but the results have not been in every respect, and in all respects, completely satisfactory, but nations that engage in war must be prepared to take the ups with the downs and the darker shade with the brighter shade. The correspondence sent home from this war has been greater than has ever attended a war before, because it is the first time that a wholly educated army has been brought into the field, and every private soldier can write home, and there has been much diversity of opinion in the accounts. But there has been unanimity on one point, and enthusiastic unanimity, and that is that the medical and hospital service has been perfect. That is due mainly to the Government, because the Government has been able to obtain the men and to give the supplies which those men have used. We must always give credit to the Government where credit is due. They sent two of the most eminent men they could think of to South Africa and they gave them a free hand. All honour to the Government and all honour to the men. Those are the men whom you are entertaining to-night. Without a second thought they left their great practice, they left their great connexion in this country, and went out for six months, at what sacrifice you can guess, to superintend the hospital arrangements and the surgical arrangements of our army. We hear much of patriotism in these days. We sing patriotism all day long, but for cold, deliberate, thoughtful, conscientious patriotism commend me to these two men. I do not think they need any mention from me. Sir William MacCormac's name is a household word amongst us. He has been, I think for four successive years, chosen President of the Royal College of Surgeons of England. He earned his spurs on the battlefield 30 years ago. Perhaps he may not like to be reminded of that, but we remember it, and I think it would not do any harm to our French friends if they remembered it too. In the Franco-Prussian war, amid the bloody and thunderous scenes of Sedan, Sir William MacCormac for 48 hours was continuously carrying on surgical operations in that part of the world. He has brought his experience and his skill to bear upon our war as four soldiers in their turn. Mr. Treves, too, left a great practice, and applied his unrivalled skill for the same purpose. But we are not merely honouring two medical men and two fellow-members of the Reform Club to-night; we are not merely honouring the consummate act of patriotism on their part, but I venture to think we are recognising something more, which is not perhaps so much recognised as it ought to have been. We are paying honour to two non-combatant members of our army whose heroism is not less than the heroism of those who are engaged in forlorn hopes, for they have to go defenceless, exposed to fire as much as the soldiers they attend. And it is to that spirit and with that recollection that I ask you to drink with all honour to Sir William MacCormac and Mr. Treves."

Sir WILLIAM MACCORMAC, in returning thanks for the great honour done to him by the Reform Club, said it was with some reluctance that he went out to South Africa, but he deemed it right to go from a belief that it was right as well as because of the experience he had gained in previous wars might prove of service. It was no part of his duty to criticise either the position or the conduct of the war, but he might repeat what he already been well said that never had the resource and endurance of our soldiers been greater. He might well be proud of our fellowship with the men in which they belonged. The conditions under which they fought might well have discouraged the braves. As an illustration he referred to the battle of Colenso where on one day there were more than 1100 casualties. He had had exceptionally of hearing as what he thought to be a good authority, what the Boer forces were on that occasion. He heard from the lips of those who were there [illegible] methodical fire [illegible] and it was [illegible] confirmed by the [illegible] [illegible] whose [illegible] [illegible]

the Boers on that day was five killed and 25 wounded. This might well be true, for our soldiers never caught sight of a Boer the whole day. When he (Sir William Mac Cormac) had an opportunity afterwards of seeing the Boer positions about Colenso and their trenches, the only wonder was, he thought, that any Boer was injured or that such places were anything short of impregnable. And this small number of casualties occurred in spite of the previous two days' heavy bombardment of artillery. Our modern guns seemed but little more dangerous than the older weapons. In fact, Commandant Albrecht, the Boer artillery captain, calculated that 12 Boers were killed and 40 wounded for every 1000 of our shells fired, so it might be said that our modern guns had not achieved the results that were expected of them so far as killing was concerned. One thing that was very remarkable was the comparative harmlessness of the wounds inflicted by the Mauser bullet. Men recovered after being shot through every part of the body and 96 per cent. of those treated in the base hospitals recovered from their injuries. Another remarkable fact was the fewness of the amputations performed. During the first four months of the war only 20 amputations were performed at the No. 1 General Hospital at Wynberg. Our Lee-Metford projectile inflicted a very similar kind of wound, but the Boer wounded did not get such good treatment as did the British. The Boers did not possess, as our troops did, a first field dressing, whose speedy application doubtless saved much life and suffering. During his stay in South Africa he examined the medical arrangements both throughout the Cape Colony and Natal, and he did not believe that it would be possible to have anything more complete or better arranged. Lord Rosebery had referred to the action of the Government, and he thought that too much praise could not be given to the Government in regard to this matter. There was nothing that was suggested, nothing that money could purchase, that was not forthcoming when and where it was wanted. He did not think that the enormous distances which food and forage, and even water, had to be transported—not to mention the munitions of war and the troops—were fully realised in this country. He himself had traversed 6500 miles of country, often under very uncomfortable conditions of transport. The convoys were prodigious in size. One which he saw was six miles or more in length, each wagon drawn slowly along by 16 oxen, and many such followed laboriously in the rear of each of our divisions. In spite of these difficulties of provisioning such a large army so many miles from their base he found that in all cases the soldiers received a daily supply of fresh meat and bread, and that, except perhaps during the actual hours of fighting, the hardships experienced by our men in the matter of commissariat might be counted as not worth mentioning. Officers and men received the same supplies. He did not, as he said, intend to talk politics, but he might express his conviction that nothing could have averted the war. Had it not come now it must have come later, and at any cost of life and money we must succeed if we were not to abdicate the proud position the British Empire now occupied. He would even go further and say that in his opinion the war was one of the best things that had happened to England in this century, because it had brought out England's manhood and had exhibited the virtues of our countrymen not only to ourselves, but to those abroad. Without doubt our country would emerge better and more powerful from the contest than it had ever been before. This war, too, would unite our children in the great colonies to us in bonds closer and more affectionate than was ever thought possible before, and it would sweep away a narrow, bigoted, and corrupt oligarchy and substitute for it a just and honest Government. He was only entitled, however, to speak with authority of the medical arrangements of the war, and it was not only his own opinion, but also that of all those who were competent to form one, that these arrangements were better than they had ever been before. It was a good thing, not for the soldier only who benefited by these arrangements but for those at home, that they should feel that what was done for their beloved ones was the best that could be done. Of the medical officers it might be said that they had shown themselves to be without fear, as most certainly they were without reproach.

Mr. TREVES said that he felt it a great honour to be entertained at dinner at the Reform Club. He confirmed what Sir William Mac Cormac had said about the treatment of the sick in South Africa. There had never been a campaign in which the miseries of war had been so mitigated and where the care of the wounded had been so thorough. He accompanied the field hospital which followed the Ladysmith relief column from beginning to end. He was present at every engagement, from the battle of Colenso to the relief of Ladysmith, and their hospital, small as it was, received all the severely wounded during the whole of the Natal campaign. After the battle at Spion Kop 715 wounded were put into the hospital camp. One afternoon they had orders to clear the camp of wounded before sunrise next day and 150 men were carried on stretchers by hand to Frere, 26 miles, a thing which he believed had never been done in a campaign before. During the time he himself was at the seat of war he saw much of the common soldier. At the scene of action the common soldier's better qualities were shown. The singing of the National Anthem by the troops at the Church parade before the advance on Spearman's Camp was a scene he could never forget. Many of the men who took part lost their lives a few days later at Spion Kop. The fighting spirit of the British soldier was astonishing. He asked one man who was shot in the back how he was hit. He was advancing to attack a kopje entrenched by Boers and men were falling on all sides. He aimed at a particular Boer and missed him, but brought him down with a subsequent shot. "Doctor," he said, "you should have been there; it was a dream." This only showed that the common soldier had thoughts beyond his 1*s.* 1*d.* per day, and he did not think the British soldier quite got the credit of it. He himself was struck not only with the patriotism and pluck of these men, but with their kindness to each other and their unselfishness. So far as the sick were concerned there were two plagues in South Africa—the plague of flies and the plague of women. The flies could be got rid of by means of horsehair wisps, gauze, and other appliances, and they disappeared at night, but the women mentioned in Sir Alfred Milner's proclamation were absolutely a terror. They came out professing to be amateur nurses, having exhausted every other form of excitement; they took up the time of the officers and caused much unnecessary trouble. Considering the kind of war in which we were engaged and the number of lives lost, the picture of a number of elaborately-dressed ladies promenading about Cape Town was a blot on the campaign. No one who read Sir Alfred Milner's proclamation on this plague could appreciate it so much as those who had suffered. In conclusion, Mr. Treves said that he had come back proud that he was an Englishman and a surgeon, and exceedingly grateful that he was a member of the Reform Club.

Lord RUSSELL OF KILLOWEN proposed the health of the Chairman, to which toast Lord ROSEBERY made a brief reply, closing the proceedings.

THE REPORT OF THE INSPECTOR-GENERAL FOR RECRUITING FOR 1899.

THE annual report of the Inspector-General for Recruiting for the past year is, at any rate in one important respect, most satisfactory. It has been, we are told, the best year for recruiting since the introduction of the short-service system. The number of recruits raised for the regular army amounted to 42,700 and for the militia 40,653. When we come to analyse the report, however, we find that this favourable rate was not a continuous one occurring under normal conditions more or less present throughout the year, but was mainly attributable to the wave of enthusiasm created in this country by the war. It has often been said that this country is a warlike but not a military one. It is, as far as it goes, very satisfactory to find, however, that an ample supply of recruits is always forthcoming when there is a good chance of seeing active service, but, as the Inspector-General observes, we want to attract a sufficient number of men into the army when there is no such immediate prospect. There is reason to believe that the improved system of recruiting—one of decentralisation—introduced in the early part of last year

has done some good. It is too soon yet to form any judgment as to what will be the ultimate effect of the adoption of a shorter term of service; so far the influx of recruits caused by the war has not made any appreciable addition to the numbers enlisting for three years. There seems to be little doubt that the certainty that reservists will have employment to resume on their return from South Africa and that their wives and families will be well looked after during their [illegible] away with much of the feeling [illegible] army. The assurance of soldier [illegible] on leaving the colours will, if this [illegible] a very favourable effect, but we think that a good deal still requires to be done to popularise the army and to bring it abreast with the changed conditions of modern life. It cannot be doubted that the discipline and the numerous restraints incidental to military life tend to make the army unpopular in consequence of their being distasteful to the ordinary run of young men. Military training and discipline there must be, of course, but everything that can be done in the way of treating the soldier as a reasonable, well-disposed human being, by giving him as much individual freedom and by making his life and duties as little irksome as possible, should be done. Depôts and recruiting rooms should occupy good positions in good neighbourhoods and be kept airy, clean, and respectable and be properly furnished and equipped.

It cannot be denied that the condition of the rank and file of our army has been enormously improved of late years; but there are still several details capable of improvement, some of which would add to the soldier's comfort—the better lighting of [illegible] The army should be made to [illegible] for a young fellow possessed o[illegible]lifications to make a good sol[illegible] the ambition to win military distinction and a name for himself. The opportunities available in this direction require, in our opinion, to be largely augmented by raising the number of commissions open to men of this stamp and serving as non-commissioned officers or in the ranks of the army. But this must either be accompanied by some Government allowance or extra pay to maintain the newly-acquired position, or the cost of an officer's living in the army must be made very different to what it has been and is at the present time. The pay of a subaltern in the army is proverbially insufficient to maintain him in that position, and so long as there is an abundant supply of candidates always forthcoming for the commissioned ranks it is not likely that the pay for these ranks will be augmented, consequently we must look to a reduction in the rate of living, a levelling down of mess expenses, as an alternative. We should deeply regret if "the duke's son" and our aristocracy and county families were not well represented in the army, for their presence is highly beneficial in various ways. Still, it must not be forgotten that many of Napoleon's generals and officers of high rank were not drawn from the more privileged classes.

THE WARMING AND VENTILATION OF THE LONDON HIPPODROME.

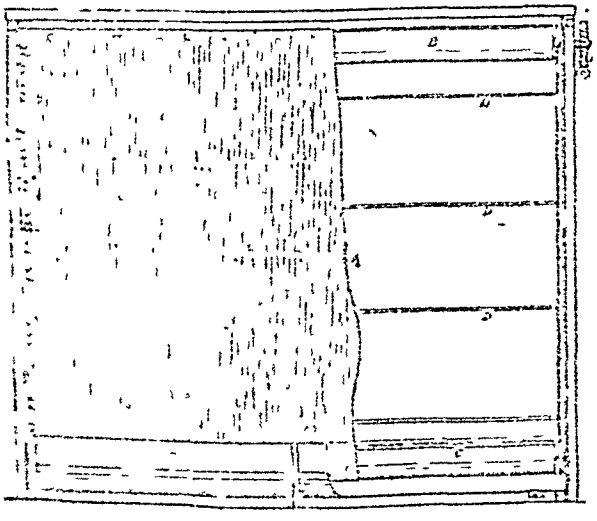
THOUGH in no country is the value of an ample supply of pure air better appreciated than in England its people are nevertheless much behind those of some continental countries in respect to the warming and ventilation of theatres and other places of assembly. There is no theatre in England ventilated with the same scientific care and precision as is the Vienna Grand Opera House, the Grand Theatre at Geneva, or the new Paris Sorbonne. The mere fact that at Vienna three entire floors of the same size as the body of the theatre are devoted exclusively to the purposes of ventilation is a sufficient proof of this assertion as regards that city. As a rule, theatres in England have no other ventilation than such as may be ascribed to the accident of their construction. The heat produced by the central lamps is utilised as an exhaust and the air comes in haphazard, by doors, by windows, and by stray apertures, and here and there may be found hot air or steam coils to counteract the coldness of such breezes of the outside atmosphere. The general result is foul air to a dangerous draught and the spectator very often experiences both of these inconveniences in the course of the same evening. The fact is, that no theatre can be ventilated except by mechanical means, and even where these means exist it is also necessary to have skilled attendants ever on the watch in order to modify the action of such machinery according to the fluctuations of the temperature and the number of persons in the building. The outside temperature ought not to influence in any way the volume of air supplied to the house, but if ventilation is not controlled by machinery and if it has to depend on mere apertures—doors, windows, shafts, &c.—the air will travel slowly on dull, heavy, and sultry days and quickly on cold days or when a sharp wind is blowing. Thus on one occasion the ventilation will be insufficient and on another it will be excessive and in neither case is it possible to estimate how much ventilation has been provided. In the face of these unscientific and unsatisfactory conditions we can only welcome all the more cordially the effort which has now at last been made to grapple with the problem. The London Hippodrome which has recently opened its doors to the public is provided with systematic and mechanical ventilation which, though not equal to what is found on the continent, is immeasurably superior to what we have for so long been compelled to endure in England.

The London Hippodrome is a spacious and magnificent building, fronting Cranbourn-street and Charing Cross-road. It combines in one both a circus and a theatre, the former occupying the space which in most ordinary theatres is allotted to the stalls. Under the floor of the arena there is a tank, eight feet deep and measuring in circumference 220 feet, which holds 100,000 gallons of water, so that aquatic displays can also be given. The water in this tank is allowed to run to waste once a week and the tank is then cleaned out. If some sort of arrangement could be made with the sanitary authorities this large volume of water might be so discharged as to serve for flushing purposes and thus help to keep the sewers clean. The stage, which measures 48 feet by 30 feet, though it is generally raised seven feet above the arena, can be lowered to the same level, and the two combined afford a large space for spectacular exhibitions. Behind and below the stage there are at present cages where no less than 21 lions are kept and where there are also a great number of performing dogs, cats, and other animals. With such a number of animals living on the premises the question of ventilation is of more than usual importance, for the peculiarly pungent odour of feline carnivora would be especially obnoxious if the ventilation was not very efficient. Even with good ventilation the odour of the lions might be perceptible among the audience if the currents of air travelled from their den towards the auditorium. Contrary, however, to the usual practice, the ventilation at the London Hippodrome is from above and the outlets are below the audience at the lowest levels of the basement. There is much to be said in favour of downward ventilation in places where many people congregate together. For instance, at the Havre Exchange there is a gallery round the great hall and on this gallery are situated the library and various offices. The exhalations from the bodies of the merchants and business men crowded below, their breath, and their stale tobacco smoke, formerly ascended to the gallery and greatly inconvenienced its occupants. M. E. Delachenal, engineer of the Havre Chamber of Commerce, was consulted and he forthwith reversed the system of ventilation. He perforated the floor of the Exchange in all directions, and made the air come in from the roof and carry down through the floor the tobacco smoke and the exhalations, &c., of the people, and the vitiated air disappeared under their feet instead of rising up to pollute the upper parts of the building. The London Hippodrome is therefore ventilated by a downward current.

The problem stands thus. The cubic contents of the building are set down at 500,000 cubic feet. There is sitting accommodation for 3000 people. The object of the ventilation system is to renew the air supply at the rate of 1000 cubic feet per head per hour. To ensure that this amount of air shall be delivered in the given time and to open [illegible] of all variations of temperature with as [illegible] without [illegible] building a large ventilating fan is employed. There are broadly speaking, two sets of fans that can be employed—one for [illegible] and the other for [illegible]. Where, as in the case of a theatre, the air has to travel a great distance [illegible]

along a shaft to reach the galleries in the pit force is necessary. In that case the wings or arms of the screw or paddle fit closely to the drum-shaped case in which they revolve. This gives the greatest resistance. To propel the air greater force has to be employed, and therefore it travels further, just as the tighter we ram the wadding in a smooth-bore gun the greater will be the impetus given to the missile. As, however, in the limited space of a theatre the air has to travel but a short distance it is volume and not force that is required. The fan employed at the London Hippodrome is known as the Stott air propeller. In shape it is more like the paddle-wheel of a steamship than the screw. The case in which it revolves is in shape like the shell of a snail. The conical point of the shell is cut off; or, in other words, the tail of the snail with its enveloping portion of the shell are amputated and the circular hole thus made provides an air inlet. In a line with this central and smaller circle there are only the spokes of the wheel to be seen, but in the larger circle covered by the remainder of the shell are the fans attached to these spokes. As these paddle-like fans revolve they beat the air downwards towards the widening mouth of the shell. Thus the top of the shell serves as the inlet, the larger mouth of the shell as the outlet, and the fan wheel revolves within the circle in the centre. To reduce the force of the resistance and to economise the amount of motive power which has to be employed, so that the air may travel with less velocity, the two outward corners of each paddle or fan are cut off. There is thus a small space within the enclosed circle or drum where the air is not struck and where, therefore, it may escape. It is as if there was a small hole in the breech of a gun, lessening the force of the explosion as it travels down the barrel. The amount of air propelled corresponds with the size of the fan that beats the air and of course with the rapidity of the revolutions, but the amount of resistance corresponds with the tightness with which the fan fits within its case. By cutting off the corners of the fan, therefore, the fit is not so precise, the resistance is not so great, and the velocity at which the air travels is proportionately reduced. The centrifugal fan employed at the London Hippodrome can propel 4,500,000 cubic feet of air per hour. A noiseless engine of 15-horse power supplies the motive force. This engine stands close to the fan on the roof of the building, but receives its steam from below, where a Lancashire boiler is placed in a fireproof compartment. On the other side of the fan is the air intake. Here is a very ingenious contrivance. There is a small compartment which, being on the roof, may be described as a sort of attic. It overlooks the roofs of the surrounding houses, and being far above the street this may be well considered the purest source of air-supply which is available. A portion of the outer wall has been removed and two revolving air-purifying screens have been inserted in its place. These screens consis tof rough netting made with cocoanut fibre string. This netting is tightly fitted over two rollers, one above and one below. The rollers are made to revolve by the same engine that works the ventilating fan and the lower roller is placed in a trough of water. As they revolve the net is drawn down into the water on the outer side of the roller and up out of the water on the inner side of the roller. Thus the network is in constant motion and is constantly being washed. When the fan in this little attic revolves it must draw its supply of air through these nets. As the nets readily absorb water and their material is very fibrous they arrest the impurities—soot, dirt, &c.—floating in the air. The amount of purification thus accomplished can readily be seen by noting the filthy condition of the water in the trough. Indeed, it is necessary to constantly renew this water by flushing out the trough, otherwise it would soon become as black as ink. By putting scent into this trough the whole theatre could be rapidly perfumed, or in times of epidemic a disinfectant might be used. The contrivance will also serve to preserve the decorations and furniture of the theatre which will not be so rapidly discoloured by the soot and dirt which abound in the ordinary London atmosphere. Thus all the air which is pumped into the building by the fan is washed, filtered, and moistened. This, especially in dry summer weather, will be beneficial and agreeable.

Side view of the air filter. B, The upper roller. D, Screw for tightening the net. The water trough is below. The arrows indicate passage of air.



The filter. B, B, Upper and lower roller. D, D, D, Frame to hold the net. A, The cocoanut fibre net air filter. G, The trough in which the filtering material passes through water.

The system of warming the air is more open to criticism, though any inconvenience that may arise could be easily remedied. On the exit side of the fan there is a large battery of heating pipes with cast-iron gills. The air is warmed by passing over these pipes and through the gills that protrude around them. All the exhaust steam from the engine passes through these pipes, and as the temperature of this steam is only 218° F. it is doubtful if any harm is done; but when the weather is particularly cold live steam is discharged into the warming batteries and the question arises whether the heat is not then so great as to devitalise the air. At the Sorbonne the batteries in the heating furnace are raised to about 300° C. At the Vienna Grand Opera House there are 59,058 feet of piping containing steam at five-atmosphere pressure; but neither at the Sorbonne nor at the Vienna Grand Opera House is the air thus heated allowed to reach the auditorium. The object, on the contrary, is to ensure that by far the greater part of the air supplied shall not have been heated but shall be in its natural condition. For this, however, a mixing chamber is necessary where a small quantity of superheated air mingles with a large quantity of air that has not been heated at all and the required mean temperature is thus obtained. Certainly the washing and filtering of the air must very considerably reduce the number of suspended particles that might be carbonised by a heating arrangement. The carbonic acid produced by the combustion of invisible particles tends to vitiate the air, and the theory is that the greater part of the air supplied should come from the outside and should not be tampered with unless for the purpose of filtering and moistening. After passing through the warming batteries the air enters a wide circular passage that goes all round the central domed roof of the auditorium. When inspected this passage had no flooring; there are the girders and between them the plaster and gilt decorative work forming the ornamented ceiling which runs round the aperture or "lantern" of the roof. Between the carving and details of the decorative design there is ample space for the warmed and filtered air to descend on to the audience below. Of course, the tendency at present must be for the greater part of the air to descend from that part of the passage which is nearest to the point where the air is forced in by the fan; but the passage will ultimately have a floor, the boards of which will be placed at a little distance from each other so that the air may pass down between them. These openings, we would suggest, should be made larger and larger as the distance from the point of entrance for the air-supply increases. By making the resistance to the passage downward of the air greater where the pressure is greatest there will be a better

ıance of an equal amount of air finding its way through the ɔor at the farther extremities of the passage. Then, again, ı this passage is about 10 feet wide there is room here to ·range for a mixing chamber if it should be found that the arming batteries dry up the air too much. Therefore, if ıe criticism with regard to the batteries holds good, the ımedy is ready at hand.

By the side of the space or little passage on the exit ıde of the fan where the warming batteries are placed here is a second parallel passage where there is no warm-ıg apparatus. A door connects the two passages. By open-ıg this door the air can be sent through without assing over the steam coils. This will be done in ot weather when it is not necessary to warm the uilding. Further, the domed roof in the centre can be emoved, and thus, when the weather is warm and fine, the ummit of the auditorium will be uncovered and open to the ky. The air being admitted at the top of the building and ıt a great height has time and space to spread out and lose nuch of its velocity before it reaches the audience. At the ɔorbonne, where the air enters under each seat, it at first ınly travels at the rate of 10 inches per second, but at the inal outlet in the roof, which is 14 metres square, it travels ıt the rate of 1·20 metres per second. At the London ıippodrome the reverse is the case. The air enters quickly ıt the farthest point from the audience and spreads out and ravels slower as it approaches the spectators. As it passes through the ceiling to reach the audience it is said to travel at the rate of three miles an hour, but when it reaches the spectators its velocity should be considerably slower. As the current is from above and from the centre it passes out by all the side exits. Therefore, if a door is opened—for instance, the door of a box—the pressure being from within the tendency is for the air to rush out, and hence there is an absence of draught. Below, in the basement, there are numerous apertures which communicate with two upright exhaust shafts. In each shaft there is an electric motor fan which helps to draw away the spent air, and it is discharged over the roof. By the side of the cages where the lions are kept an extra electric motor fan has been inserted so that all the air near the dens shall go direct to the nearest exhaust shaft and not spread to any other part of the building. Thus there is no odour, and it would be difficult to believe that there are so many lions on the premises but for an occasional sinister roar of a very unmistakeable and threatening character. As the air is warmed before admission there are no hot-air coils about the building. These are never ornamental and they harbour dust and people are apt to stumble over them. The method of warming and ventilating is not expensive, for one outlay in fuel suffices for both purposes. This may be taken either way: the cost of the fuel to create the motive power which works the fan and thus supplies the ventilation also provides the steam for the heating batteries, or else the heating batteries provide the steam for the engine which sets the fan in motion. The process of warming and ventilating is generally commenced about three-quarters of an hour before the doors are opened for a performance and the public therefore find a pleasant atmosphere and temperature when they enter.

As to the beauty of the building and as to the comfort of the seats, which from the cheapest to the dearest all command a complete view of the stage and the arena, we must leave the public to judge for themselves. We do not propose to criticise the architecture of the structure, the decorative art lavished upon it, or the performances, whether theatrical or "variety," carried on within it; but we can say that the greater the perfection attained in all these respects the more complete are the relaxation and pleasure afforded and the more wholesome will be the effect produced on mind and body.

No amount of good acting and no beauty of decoration can possibly mitigate the evil effects of draughts, of unsuitable temperature, or of foul air. The constructors of the London Hippodrome, and notably Messrs. James Stott and Co. who have been entrusted with the warming and ventilating of the building, have acted in accordance with these principles. Beauty in design and in decoration has been combined with the desire to provide comfort in respect to the seats, the temperature, and the purity of the air breathed. This is a very great improvement and it is high time that the proprietors of other theatrical establishments should endeavour in regard to these matters to put their houses in order.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A MEETING of the Comitia was held on April 25th, Dr. W. S. CHURCH, President, being in the chair.

The PRESIDENT read a telegram from H.R.H. the Prince of Wales, thanking the College for the telegram which had been sent to him after the recent attempt on his life.

The PRESIDENT announced that the fourth chapter of the [illegible] been presented to [illegible] as a Member of the College:—John Roger Charles, M.B., B.A. Cantab., L.R.C.P.

Licences to practise were granted to 114 gentlemen who had passed the requisite examinations.

The Murchison Scholarship was awarded to Mr. Thomas Crisp English, L R C P, a student of St. George's Hospital.

The following gentlemen were elected as Fellows of the College: Clement Dukes, M D. Lond; Robert Bridges, M.B. Oxon; Seymour Taylor, M.D. Aberd.; Amand Jules McConnel Routh, M D. Lond.; Charles Montagu Handfield-Jones, M.D. Lond; Richard Thomas Williamson, M.D. Lond.; Leonard George Guthrie, M.D. Oxon.; Frederick Foord Caiger, M.D. Lond.; Herbert Morley Fletcher, M.D. Cantab.; Henry Albert Caley, M.D. Lond.; Henry Head, M.D. Cantab; and Fleming Mant Sandwith, M.D. Durh.

A report, dated March 26th, was received from the Committee of Management. *The Committee made the following* recommendation:—

That time spent as assistant in one of the hospitals attached to the army in South Africa, not exceeding a period of six months, be allowed to count for the equivalent period of medical or surgical hospital practice and for three months of the required period of surgical dressership, on the understanding that allowance will only be made for the number of months, not exceeding six, during which the student shall be in the service of the hospital, and for which a satisfactory certificate from the principal medical officer of the hospital shall be produced.

The Committee also recommended that the Southampton Fever Hospital should be added to the list of fever hospitals recognised by the Examining Board in England.

On the motion of Dr NORMAN MOORE, seconded by the REGISTRAR (Dr. E. Liveing), the report was adopted.

A report was received and adopted from the Laboratories Committee.

Communications were received from (1) the Secretary of the Royal College of Surgeons of England and (2) the General Medical Council forwarding a report by their Public Health Committee respecting the course of study for the Diploma in Public Health.

A copy was received of the statutes made for the University of London by the University Commissioners as laid before Parliament, and also a copy of the Regulations relating to the same.

Dr. W. H. ALLCHIN made a few remarks on the statutes and Dr. NORMAN MOORE referred to the excellent work done by Dr. Allchin in relation to the scheme which has now been adopted.

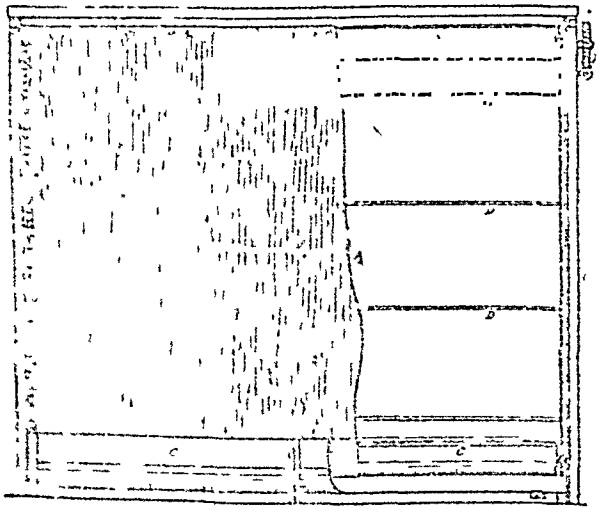
After some formal business had been transacted the PRESIDENT dissolved the Comitia.

ANNUAL MEETING OF THE NEW ZEALAND BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

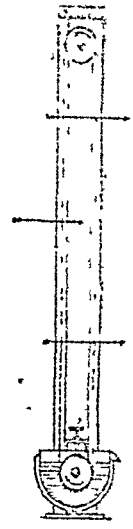
THE fourth annual meeting of the New Zealand Branch of the British Medical Association was opened on Monday afternoon, Feb. 12th, at the City Council Chambers, Christchurch, New Zealand. Dr. W. G. [illegible] of Christchurch presided.

The annual report of the Council stated that since the issue of the last report 21 new members had been added, making a total of 241 now on the roll. The Council [illegible] with regret that death had recently [illegible] of the branch, Dr J. Cameron, Lame of Port Chalmers, and Dr. [illegible] of Oamaru. The Council would be [illegible] any information relative to deceased [illegible]

along a shaft to reach the galleries in the pit force is necessary. In that case the wings or arms of the screw or paddle fit closely to the drum-shaped case in which they revolve. This gives the greatest resistance. To propel the air greater force has to be employed, and therefore it travels further, just as the tighter we ram the wadding in a smooth-bore gun the greater will be the impetus given to the missile. As, however, in the limited space of a theatre the air has to travel but a short distance it is volume and not force that is required. The fan employed at the London Hippodrome is known as the Stott air propeller. In shape it is more like the paddle-wheel of a steamship than the screw. The case in which it revolves is in shape like the shell of a snail. The conical point of the shell is cut off; or, in other words, the tail of the snail with its enveloping portion of the shell are amputated and the circular hole thus made provides an air inlet. In a line with this central and smaller circle there are only the spokes of the wheel to be seen, but in the larger circle covered by the remainder of the shell are the fans attached to these spokes. As these paddle-like fans revolve they beat the air downwards towards the widening mouth of the shell. Thus the top of the shell serves as the inlet, the larger mouth of the shell as the outlet, and the fan wheel revolves within the circle in the centre. To reduce the force of the resistance and to economise the amount of motive power which has to be employed, so that the air may travel with less velocity, the two outward corners of each paddle or fan are cut off. There is thus a small space within the enclosed circle or drum where the air is not struck and where, therefore, it may escape. It is as if there was a small hole in the breech of a gun, lessening the force of the explosion as it travels down the barrel. The amount of air propelled corresponds with the size of the fan that beats the air and of course with the rapidity of the revolutions, but the amount of resistance corresponds with the tightness with which the fan fits within its case. By cutting off the corners of the fan, therefore, the fit is not so precise, the resistance is not so great, and the velocity at which the air travels is proportionately reduced. The centrifugal fan employed at the London Hippodrome can propel 4,500,000 cubic feet of air per hour. A noiseless engine of 15-horse power supplies the motive force. This engine stands close to the fan on the roof of the building, but receives its steam from below, where a Lancashire boiler is placed in a fireproof compartment. On the other side of the fan is the air intake. Here is a very ingenious contrivance. There is a small compartment which, being on the roof, may be described as a sort of attic. It overlooks the roofs of the surrounding houses, and being far above the street this may be well considered the purest source of air-supply which is available. A portion of the outer wall has been removed and two revolving air-purifying screens have been inserted in its place. These screens consist of rough netting made with cocoanut fibre string. This netting is tightly fitted over two rollers, one above and one below. The rollers are made to revolve by the same engine that works the ventilating fan and the lower roller is placed in a trough of water. As they revolve the net is drawn down into the water on the outer side of the roller and up out of the water on the inner side of the roller. Thus the network is in constant motion and is constantly being washed. When the fan in this little attic revolves it must draw its supply of air through these nets. As the nets readily absorb water and their material is very fibrous they arrest the impurities—soot, dirt, &c.—floating in the air. The amount of purification thus accomplished can readily be seen by noting the filthy condition of the water in the trough. Indeed, it is necessary to constantly renew this water by flushing out the trough, otherwise it would soon become as black as ink. By putting scent into this trough the whole theatre could be rapidly perfumed, or in times of epidemic a disinfectant might be used. The contrivance will also serve to preserve the decorations and furniture of the theatre which will not be so rapidly discoloured by the soot and dirt which abound in the ordinary London atmosphere. Thus all the air which is pumped into the building by the fan is washed, filtered, and moistened. This, especially in dry summer weather, will be beneficial and agreeable.



The [illegible] roller. D, D, D, Frame to hold the net. A, The cocoanut fibre net air filter. W, The trough in which the filtering material passes through water.



Side view of the air filter. B, The upper roller. D, Screw for tightening the net. The water trough is below. The arrows indicate passage of air.

The system of warming the air is more open to criticism, though any inconvenience that may arise could be easily remedied. On the exit side of the fan there is a large battery of heating pipes with cast-iron gills. The air is warmed by passing over these pipes and through the gills that protrude around them. All the exhaust steam from the engine passes through these pipes, and as the temperature of this steam is only 218° F. it is doubtful if any harm is done; but when the weather is particularly cold live steam is discharged into the warming batteries and the question arises whether the heat is not then so great as to devitalise the air. At the Sorbonne the batteries in the heating furnace are raised to about 300° C. At the Vienna Grand Opera House there are 59,058 feet of piping containing steam at five-atmosphere pressure; but neither at the Sorbonne nor at the Vienna Grand Opera House is the air thus heated allowed to reach the auditorium. The object, on the contrary, is to ensure that by far the greater part of the air supplied shall not have been heated but shall be in its natural condition. For this, however, a mixing chamber is necessary where a small quantity of superheated air mingles with a large quantity of air that has not been heated at all and the required mean temperature is thus obtained. Certainly the washing and filtering of the air must very considerably reduce the number of suspended particles that might be carbonised by a heating arrangement. The carbonic acid produced by the combustion of invisible particles tends to vitiate the air, and the theory is that the greater part of the air supplied should come from the outside and should not be tampered with unless for the purpose of filtering and moistening. After passing through the warming batteries the air enters a wide circular passage that goes all round the central domed roof of the auditorium. When inspected this passage had no flooring; there are the girders and between them the plaster and gilt decorative work forming the ornamented ceiling which runs round the aperture or "lantern" of the roof. Between the carving and details of the decorative design there is ample space for the warmed and filtered air to descend on to the audience below. Of course, the tendency at present must be for the greater part of the air to descend from that part of the passage which is nearest to the point where the air is forced in by the fan; but the passage will ultimately have a floor, the boards of which will be placed at a little distance from each other so that the air may pass down between them. These openings, we would suggest, should be made larger and larger as the distance from the point of entrance for the air-supply increases. By making the resistance to the passage downward of the air greater where the pressure is greatest there will be a better

chance of an equal amount of air finding its way through the floor at the farther extremities of the passage. Then, again, as this passage is about 10 feet wide there is room here to arrange for a mixing chamber if it should be found that the warming batteries dry up the air too much. Therefore, if the criticism with regard to the batteries holds good, the remedy is ready at hand.

By the side of the space or little passage on the exit side of the fan where the warming batteries are placed there is a second parallel passage where there is no warming apparatus. A door connects the two passages. By opening this door the air can be sent through without passing over the steam coils. This will be done in hot weather when it is not necessary to warm the building. Further, the domed roof in the centre can be removed, and thus, when the weather is warm and fine, the summit of the auditorium will be uncovered and open to the sky. The air being admitted at the top of the building and at a great height has time and space to spread out and lose much of its velocity before it reaches the audience. At the Sorbonne, where the air enters under each seat, it at first only travels at the rate of 10 inches per second, but at the final outlet in the roof, which is 14 metres square, it travels at the rate of 1·20 metres per second. At the London Hippodrome the reverse is the case. The air enters quickly at the farthest point from the audience and spreads out and travels slower as it approaches the spectators. As it passes through the ceiling to reach the audience it is said to travel at the rate of three miles an hour, but when it reaches the spectators its velocity should be considerably slower. As the current is from above and from the centre it passes out by all the side exits. Therefore, if a door is opened—for instance, the door of a box—the pressure being from within the tendency is for the air to rush out, and hence there is an absence of draught. Below, in the basement, there are numerous apertures which communicate with two upright exhaust shafts. In each shaft there is an electric motor fan which helps to draw away the spent air, and it is discharged over the roof. By the side of the cages where the lions are kept an extra electric motor fan has been inserted so that all the air near the dens shall go direct to the nearest exhaust shaft and not spread to any other part of the building. Thus there is no odour, and it would be difficult to believe that there are so many lions on the premises but for an occasional sinister roar of a very unmistakeable and threatening character. As the air is warmed before admission there are no hot air coils about the building. These are never ornamental and they harbour dust and people are apt to stumble over them. The method of warming and ventilating is not expensive, for one outlay in fuel suffices for both purposes. This may be taken either way: the cost of the fuel to create the motive power which works the fan and thus supplies the ventilation also provides the steam for the heating batteries, or else the heating batteries provide the steam for the engine which sets the fan in motion. The process of warming and ventilating is generally commenced about three-quarters of an hour before the doors are opened for a performance and the public therefore find a pleasant atmosphere and temperature when they enter.

As to the beauty of the building and as to the comfort of the seats, which from the cheapest to the dearest all command a complete view of the stage and the arena, we must leave the public to judge for themselves. We do not propose to criticise the architecture of the structure, the decorative art lavished upon it, or the performances, whether theatrical or "variety," carried on within it; but we can say that the greater the perfection attained in all these respects the more complete are the relaxation and pleasure afforded and the more wholesome will be the effect produced on mind and body.

No amount of good acting and no beauty of decoration can possibly mitigate the evil effects of draughts, of unsuitable temperature, or of foul air. The contractors of the London Hippodrome, and notably Messrs James Stott and Co. who have been entrusted with the warming and ventilating of the building, have acted in accordance with these principles. Beauty in design and in decoration has been combined with the desire to provide comfort in respect to the seats, the temperature, and the purity of the air breathed. This is a very great improvement and it is high time that the proprietors of other theatrical establishments should endeavour in regard to these matters to put their houses in order.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A MEETING of the Comitia was held on April 26th, Dr. W. S. CHURCH, President, being in the chair.

The PRESIDENT read a telegram from H.R.H. the Prince of Wales, thanking the College for the telegram which had been sent to him after the recent attempt on his life.

The PRESIDENT announced that the fourth chapter of the Plague Commission Report had recently been presented to the College by the Government.

[illegible] elected as a Member of the [illegible] C.[illegible], M.B., B.A. Cantab., L.R.C.P. [illegible] to 114 gentlemen who [illegible]

The Murchison Scholarship was awarded to Mr. Thomas Crisp English, L.R.C.P., a student of St. George's Hospital.

The following gentlemen were elected as Fellows of the College: Clement Dukes, M.D. Lond.; Robert Bridges, M.B. Oxon; Seymour Taylor, M.D. Aberd.; Amand Jules McConnel Routh, M.D. Lond.; Charles Montague Handfield-Jones, M.D. Lond.; Richard Thomas Williamson, M.D. Lond.; Leonard George Guthrie, M.D. Oxon.; Frederick Foord Caiger, M.D. Lond.; Herbert Morley Fletcher, M.D. Cantab.; Henr[illegible]; Henry Head, M.D. Cantab; [illegible] M.D. Durh.

A report, dat[illegible] from the Committee of Management. The Committee made the following recommendation:—

> That time spent as assistant in one of the hospitals attached to the army in South Africa, not exceeding a period of six months, be allowed to count for the equivalent period of medical and surgical hospital [illegible] made [illegible] shall be in the service of the hospital, and for which a satisfactory certificate from the principal medical officer of the hospital shall be produced.

The Committee also recommended that the Southampton Fever Hospital should be added to the list of fever hospitals recognised by the Examining Board in England.

On the motion of Dr NORMAN MOORE, seconded by the REGISTRAR (Dr. E. Living), the report was adopted.

A report was received and adopted from the Laboratories Committee.

Communications were received from (1) the Secretary of the Royal College of Surgeons of England and (2) the General Medical Council forwarding a report by their Public Health Committee respecting the course of study for the Diploma in Public Health.

A copy was received of the statutes made for the University of London by the University Commissioners as laid before Parliament, and also a copy of the Regulations relating to the same.

Dr. W. H. ALLCHIN made a few remarks on the statutes and Dr. NORMAN MOORE referred to the excellent work done by Dr. Allchin in relation to the scheme which has now been adopted.

After some formal business had been transacted the PRESIDENT dissolved the Comitia.

ANNUAL MEETING OF THE NEW ZEALAND BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

THE fourth annual meeting of the New Zealand Branch of the British Medical Association was held on Monday afternoon, Feb. 19th, at the City Council Chambers, Christchurch, New Zealand. Dr. W. G. SCOTT of Dunedin presided.

The annual report of the Council stated that the [illegible] branches of the last report of new members had been [illegible] making a total of [illegible] on the roll. The Council [illegible] with regret that death had [illegible] members of the branch, Dr J Carmichael of Christchurch, and Dr Nixon of Oamaru. The Council would be pleased to receive any information in reference to these deceased from [illegible]

plants for transmission to the committees revising the British Pharmacopœia. The question of a Government pathological and bacteriological establishment, which was under discussion at the date of the last meeting, had been finally settled in accordance with the wishes of the Council, and members had only to send specimens to Wellington to have them examined and reported on. Arrangements for the supply of serums to the profession were not yet complete, but further developments were shortly expected. By arrangement with the Government forms had been sent to each centre for distribution among the members by the use of which every qualified practitioner would be able to avail himself of the services of the Government pathologist. Owing to the short and congested nature of the last session of the House of Representatives, the Medical Practitioners' Registration Act could not be gone on with, but the Council was assured of the real sympathy of the Government with the measure. The balance-sheet showed the receipts to have been £408 8*s.* 5*d.* and the expenditure £398 4*s.* 8*d.* The assets amounted to £56 10*s.* 11*d.*, the balance at the Union Bank, and the liabilities to £21 3*s.*, leaving a balance of £35 7*s.* 11*d.* credited to the branch funds, in addition to a fixed deposit of £53 12*s.* 10*d.* The report and balance-sheet were adopted.

The election of officers resulted as under:—President-elect for 1901: Dr. G. R. Saunders of Wanganui. Chairman of Council: Dr. W. Fell of Wellington. Editor and Parliamentary Secretary, Dr. J. Mason of Otaki. A discussion took place with regard to the question of cancelling the present arrangements with the *Australasian Medical Gazette* and resuscitating the *New Zealand Medical Journal*. It was resolved strongly to urge the Council to re-publish the *New Zealand Medical Journal* at the earliest possible opportunity.

In the evening the President for the ensuing year was introduced by Dr. SCOTT, after which Dr. W. THOMAS delivered the presidential address, which was on the subject of Colonial Practitioners and the Public; the address is published in full at page 1268 of the present issue of THE LANCET. On the motion of Dr. TRUBY KING, seconded by Dr. SAUNDERS, a hearty vote of thanks was accorded to the President for his address.

The annual dinner was held at the Christchurch Club. The thanks of the members were due to the committee of the club for their gracious consideration in this respect. It was even more successful than usual and about 40 members sat down—almost a record—when the President, Dr. Thomas, took the chair at 8 P.M. After the toast list had been gone through a move was made to the smoking-room, where coffee and conversation occupied the attention till a late hour.

The Canterbury Jockey Club—the premier jockey club in the Colony—forwarded to each member attending the Conference a complimentary ticket of admission to the beautifully appointed Riccarton Racecourse.

The chief work of the Conference fell on the shoulders of Dr. Thomas, the President, Dr. Graham Campbell, the general secretary, and Mr. Edward Gane, the secretary for the annual meeting. Everything was arranged in a most orderly fashion and nothing was omitted by these gentlemen to make the Conference of 1900 the brilliant success which it turned out to be. The members of the profession practising in Christchurch and taking an active part in the proceedings entertained their visitors with true colonial hospitality, and all enjoyed their stay in the "City of the Plains" immensely. The next meeting will take place at Wanganui in March, 1901; Dr. Saunders is the president-elect.

SOUTH WALES UNIVERSITY COLLEGE.—On April 23rd a deputation from the Council of the University College of South Wales and Monmouthshire, headed by Lord Tredegar, waited upon the Corporation of Cardiff and urged the presentation of a site for the College in Cathays Park. It was stated that the day students had increased from 150 in 1894-95 to 511 in 1898-99, and the expenditure from £5784 to £13,164 in the same period. The deputation added that if any considerable portion of the building fund of £50,000 is expended on the purchase of a site the remainder will be insufficient to begin building on an adequate scale. The mayor, in reply, said that the matter would receive every consideration, and subsequently it was decided to refer the question to a committee of the town council.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Cheltenham Urban District.—Dr. J. H. Garrett, the medical officer of health of this district, advises those who contemplate residence in Cheltenham to demand a corporation sanitary certificate for the house proposed to be leased. This certificate is only granted when all the sanitary requirements have been brought up to date. If arrangements such as obtain in Cheltenham in this matter were in force all over the country and intending tenants would take advantage of them much progress in the condition of house drainage would be made. In discussing the prevalence of scarlet fever in Cheltenham during 1899 Dr. Garrett makes some interesting comments on the natural history of the disease and inferentially on that of other diseases. He points out that there is no likelihood that scarlet fever will be got rid of by isolating all recognised cases in hospital; the unrecognised cases will always remain operative for harm. As he aptly observes, "the getting rid of this zymotic disease means the extermination of a species of natural growth, the units of which are of infinitesimal minuteness. On the face of it it appears that the effort to exterminate a large insect like the locust or the common house-fly need be but child's play compared to that required to put an end to the existence of any widely distributed species of bacteria. It is a palpable impossibility—would be so even if the thing we sought to destroy had parts or qualities by which it could be easily recognised when seen. ..... Practically speaking, we know it (scarlet fever) only by its effects, that is, when it has produced what we call a case of scarlet fever in the body of an unfortunate person who has become infected by it. Certain wide natural circumstances no doubt depress or stimulate the growth and spread of the germ, so that we get more of it and its results in some seasons than in others, just as in some seasons we get more wasps and flies and locusts by reason of circumstances over which we have no control and which we hardly understand." We have quoted this fully because, in our opinion, Dr. Garrett has succeeded admirably in expressing the view held at the present day by many epidemiologists in a manner which suggests much thought to the reader. We note, too, with interest that Dr. Garrett by no means becomes pessimistic as regards preventive measures, nor is he inclined to regard isolation hospitals with less favour. He recognises, as must all who think upon the subject, that by diminishing the scope of infectivity of any given case we must correspondingly curtail its influence for harm. Because we cannot as yet prevent the occurrence of all fires it would be a dangerous step to dispense entirely with our fire-engines. The Cheltenham public abattoir does not appear to increase much in popularity, but we are glad to see that Dr. Garrett still continues the practice of publishing the names of those butchers who use the abattoir. We should certainly be inclined were we inhabitants of Cheltenham to patronise the abattoir butchers, and we have little doubt that in time to come the public will insist upon their meat-supply being under proper control.

Liverpool Port Sanitary District.—Dr. E. W. Hope, the port medical officer of health, relates that the arrival of the s.s. *Dictator* at Liverpool after she had had cases of plague, or suspected plague, on board on the voyage home raised the important general question as to how far the Collector of Customs is empowered to detain a vessel if such vessel has no actual case of sickness on board at the time of her arrival, and this notwithstanding the fact that the vessel is known to have come from a port infected with plague, and, moreover, that cases of plague, or suspected plague, have recently occurred on board. We are glad to see that, as an outcome of a conference presided over by Dr. R. J. Reece of the Local Government Board, the Customs authorities have undertaken to do everything within their power to prevent any persons arriving at Liverpool from Portuguese ports landing until after they have been medically inspected by the officers of the port sanitary authority. It is clearly in the interests of trade that no undue detention of vessels should take place, but at the same time no risks can be allowed as

regards the importation of plague into this country, and if the powers at present in force are insufficient for the needs of the situation we have little doubt that Parliament would readily extend them were the necessity for such a step apparent. Apart from the case of the *Dictator* we note that during 1899 persons suspected of suffering from plague were removed from four vessels arriving at Liverpool. No definite case of plague occurred. With the view of preventing the introduction of small-pox into Liverpool or Manchester or the districts abutting upon the Manchester Ship Canal a voluntary arrangement has been entered into between the Manchester and Liverpool port sanitary authorities by means of which cases of small-pox occurring on board vessels bound for Manchester will be accommodated in the Liverpool Hospital. As regards the sanitary condition of vessels it is gratifying to learn that the work done by port sanitary authorities is making its influence felt and that fewer defects are being found in the case of vessels frequenting the port of Liverpool. There were, however, 3324 defects discovered on board 3060 vessels during 1899. The emigration taking place from Liverpool is always an interesting subject in Dr. Hope's reports. During 1899 no fewer than 118,568 emigrants left the port of Liverpool. Of this number 82,626 were bound for the United States and 30,337 for Canada, there being amongst those for the United States 39,289 English, 1238 Scotch, and 3839 Irish, and amongst those for Canada 13,474 English, 697 Scotch, and 312 Irish. These figures convey some idea of the English, Scotch, and Irish influences in the United States.

St. Thomas Rural District.—Of the 48 cases of enteric fever which were notified in this district during 1899 nine patients were regarded as having contracted the disease from the consumption of cockles eaten while they were visiting Exmouth with a school treat. The treat took place on August 9th, seven cases of enteric fever being notified on August 28th and 29th and two on Sept. 6th. One of the Exmouth sewers discharges over the sands from which the cockles are collected, and Mr. Mark Farrant, the medical officer of health of St. Thomas, reports that some of these cockles on being examined bacteriologically yielded bacilli coli. The outbreak was clearly part of that which occurred in Exeter and which we noticed in THE LANCET shortly after the Exeter report appeared.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 7119 births and 4503 deaths were registered during the week ending April 28th. The annual rate of mortality in these towns, which had declined from 23 0 to 21 2 per 1000 in the three preceding weeks, further declined last week to 20 3. In London the rate was 19 6 per 1000, while it averaged 20 7 in the 32 provincial towns. The lowest death rates in these towns were 12 9 in Birkenhead, 14 0 in Newcastle, 14 3 in Burnley, and 15 6 in West Ham; the highest rates were 24 5 in Plymouth, 23 0 in Liverpool, 26 1 in Manchester, and 30 8 in Wolverhampton. The 4503 deaths in these towns included 473 which were referred to the principal zymotic diseases, against 501, 479, and 432 in the three preceding weeks; of these 163 resulted from measles, 132 from whooping-cough, 54 from diphtheria, 41 from diarrhœa, 34 from scarlet fever, 34 from "fever" (principally enteric), and six from small-pox. No fatal case in any of these diseases occurred last week in Birkenhead; in the other towns they caused the lowest death rates in Croydon, Burnley, Gateshead, and Newcastle, and the highest rates in Plymouth, Cardiff, Wolverhampton, and Oldham. The greatest mortality from measles occurred in Plymouth, Bristol, Cardiff, and Wolverhampton; from scarlet fever in Oldham and Sunderland; from whooping-cough in Birmingham, Norwich, Liverpool, and Oldham, and from diarrhœa in Plymouth and Wolverhampton. The 54 deaths from diphtheria included 20 in London, five in Leicester, five in Leeds, and four in Cardiff. Four fatal cases of small-pox were registered last week in Liverpool, two in London, and one in Cardiff. There were six cases of small-pox under treatment in the Metropolitan Asylums Hospitals on Saturday last, April 28th, against two, three, and four at the end of the three preceding weeks; five new cases were admitted during the week, against two in each of the two preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 1647, against 1713, 1694, and 1676 on the three preceding Saturdays; 170 new cases were admitted during the week, against 165, 163, and 165 in the three preceding weeks. Influenza was certified as the primary cause of 39 deaths in London. The deaths referred to diseases of the respiratory organs in London, which had been 501 and 460 in the two preceding weeks, further declined last week to 411, but were 62 above the corrected average. The causes of 43, or 1 0 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leicester, Nottingham, Salford, Bradford, Hull, and in 15 other smaller towns; the largest proportions of uncertified deaths were registered in Bristol, Birmingham, Liverpool, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had declined from 22 8 to 21 0 per 1000 in the four preceding weeks, rose again to 21 7 during the week ending April 28th, and exceeded by 1 4 per 1000 the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 15 2 in Perth and 16 6 in Leith to 21 0 in Greenock and 24 6 in Glasgow. The 672 deaths in these towns included 24 which were referred to measles, 23 to whooping-cough, 13 to diarrhœa, six to scarlet fever, five to diphtheria, two to small pox, and two to "fever." In all 75 deaths resulted from these principal zymotic diseases, against 66 and 65 in the two preceding weeks. These 75 deaths were equal to an annual rate of 2 4 per 1000, which was 0 3 per 1000 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of measles, which had been 19 and 18 in the two preceding weeks, rose again last week to 24, of which 20 occurred in Glasgow and two in Dundee. The deaths from whooping-cough, which had been 15, 17, and 19 in the three preceding weeks, further rose to 23 last week, and included 14 in Glasgow, four in Aberdeen, and two in Edinburgh. The fatal cases of diarrhœa, which had been 19 and 14 in the two preceding weeks, further declined last week to 13, of which five were registered in Glasgow, four in Aberdeen, two in Edinburgh, and two in Dundee. The six deaths from scarlet fever corresponded with the number in the preceding week, and included five in Glasgow. The fatal cases of diphtheria, which had been three in each of the two preceding weeks, rose last week to five, of which four occurred in Edinburgh. The two deaths from small-pox, which were registered in Glasgow, are the only fatal cases of this disease which have occurred since June last. The deaths referred to diseases of the respiratory organs in these towns, which had been 124 and 145 in the two preceding weeks, declined again last week to 141, but exceeded by 17 the number in the corresponding period of last year. The causes of 33, or more than 4 per cent., of deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death rate in Dublin, which had risen [illegible] and 30 4 per 1000 in the two preceding weeks, further declined to 26 5 during the week ending April 14th. During the past four weeks the death rate in the city has averaged 30 3 per 1000, the rates during the same period being [illegible] in London and 20 4 in Edinburgh. The 175 deaths registered in Dublin during the week ending April 14th were [illegible] the number in the preceding week, and [illegible] were referred to the principal zymotic diseases, against [illegible] and 12 in the two preceding weeks; of these [illegible] from "fever," three from diarrhœa, two from whooping-cough, and one each from [illegible] from scarlet fever and [illegible] diphtheria. These [illegible] deaths were equal to an annual rate of [illegible] per 1000, the zymotic death rate [illegible] last week and 1 5 [illegible] different forms of [illegible] three to the two [illegible] week. The three fatal cases of [illegible] [illegible]

whooping-cough were slightly above the average number in recent weeks. The 178 deaths in Dublin last week included 30 of infants under one year of age and 31 of persons aged upwards of 60 years; the deaths of infants showed a marked decline and those of elderly persons were less than half the number in the preceding week. Eight inquest cases and four deaths from violence were registered, and 68, or more than a third, of the deaths occurred in public institutions. The causes of eight, or nearly 5 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff Surgeon James Bradley to the *Colossus*. Surgeons: F. J. A. Dalton and G. E. Macleod to Malta Hospital; G. Ley to the *Surprise*; J. P. Willis to the *St. Vincent*; H. G. T. Major to the *Ramillies*; H. W. M. Rees to the *Isis*; and S. J. Haylock to the *Jaseur*.

IMPERIAL YEOMANRY.

Percival Davidson to be Medical Officer, with the temporary rank of Captain.

ROYAL ARMY MEDICAL CORPS.

Captain William G. Beyts, from the Seconded List, to be Captain, vice M. L. Hughes, killed in action.

INDIA AND THE INDIAN MEDICAL SERVICES.

The Queen has approved of the following promotions among the officers of the Indian Medical Service:—Lieutenants to be Captains: Andrew Augustine Frayne McArdle, Jasper Maxwell Woolley, Clayton Arbuthnot Lane, Thomas Bernard Kelly, James Henry Hugo, D.S.O., William Hamilton Kenrick, Charles Henry Watson, Charles Hope Septimus Lincoln, Raymond Herbert Price, Edgar Francis Eardley Baines, Geoffrey Orr Fern Sealy, and Reginald Bryson. The Queen has also approved of the retirement from the Indian Medical Service of the undermentioned officers (Bengal Establishment): Lieutenant-Colonel Andrew Deane and Lieutenant-Colonel Christian Bernard Hunter.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain Simon Linton to be Surgeon-Major, and Surgeon-Lieutenant Charles F. Spinks, 1st Dumbartonshire Volunteer Rifle Corps, to be Surgeon-Lieutenant.

VOLUNTEER CORPS.

Rifle: 5th (the Hay Tor) Volunteer Battalion the Devonshire Regiment: Surgeon-Captain E. Haydon to be Surgeon-Major. 3rd Volunteer Battalion the Bedfordshire Regiment: Surgeon-Lieutenant J. W. Bone to be Surgeon-Captain. 2nd Volunteer Battalion the Royal Welsh Fusiliers: Surgeon-Major E. Williams, from 1st Lancashire Royal Engineers (Volunteers), to be Surgeon-Major. 4th Volunteer Battalion the Cameronians (Scottish Rifles): Andrew Francis Wilson Gunn to be Surgeon-Lieutenant. 5th (West) Middlesex: Surgeon-Lieutenant C. E. Goddard to be Surgeon-Captain. 4th (Stirlingshire) Volunteer Battalion Princess Louise's (Argyll and Sutherland Highlanders): Surgeon-Lieutenant J. G. Ronald to be Surgeon-Captain.

VOLUNTEER MEDICAL STAFF CORPS.

The Manchester Companies: Wilfred Steinthal to be Surgeon-Lieutenant.

ARMY MEDICAL SCHOOL, NETLEY.

Owing to the exigencies of the public service caused by the war in South Africa, special examinations were held in the Army Medical School on April 24th and 25th. The following officers having satisfied the examiners are recommended for commissions as lieutenants in the Royal Army Medical Corps. These officers reported themselves at Aldershot on May 1st:—

ENTRY IN THE ARMY MEDICAL SCHOOL BY EXAMINATION.

1. T. Biggam.	8. W. J. P. Adye-Curran.
2. H. Richardson.	9. J. Powell.
3. W. L. Baker	10. R. L. Argles.
4. F. W. Cotton.	11. J. G. Foster.
5. F. M. Parry.	12. E. G. Ford.
6. B. R. Dennis.	13. F. S. Walker.
7. J. S. Wright.	14. L. M. Parker.

NOMINATED BY THE SECRETARY OF STATE FOR WAR AS SURGEONS-ON-PROBATION.

1. W. Bennett.	12. G. J. Houghton.
2. P. G. Stock.	13. J. G. Churton.
3. H. B. Fawcus.	14. W. D. Waring.
4. T. B. Fielding.	15. T. H. Stevenson.
5. E. P. Sewell.	16. J. M. Cuthbert.
6. C. H. Straton.	17. F. McLennan.
7. B. S. Bartlett.	18. A. P. Weston.
8. R. T. Brown.	19. J. Dorgan.
9. G. Carroll.	20. C. H. Furnivall.
10. D. O. Hyde.	21. J. H. Robinson.
11. A. E. H. Hamerton.	22. F. G. Fitzgerald.

A second batch of surgeons-on-probation for the Royal Army Medical Corps, whose names we give below, have been nominated by the Secretary of State for War. These gentlemen reported themselves at Netley on May 1st to go through a course of instruction in the Army Medical School:—

G. Baillie.	P. H. Henderson.
W. Bennett.	A. D. Jameson.
B. B. Burke.	D. W. K. Moody.
W. S. Crosthwait.	J. P. Murphy.
P. C. Douglass.	L. R. Popham.
R. F. Ellery.	C. R. L. Romayne.
W. B. Fry.	W. B. B. Taylor.
A. R. Greenwood.	L. L. G. Thorpe.

TRANSVAAL WAR NOTES.

The *Times* states that on Friday, April 27th, Major Greene, R.A.M.C., on his return from Ladysmith was received at Glanworth with musical demonstrations and a torchlight procession was formed in his honour.

Surgeon C. M. Beadnell, R.N., and Surgeon J. G. Fowler, R.N., were among the officers of the *Powerful* who were present at the inspection of the Naval Brigade by the Queen at Windsor on Wednesday, May 2nd.

We announced last week that Major Babtie, R.A.M.C., had had conferred upon him by Her Majesty the Victoria Cross. Major W. Babtie is a Scotsman, the son of Mr. J. Babtie, J.P., of Dumbarton. After finishing his education at Glasgow University he joined the army in 1880 and served in India, Malta, and Crete. For a year he acted as senior medical officer in the latter island and received the C.M.G. for his services in connexion with the international occupation of Crete.

TRANSVAAL WAR CASUALTIES.

Civil Surgeon Whicher died from enteric fever at Mooi river on April 27th.

Major M. W. Kerin, Lieutenant Martin, and Lieutenant Sloan, officers of the Royal Army Medical Corps, wounded, have arrived in the *Nubia* at Southampton.

DEATHS IN THE SERVICES.

Lieutenant-Colonel John Alexander Scott, R.A.M.C., suddenly, at Nahun, Sirmur State, Punjab, on April 4th. He entered the Service in 1859, was promoted surgeon in 1873, surgeon-major in 1875, and brigade-surgeon in 1885, and retired in 1890. He served in the New Zealand war of 1861–62 and the South African War (Transvaal Campaign) of 1881.

Fleet-Surgeon Joshua Pasley Courtenay, late R.N., died on April 8th. He joined the navy in 1860, was promoted staff surgeon in 1872, fleet surgeon in 1882, and retired in 1890.

Correspondence.

"Audi alteram partem."

"INTERNAL DERANGEMENT OF THE KNEE-JOINT."

To the Editors of THE LANCET.

SIRS,—I have read with great interest Mr. Edmund Owen's clinical lecture upon Internal Derangement of the Knee-joint and I beg to congratulate him upon the success of his operation. His lecture contains many very valuable remarks and suggestions and also some statements which I should like to criticise. Seventeen years ago I published an account of several cases of this affection which had come under my care, in all of which the application of the plan devised over 100 years ago by William Hey of Leeds had been successful in curing the patients. Since that time I have met with a considerable number of similar cases, nearly all of which

[illegible] dealt with, but I should [illegible]

In THE LANCET of June 13th, 1891, you were good enough to publish an article by me upon this subject, in which I gave the subsequent histories of the patients whose cases I had recorded eight years previously, showing that the treat- [illegible] its effects. I do not assume [illegible] gement of the knee-joint can [illegible] fact, it seems evident from [illegible] examinations of such joints that open operation must sometimes be necessary, nor do I suggest that in Mr. Owen's case any other treatment than that which he adopted would have been successful. I simply wish to controvert his statement that nothing short of a cutting operation will put such a knee right. The only alternative treatment which he refers to is "the use of splints, knee trusses, and pads, or retentive apparatus," and further he remarks that such treatment would cripple the limb and interfere with exercise. The treatment which was successful in a large number of cases in the hands of William Hey, and following him Samuel Smith, both of Leeds, and Samuel Hey (grandson of William), Astley Cooper, Syme, and Sir Benjamin Brodie does not involve fixation of the joint, or at least in my experience fixation of the joint is not necessary. On the contrary, I have found that when the cartilage seems to have slipped back into its place after manipulation we can allow the patient to walk about, simply cautioning him to avoid any careless lateral movements. In a few cases I have used temporarily a light apparatus which allows perfect freedom for flexion and extension of the leg but checks any lateral movement. This apparatus was, I believe, devised or at least used by the late Sir James Paget.

Mr. Owen's excellent remarks upon the seriousness of the operation which he advocates should, I think, induce [illegible] trial to manipulative treatment [illegible] us operation. There exist un- [illegible] which new growths have formed in the joint or in which so much damage has been occasioned that an operation is imperative, but there is, I contend, ample evidence to show that in the majority of cases of displacement of the internal semilunar cartilage a milder and perfectly safe treatment by manipulation will effect a cure. It must, however, be understood that replacement by one manipulation, if it can be effected, is not sufficient to cure the case. Passive movements of the knee-joint must be repeated again and again, probably for several weeks, to ensure the retention of the cartilage in its normal position.

I am, Sirs, yours faithfully,
NOBLE SMITH

Queen Anne-street, London, W., April 30th, 1900.

"THE FOUR-THOUSANDTH NUMBER OF THE LANCET."

To the Editors of THE LANCET.

SIRS,—The four-thousandth number of THE LANCET comes to me with especial interest, for my father, brother, and myself have never missed a number since its commencement. This is a fact that I think few members of our profession can record, or that a father and two sons should have been in daily practice in the same town for a space of 87 years—10 years before the first number of THE LANCET appeared.

I am, Sirs, yours faithfully,
H GRAHAM DYER, M.D. Durh.

Ringwood, Hants, April 30th, 1900.

"THE NITRO-PROPIOL TEST FOR SUGAR IN URINE."

To the Editors of THE LANCET.

SIRS,—Since you drew attention to the above test in THE LANCET of Feb. 17th, 1900, I have largely experimented with nitro-propiol and there can be no doubt that the reaction is of a most striking and convincing nature. As Dr. Baumby in his paper on the same subject has pointed out, Fehling's solution is reduced by a number of other substances besides sugar, and it would hardly be safe to pronounce a patient to suffer from glycosuria upon this test alone without resorting to [illegible] tests. There is only one body which is liable to interfere with the nitro-propiol reaction (viz., aldehyde) and [illegible] dy is not a constituent of the urine; nitro-propiol [illegible] seems to be particularly appropriate for the qualitative determination of sugar in urine. Whether aldehyde was formed by the filtration of the urine through animal charcoal in the case which Dr. Baumby refers to in his letter is a question to be considered. Nitro-propiol will indicate such small percentage of sugar which entirely escapes observation in the fermentation test and which can only with difficulty be proved by the phenyl-hydrazine or the osazone test respectively. The importance which must be placed upon the minutest waste of sugar in the body, if it occur regularly and not temporarily, should render nitro-propiol a most valuable reagent. I do not agree with the directions for the application of the test as given on the labels. Diabetic urine or even a very dilute solution of glucose (I have experimented with solutions containing 0·08 per cent. of glucose only) produces the reaction within 30 or 40 seconds after the tablet has been dissolved and after the test liquid has reached the boiling point. Continued boiling for from three to five minutes is, therefore, not a compulsory, but only a precautionary, measure for proving the absence of sugar. The propiol test can just as well be carried out in a test-tube as Fehling's test (I use a larger size tube, holding it by a paper loop), because the reaction is almost an instantaneous one in cases of diabetic urine, whilst in cases of non-diabetic urine gentle *boiling for a few minutes is quite sufficient to prove the* absence of sugar. The complete absence of the distasteful odour developed by Fehling's test is another point in favour of propiol. As the new test will meanwhile have attracted considerable attention I am looking forward with interest to the expression of further opinions on the subject. My belief is that it will prove a boon to the general practitioner on account of its simplicity, reliability, and stability.

I am, Sirs, yours faithfully,
BRUCE GORDON.

Lee, S.E., April 28th, 1900.

TYPHOID FEVER IN THE SOUTH AFRICAN FIELD FORCE.

To the Editors of THE LANCET.

SIRS,—When General Buller entered Ladysmith he saw a cemetery containing no less than 700 graves of men who died from enteric fever. In other parts of Africa the disease has given rise to an equally large mortality. Hundreds of our men were inoculated with anti-typhoid serum before leaving home. Are there any statistics or reliable facts to be obtained yet which bear on the relation between cases of the disease and the number of inoculations made? In some cases whole regiments were injected to a man, and as records of the cases of enteric fever are kept we should be in a position to judge somewhat of the value of the anti-typhoid serum.

I am, Sirs, yours faithfully,
MARTYN WESTCOTT, L.R.C.P. L[illegible], &c.

[illegible] Suffolk Hospital, Ipswich, Suffolk.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Unhealthiness of Assam.—The Health of British Tea [illegible] in India.—Spurious Typhoid Fever.—The [illegible] Calcutta and Bombay.—The Pasteur Institute of India.

THE extraordinary unhealthiness of [illegible] parts of Assam which was lately commented upon by the Viceroy is fully detailed in the last administration report. In the [illegible] Valley, which is [illegible] to contain about 2,4[illegible] people, there were only 75,6[illegible] births in 18[illegible] [illegible] deaths. Also in the Assam Valley there were [illegible] 71,0[illegible] births, while there were [illegible] of [illegible] deaths. [illegible] a decline in the birth rate through [illegible] attributed to the [illegible] of kala-azar (?) fever [illegible] [illegible] however, [illegible] 13 to per 1000 [illegible] little doubt that [illegible] these low birth-rates [illegible] near the [illegible] [illegible] of 13[illegible]

The annual report of the [illegible] Commissioner [illegible]

Government of India for 1898 has just been issued. The most striking fact is the large amount of sickness which has been prevalent amongst the British troops. The year as a whole is said to have been a healthy one, the death-rate amongst the general population being only 27 per 1000 as compared with 35 per 1000 for the previous 12 months. A very marked improvement occurred in the jails where the death-rate sank from 38 to 25 per 1000. In the native army the death-rate was only 13 per 1000, a still further improvement from the previous years. As I have pointed out before, the invaliding among the British troops was terribly high in 1897, and in 1898 it was still higher, having risen to 58 per 1000. The death-rate, however, declined from 22 to 20 per 1000. It is extraordinary why this mortality should have occurred during 1897 and 1898 when the death-rate in 1896 was only 15 per 1000. The chief causes of death amongst British troops were enteric fever, hepatic abscess, and heat-stroke.

The enormous increase of enteric fever calls for urgent and full inquiry. In this connexion the views of Major Spencer may be referred to. Writing in the *Indian Medical Gazette* he expresses the opinion that there is besides true enteric fever a fever with enteric symptoms which differs considerably from the classical type. He mentions these differences between the two classes of cases. The Widal test often fails in these spurious cases of typhoid fever, the mortality is higher (25 per cent. as compared with about 8), the temperature chart shows much greater irregularity of fever, the onset is often sudden, a rash is generally absent, the abdominal symptoms are often absent or but slightly marked, the typical typhoid state is often vague or altogether absent, and the illness is generally longer in duration. The differences in post-mortem appearances are asserted to be that in the spurious form the ulceration is not found limited to the glandular structures but is irregular and extensive. Whether these observations be accurate and whether they will be subsequently confirmed does not alter the fact that there has been a great increase during the past three years of this disease amongst the British troops and that the mortality from it is more than double what occurs at home. Very little typhoid fever is reported either in the native army or among the native population generally, but that it does occasionally occur is undoubted. Notwithstanding improved sanitation in all the cantonments and great care over the water-supply no improvement follows. There must be other causes at work for the discovery of which special investigations are called for.

Plague is still ravaging India from one end to the other. Bombay has a death-rate of 156 per 1000 per annum and Calcutta one of 109·7. The two outbreaks are much in the same stage; the maximum mortality has apparently been reached in each city and there are indications at both places that the disease will soon begin to decline. While, however, the mortality from plague in Calcutta during the present outbreak has so far probably not exceeded 5000, the number of deaths from this disease in Bombay city must have reached 20,000. The outbreak in Bombay has been of longer duration, more extensive, and more virulent, and has recurred in a larger population. The general mortality last week was 2463; in Calcutta 1434. I regret to see that the figures of plague are mounting up almost daily at Karachi, the total number of cases and deaths from the commencement of the fourth epidemic there amounting to 921 and 667 respectively.

The honorary secretary of the Pasteur Institution of India announces that steps are now being taken to establish the Anti-rabic Institution, for which funds have been provided by private subscription, at Kasauli. A thoroughly competent officer is reported to have been appointed and it is hoped that it will be found possible to commence operations this season. Funds are asked for to provide for its maintenance, sufficient being already available for its establishment.

April 5th.

The Plague in India.—The Extent of the Famine.—The Indian Census for 1901.

Over 5000 deaths occurred from plague in India during the week ending April 7th and these figures do not fully represent the total mortality. The chief places which suffered are Patna (2053), Calcutta (897), Bombay (706), Saran (307), Karachi (283), Cutch State (299), Thana (95), and Monghyr (85). The epidemic is subsiding in Calcutta and Bombay but is increasing rapidly at Karachi. In the Patna district it is still raging fiercely. A comparison of the published figures for the two cities of Calcutta and Bombay is instructive. Bombay had 2397 deaths from all causes last week, which with a population of 821,000 gives a death-rate of over 150 per 1000 per annum. Its average weekly mortality is about 600 and from this enormous excess it returned but 706 deaths from plague. It would be interesting to know how the authorities account for the 1000 remaining deaths. Calcutta, on the other hand, had 1434 deaths from all causes and having a population of 649,000 the death-rate was 109·5 per 1000. The average weekly mortality is 657, so that the excess of deaths was 777. The returns of plague deaths (897) were thus rather more than the excess in the mortality, and this is explained by the reduction from the usual mortality under other heads. In Calcutta, therefore, all the deaths were accounted for. In Bombay 1000 deaths must have been incorrectly registered. Allowing 100 or even 200 deaths from an increase in other diseases it must be admitted that these returns from Bombay are extremely unsatisfactory. Since the above figures were published considerable improvement in the mortality has occurred in both cities, and judging from previous experience we may expect to see a rapid decline at both places.

The famine still continues. Nearly 5,000,000 people are under relief, and increased distress is reported from the Bombay Presidency and from the Central Provinces. About 3,500,000 are being helped by charity or work in the British provinces and about 1,500,000 in certain Native States. The organisation of relief works is very extensive and many considerable operations of great utility are being carried out. Famine cannot exist without many deaths, but the loss of life is small compared with previous occasions.

The census for India will be taken on the night of Friday, March 1st, 1901. This date has been selected because the moon will be nearly full (March 5th) and there will be light to enable the enumerators to check the schedules before midnight. Other reasons given are that the people do not usually at that date go to the sacred rivers to bathe and that festivals and auspicious days for marriage will also be avoided. These considerations would hardly be thought of by the authorities at home. In some forest and desert tracts synchronous enumeration will be impracticable so that some of the places may have to be taken on the morning of March 2nd. Certain points of information will be obtained from the whole of India, but other particulars will be left to the local governments to please themselves about. For example, sex, age, civil condition (married, unmarried, or widowed), birthplace, and caste will be everywhere inquired for, but religion, occupation, language, and ability to read and write will be left to the local governments to arrange for. It has been decided that among the Christian population the different sects shall be recorded, but the calculation of non-Christians depends upon local authorities. The important heading of caste has been retained because "the whole social fabric of India rests upon caste," and the caste statistics show the progress of what has been described as the gradual Brahmanising of the aboriginal non-Aryan or casteless tribes. In India the occupation census is extremely difficult, as the people give very vague descriptions and the industries are not sufficiently specialised. Amongst other headings there is a column provided for those who know English.

April 12th.

THE LATE MR. W. F. CARTER.—Mr. William Fitzwilliam Carter died at his residence in Coronation-road, Bedminster, Bristol, on April 26th, from typhoid fever, in his sixtieth year. Mr. Carter received his medical education at the school of the Royal College of Surgeons in Ireland and became qualified as L R C.P. Irel. in 1863; two years later he was admitted L R C.P. & L M. Edin. Mr. Carter was for a short time in practice in Brisbane, Australia, where he was honorary physician to the Lady Bowen's Hospital, and on his return to England he settled at Bedminster. He was formerly district medical officer and public vaccinator for Bedminster and was only quite recently granted a superannuation allowance by the Bristol Board of Guardians. Mr. Carter was also formerly medical officer of health of Bedminster and medical officer to the Bedminster Fever Hospital. He had an extensive practice in Bedminster, where his kindly disposition and genial manners made him extremely popular, and where, as well as in Bristol, great sympathy is felt for his widow and children.

UNPACKING AT THE PARIS UNIVERSAL EXHIBITION.

THE INTERNATIONAL MEDICAL PRESS CONGRESS.

(FROM OUR SPECIAL CORRESPONDENT.)

THOUGH a number of interesting objects are now unpacked and actually placed in the glass cases ready for view, it not unfrequently happens that the exhibitors have found it more prudent to cover these over with sheets of white paper or calico. The fact is that a peculiar and most penetrating white dust pervades the whole Exhibition. It seems to be composed mainly of pulverised plaster, and people, on leaving the Exhibition, appear as if they had been visiting a flour mill. In the surgical and medical section the cloud of white dust is especially thick, for the ornamentation of the outer walls and small buildings near the entrances are not yet finished, and it is the stonemasons and the plasterers who produce much of this dust. Then the crowds raise and stir up this dust. With their feet they pulverise the larger particles so that it more easily floats about in an impalpable form. Exhibitors despondently stand watching and wondering when these white dust-clouds will subside and they do not feel inclined to unpack their treasures in its midst. Still some among them seem to grasp the fact that if everyone is going to wait till everyone else is ready then no one will ever be ready. Now that a few exhibitors, in spite of the white dust, have their stalls ready their neighbours and rivals will feel compelled to follow suit. Surgery and medicine are comprised within Group III., which is devoted to sciences and arts, and they constitute Class 16, so that anatomical specimens, for instance, are not far from musical instruments or from the exhibits of the various universities, &c.

Thus among the first to unpack were the Publishers' Association of Great Britain and the Oxford University Press, with the Kay Scheerer Company, surgical instrument and furniture makers of New York, as close neighbours. The British Publishers' Association has a very rich and artistic collection of printing and also display the title-pages of a great number of British periodical publications, including, of course, THE LANCET; while the Oxford University Press distinguishes itself especially by the rich and artistic character of its bookbinding. Now it is just by the side of these publications that will be found the only exhibit of American hospital furniture and surgical instruments. It is true that this is in itself a very large and representative exhibit. Everything is aseptic, only metal and glass is employed. For instance, there is a washstand for hospital use made of thick glass. A cup shaped basin of larger circumference than the hole under which it is placed is so contrived that it is not likely to be touched by the hands. From above hot or cold water is made to descend by pressing a pedal with the feet, thus the surgeon and nurse wash their hands without touching the sides of the basin or the tap. In the water-tanks above steam can be discharged so as to sterilise the water. Close by there is a new model operating-table devised by Dr. Clement Cleveland of New York. It is divided transversely into three moveable parts and also lengthways down the centre, thus six moveable pieces of glass fitting to a metallic frame-work constitute the bed. Handles attached to crank wheels facilitate a great variety of movement and there are shoulder-straps to keep the patient from slipping. Another table, also of glass but with different mechanical contrivances for moving its various parts, is shown by Dr. H. J. Boldt of New York. There is further a very ingenious bath that can be wheeled up to a patient's bedside. A thin enamelled metallic slab is passed under the patient as he lies in bed and he is thus lifted without being disturbed and placed on a sort of cradle that is suspended above the water from two short poles or masts at each end of the bath. Then by a pulley arrangement the patient is slowly lowered into the water. In the same manner he is lifted out of the water and placed back into the bed, and throughout he has not been disturbed, but has continued to remain in a reclining position. Among the surgical instruments Dr. Ernest Laplace of Philadelphia shows a set of anastomosis forceps which seem new and ingenious, and Dr. Howard A. Kelly of Baltimore a complete set of endoscopic instruments.

These are on the ground floor, and for some reason or other difficult to explain it is necessary to go up to the gallery above to find similar exhibits from French manufacturers. It is true that according to the map Class 16 should be in the gallery at the extreme end of the westerly wing of the main building close to the Eiffel Tower. But then, why is the American hospital furniture &c., on the ground floor? Among the French exhibitors the well-known firm of Dupont, rue Hautefeuille, alone has ventured to unpack. Others will follow suit shortly. The chief feature of these exhibits is the ingenuity with which what appears to be an ordinary and handsome piece of furniture—an armchair or a sofa—can promptly be converted into an operating-table. The back of the armchair, for instance, falls over the seat and becomes a table or bed on which the body of the patient can be placed, while from the sides arms protrude to hold the feet, and from underneath there are steps that can be pulled out for the patient to ascend. Then there is also a great show of moveable chairs for invalids, some being arranged with longitudinal divisions so that each leg may be placed at a different inclination, or one division can be removed altogether, leaving a leg quite free, while the other is bolstered up. The wheels are now surrounded with pneumatic tyres so that the patient is moved along with great comfort. Near at hand there are some very fine anatomical wax models. But, as already observed, these exhibits are very much mixed, thus the next things are some beautiful photographs of the moon, &c., taken at the Paris Observatory, which, though interesting, are a very different matter. Then a little further on it will be seen that nationalities as well as subjects are mixed up, for there is here an extensive display of the maps of the geological survey of the United Kingdom and specimen charts of the London Meteorological Council. Underneath the mural exhibits and in cases, are the scientific instruments used at the Inland Revenue Department of Somerset House and exhibited by Professor T. E. Thorpe, F.R.S., the electrical pyrometer by Mr. Robert Austin and photometers for testing the illuminating power of gas. Then a step further there is a large compartment where German optical instruments are being unpacked, and next to it is another large compartment which in time will be full of German surgical instruments. By way of contrast and just on the other side of the passage, Japan displays charts to show how much the use of the telegraph, the telephone, postage stamps, postal orders, &c., have increased in that country during the last few years. From Japanese postal communication a step further brings the visitor to a little room, so arranged as to be built within a larger room, for the treatment of small-pox with red light. The walls are of course wooden partitions roofed over with red transparent canvas, and the window is covered with red material. The influence of red light tends to prevent, it is maintained, the pitting produced by small-pox. By the side of this is the exhibit of the Finsen Medical Institute, of Denmark. With prisms and a sort of telescope Dr. Finsen decomposes the direct rays of sunlight in such a manner as to exclude the red. Photographs show how, in the garden of this institute, the nurses throw the ray of light from which the red has been excluded on to the face of patients suffering from lupus. On the walls are suspended life-size photographs of a number of patients taken before and after this treatment, and, to judge from these photographs, the results were certainly very favourable. After contemplating these cases of lupus from Denmark there come the veterinary schools of France—those of Alfort, Lyons, Toulouse, and others—with very fine wax anatomical models of the diseases of horses and other animals. Thus there is no lack of variety in this part of the exhibition; indeed, the difficulty is to keep to one subject for more than five minutes at a time.

The extremity of the opposite, or easterly, wing of the main building on the Champs de Mars is more advanced, more exhibits are unpacked, though it must be confessed that they are not likely to be opened by the dust, and this may account for the difference. Here are the exhibits contained in Group XI.—namely, mines and metallurgy.

To illustrate how public health questions have to do in one direction the exhibits of the great Anzin Coal Mining Company are well worth a visit. Apart from what relates to the getting of coal, there are some interesting features. There is a clinical department where the miners can get the advice of a medical man. There are also [illegible] the atmosphere within the mines [illegible]. There are also [illegible]

table, a small cube of coal two centimetres in dimensions is shown. Next to it there is a round glass ball about four inches in diameter, and this indicates the volume of choke-damp which the little piece of coal could produce. A second and much larger glass globe shows the amount of air needed for combustion in proportion to the piece of coal. Finally, a third glass globe very much larger represents the actual amount of air pumped into the Anzin mines. These models are in the same ratio to each other as the quantities occurring in actual practice. Then we have the written explanation that a cubic metre of coal at Anzin can produce 47·5 cubic metres of choke-damp, but that 11,833 cubic metres of air are supplied to dilute the poison. Thus in 1897 the output of coal at Anzin was equal to 255,388 tons, which could have produced 10,091,520 cubic metres of choke-damp weighing 7246 tons. The company sent down into the mines during that year 2,522,880,000 cubic metres of air, weighing 3,027,456 tons. Thus to get one ton of coal up it is necessary to pump down from 15 to 16 tons of air. Fortunately it is easier to move air than coal. Further, it is calculated that if the choke-damp could be utilised the amount mentioned above for the year 1897 at Anzin would have sufficed to feed continuously 28,000 Auer burners or to melt and to bring to boiling point 15,000 kilogrammes of glass per hour. These figures eloquently demonstrate the close connexion between industrial and public health problems.

THE INTERNATIONAL CONGRESS OF THE MEDICAL PRESS.

The proposal to hold an international congress at which the editors, contributors, and proprietors of medical periodical publications should be represented has attracted a good deal of attention on the continent and has met with a large measure of support. Perhaps it is that the position of the medical press in England is very different from that which prevails in other countries; in any case England is the only important country which has taken no step whatever in order that its medical press may be properly represented on this occasion. The idea of holding this Congress was first brought forward by Dr. Marcel Baudouin and Professor O. Posner of Berlin at the International Medical Congress held at Rome in 1894. Some of the medical journalists present at Rome had conceived the idea of an international association of the medical press, which, among other things, would seek to facilitate the work of medical journalists at medical congresses. Then Dr. Dobrzychi proposed at the Congress at Rome that there should be a special medical press section at the general international medical congresses. A committee was constituted to study the matter, consisting of representatives of l'Association de la Presse Médicale Française and of the Freier Verein der Deutschen Medicinischen Fachpresse, which was to have met in Brussels in 1896. This meeting, however, was postponed till the close of the assembly of the General Medical Congress at Moscow in 1897. The distractions were then so numerous and complicated and the members of the press were so scattered in different directions and had so much professional work to do that they had to content themselves with postponing the whole business to the Paris Exhibition of 1900. Consequently in November, 1897, the Association of the French Medical Press decided to convoke an international congress of the medical press to be held just before the general International Medical Congress.

Since the Medical Congress at Rome the original idea has somewhat developed. It is no longer merely a question of organising for the successful reporting of the proceedings of medical congresses. Following the example given by journalists belonging to the political press, it seemed that an international agreement would tend to protect and promote the moral and material advantages of medical journalism. Literary scientific property could be better protected by the holding of periodical congresses. The Congress which it is now proposed to convoke will be the first effort of the sort, and subjects will be discussed internationally for the first time. Therefore the agenda, it was felt, should be reduced to the simplest expression, leaving the field open for further developments as necessity might arise. Thus there are only two subjects on the agenda: (1) the advisability of forming an international association of the medical press and the conditions on which such an association should exist; and (2) the application of the principle of the protection of literary property to medical literature.

On the first question reports will be presented by Dr. Laborde of Paris, Dr. O. Posner of Berlin, and Dr. Rubino of Naples. These reports will be published before the meeting of the Congress and distributed to all the members. Dr. de Maurans, of *La Semaine Médicale*; M. Rochet, Advocate at the Court of Appeal and legal adviser of the Association of the French Medical Press; and M. Pouillet of the Order of Advocates, will report on the second question and their reports will also be published in advance.

Other questions have also been suggested for discussion, such as the unification of medical technical terms; the extension to members of the medical press of certain [illegible] to members of the political press; a [illegible] as to what constitutes a legitimate quotation; the principle which should govern exchanges of papers; the representation of medical papers in foreign countries; and the part of the medical press in the organisation and preparation of medical congresses. Such is the general programme. The organising committee has for its President Professor Cornil, Member of the Senate; for Vice-Presidents Dr. Lucas-Championnière and Dr. Laborde. Dr. Cézilly is Treasurer and Dr. R. Blondel, 8, rue Castellane, Paris, is the General Secretary.

The Congress will meet on July 26th and will last for three days. All proprietors, editors, sub-editors, and members of the staffs of all medical periodical publications, together with the legal advisers attached to such publications, are admitted as members of the Congress on the payment of an entrance fee of £1. The families of such members and medical men and medical students may also attend as spectators on payment of an entrance fee of 8*s*. They will participate in all the fêtes and receptions but not in the discussions and votes of the Congress. Speeches may be delivered in German, French, or Italian, and there will be meetings in the morning and in the afternoon. More than 50 French medical publications have appointed members of their staffs as members of the Commission of Organisation for this Congress. Committees of organisation for the Congress have also been formed in Germany, Italy, Spain, and the United States of America. Professor Virchow is the honorary president of the German committee, which seems to comprise Austria as well, for the names of Dr. Adler of Vienna and Dr. Herrnheiser of Prague are included in the list. For Italy Professor Baccelli is honorary president, and Professor L. M. Bossi of Genoa acting president. Dr. Valldor is the president for Spain. The Association of American Medical Editors has nominated 10 of its members to form the American committee, together with five members of the American Medical Publishers' Association and five members of the Medical Press Club of the Mississippi Valley.

More important than the formal programme of the International Congress of the Medical Press is the social concourse of so many persons of different nationalities concerned with this phase of journalism. For 10 years or more the desire that such a meeting should take place has been expressed, and now there is a good opportunity to realise this wish. As matters now stand it is proposed to receive the members of the Congress in an official manner at the Pavilion of the Press on the Exhibition grounds. A lunch will follow. This is to take place on Thursday, July 26th. On the mornings and afternoons of the following Friday and Saturday the Congress will meet at the École de Médecine. The evenings of Thursday and Friday are to be given over to private hospitality, but on the Saturday there will be a banquet of the entire Congress to be followed by a grand reception given by the Paris Municipality at the Hotel de Ville. The intervals between the meetings of the Congress and these entertainments are to be employed in visits to the Bibliographical Medical Institute of M. Marcel Baudouin and the special folding and colour printing machines employed by *La Semaine Medicale*, and other installations that are of technical interest to medical journalists.

It is, however, difficult to understand why a most inappropriate date has been selected for the meeting of this Congress. The journalists who attend the International Congress of Deontology or Medical Ethics will be busy with that congress up to July 28th. Those who are to attend the International Medical Congress which is to meet on August 2nd will not have arrived in Paris on July 28th. Why run the Medical Press Congress during the last three days of the Deontological Congress when there are four clear days vacant after the Deontological Congress has terminated and before the International Medical Congress begins—namely, July 29th, 30th, and 31st, and

August 1st? The medical journalists wish to organise. Well a[illegible] practitioners. Why should [illegible] congress just at a date wi[illegible] the medical practitioners [illegible] of the four following days they will not clash with any other congress and it will be more convenient for those who are going to attend the International Medical Congress. Indeed, it would thus be possible to be present at all the four most important congresses—namely, Medical Ethics or Deontology from July 23rd to the 28th; the Congress of the Medical Press from, say, July 30th to August 1st; the International Medical Congress from August 2nd to the 9th; and the Congress of Hygiene from August 10th to the 17th. This seems so simple and easy a solution of the difficulty that it is to be hoped that the organisers of the Congress of the Medical Press will see their way to alter their date of meeting from July 26th to the 29th or 30th.

THE FATAL ACCIDENTS.

Though the fatal accident which occurred close to the Exhibition on Sunday has elicited the most varied, and in some cases the most abusive, complaints and criticisms no one has suggested that the ambulance service was in any way deficient. A sort of field hospital was very promptly organised in an adjacent building and ambulance wagons were on the spot in good time to remove the nine injured persons to the hospitals or to their private homes after their wounds had been dressed. The same may be said with regard to the second and more blameworthy accident which occurred on Monday. Four workmen were decorating the ceiling of the Hall of Festivals in the great Machine Gallery. This was inside and not, as in the other case, outside the Exhibition, and yet it would appear that the plank of the scaffolding on which these four men stood was of bad or rotten wood; it snapped, the four men fell, and two of them were killed on the spot. The third victim died subsequently and the fourth is under treatment. The chief of the medical service of the Exhibition, Dr. Gilles de la Tourette, was at once called and arrived in time to be able himself to dress the wounds. While deploring such accidents it is in any case some satisfaction to know that prompt surgical assistance was at hand.

To facilitate communications there are so many small bridges for pedestrians in and about the Exhibition that fears of another collapse may very naturally be entertained. Yet, on looking more closely into the matter, it will be seen that this is not at all likely to occur. The bridge in question was not in use. There was no one on it. It was meant to connect a big side show called the Celestial Globe with the Exhibition which is on the other side of the broad Avenue de Suffren. This show will not be completed before June 15th, and there were boards on both sides to prevent access to the bridge. It is against the law to allow anyone on a bridge before its security has been officially tested. Evidently the supports of the bridge had been removed before the cement was sufficiently dry or bad materials had been employed. In any case there was no one on the bridge, it collapsed of its own accord. Only as it was a fine holiday afternoon there were many persons passing underneath at the time and nine were injured and eight killed. The test for bridges in France is that they shall bear an overcharge or load of 400 kilogrammes per square metre of surface. But as great crowds are expected at the Exhibition this test has simply been doubled. It is calculated that, however great the crush, it is simply impossible for more than from six to seven persons to stand within one square metre. Even if these seven persons each weighed 70 kilogrammes this would only amount to 490 kilogrammes per square yard, and no bridge is open to the public at the Exhibition which has not been tested for 600 kilogrammes per square metre of its surface. There is consequently no need to fear that these bridges will give way under the crowds that are likely to pass over them.

Paris, May 1st.

THE MEDICAL GOLF TOURNAMENT.—This tournament will be played on May 19th at Wembley by kind permission of the Wembley Club. The competition will be one medal round of 18 holes. There will be scratch and handicap classes. Entries, with fee, should be sent to Mr. Creasy, Winchester, Surrey, by May 7th.

GERMAN CONGRESS OF INTERNAL MEDICINE.

(FROM OUR BERLIN CORRESPONDENT.)

THE Congress of Internal Medicine was opened in Wiesbaden on April 18th by the President, Professor VON JAKSCH of Prague.

Treatment of Pneumonia.

Professor KORANYI (Budapest) read the first paper, his subject being the Treatment of Pneumonia. He said that the differences in the symptoms of pneumonia were not caused by differences in the pathogenic germs producing the disease but by the varying conditions of age, constitution, &c., presented by the patients. The serum treatment of pneumonia had no undesirable sequelæ, but at the same time it was of no specific action. Medicines were not able to shorten the duration of the illness, but some of the substances given with this object in view might have an injurious effect on the red corpuscles of the blood. Professor Koranyi has ascertained by recent researches that in pneumonia the amount of sodium chloride in the blood decreases and that its point of congelation becomes higher. By the influence of oxygen the blood is rendered normal again. He therefore recommended inhalations of oxygen and said that venesection was indicated in certain cases.

Professor PEL (Amsterdam) said that the prognosis of the disease depended not so much on the pathological alterations in the lungs as on the constitution of the patient. A robust patient often recovered from pneumonia in its severest form, whilst a person weakened by alcoholism, syphilis, or some other constitutional disease would die from a pneumonic process of limited extent. Professor Pel then reviewed all the drugs recommended for the treatment of pneumonia and concluded with the statement that they were all useless and of no specific action. The physician, however, can do very much for the patient by providing suitable nourishment and proper nursing and by relieving pain. It is a great mistake to allow patients to get up too soon; they should be kept in bed a week after the crisis. Rest in bed, which weakened healthy persons, was strengthening for convalescents. With regard to the use of alcohol he said that it might be administered in small doses as a tonic; large doses must be avoided. It must be the aim of the physician to guard against cardiac failure. This was the essential point in the treatment of pneumonia.

Dr. MULLER, of the Army Medical Corps, gave statistics of the disease in the German army. He said that the number of cases had decreased during the past 20 years, but that the mortality was still rather high. Every soldier [illegible] cases, [illegible] carbol [illegible] treatment of the disease.

Endocarditis.

Professor LITTEN (Berlin) said that Endocarditis was almost always a sequel of infectious diseases and with the exception of the atheromatous form was caused by micro-organisms. From a clinical point of view a benign and a malignant form were to be distinguished. With regard to the etiology there existed first a benign form of rheumatic, chorea, gonorrhœal, [illegible], and finally a septic, purely endocarditis caused by a combination of one of the two first species with pyogenic germs. The benign and the malignant [illegible] Subacute and the [illegible] were caused by the same species of [illegible] of diseases [illegible] Malignant [illegible] were single infections caused by [illegible] [illegible] the heart, [illegible] into the [illegible]

Dr. [illegible] and the [illegible]

were in reality so definitely separated as was asserted by Professor Litten. In septic endocarditis plain and suppurative infarcts were often present together in the same patient. Moreover, the duration of the disease was not characteristic, in septic endocarditis especially, the puerperal form of which might last for several months.

Professor WASSERMANN (Berlin) said that different species of micro-organisms were able to produce endocarditis. It was not yet ascertained why the same germ produced at one time a benign and at another time a malignant endocarditis; these differences depended, not only on a difference in the virulence of the micrococci, but also on very subtle biological alterations described by Professor Ehrlich in his researches on hæmolysis. He was able once to detect a very virulent streptococcus in a case of rheumatic endocarditis.

Dr. MICHAELIS (Berlin) mentioned the bacteria detected by Professor von Leyden in some cases of rheumatic endocarditis. In acute rheumatic arthritis he had never found bacteria as described by Dr. Singer of Vienna In tuberculous endocarditis Koch's bacilli were present in the endocarditic growth, but it was very difficult to detect isolated micro-organisms.

Professor von JURGENSEN (Tübingen) said that endocarditis was never limited to the valves as myocarditis was always present at the same time. Genuine rheumatic endocarditis had not been observed by him of recent years. The character of endocarditis had altered and it had become more chronic, showing an increase in the number of respirations, early interference with the cardiac action, and nervous symptoms. He recommended that the patients should be kept in bed until all the acute symptoms had disappeared.

Professor SCHOTT (Nauheim) agreed with Professor von Jürgensen and said that for anatomical reasons endocarditis once established could not be entirely got rid of.

Malta Fever.

Professor NEUSSER (Vienna) drew attention to Malta Fever, an infectious disease which occurred on the coast and on the islands of the Mediterranean. He showed a patient who had caught the disease in Burgas, a town on the Black Sea. The symptoms of Malta fever were very like those of typhoid fever. In doubtful cases bacteriological examination decided the diagnosis. Owing to the increase of traffic between inland Europe and the shores of the Mediterranean a knowledge of Malta fever was now more important than it was formerly.

Leukæmia.

Professor TURK (Vienna) criticised the opinion of Professor Löwit that leukæmia was caused by specific corpuscles in the blood. He asserted that these corpuscles were produced artificially by the staining of the leucocytes. He did not share the opinion that leukæmia might appear in rabbits after the injection of such corpuscles.

Professor LOWIT said that the corpuscles described by him were not identical with the typical hæmamœbæ and protozoa of malaria.

(To be continued.)

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Powers of Boards of Guardians.

In the Stockport Union may be taken as a sample boards of guardians are becoming increasingly restive under the restrictions of the Local Government Board. The first meeting for the current year was held on April 23rd, and the annual appointments were made. It was decided to ask the Poor-law Unions' Association to make representations in the proper quarter to the following effect: "That the powers of the Local Government Board be revised by Parliament with a view to extending to boards of guardians greater freedom in the carrying out of their duties under the Poor-law and other Acts, especially in order to secure (1) the entire control by guardians over the appointments, salary, tenure of office, and duties of their officers; (2) an extension of the time at present allowed by the Local Government Board for the repayment of Poor-law loans; (3) that orders and regulations issued by the Local Government Board affecting boards of guardians shall before coming into operation be submitted to boards of guardians for their consideration and shall also be confirmed by Parliament." The proposer of this resolution thought no popularly elected body in the country was so tied down and bound as were boards of guardians, and "it was a disgrace that the affairs of a large union should be dealt with and vetoed by one clerk seated in a room in London answering in the name of the whole Local Government Board." If these additions to the powers of boards of guardians are given it will render the position and tenure of office of Poor-law medical officers more insecure than it is at present and more subject to local influences. Much as boards of guardians may feel the curb of the Local Government Board it is as nothing compared with the disadvantage to the poor and to the medical officer himself that would follow from his being subject to the caprice of irresponsible boards of guardians.

Bury Vaccination Fees.

At the first meeting of the newly-constituted Bury Board of Guardians, held on April 25th, the much-discussed question of vaccination fees came up again. Though the Local Government Board declined to sanction the proposal of the guardians some little time ago to reduce the fees to the minimum allowed by the Board the guardians have adopted a lower scale than that hitherto used. The fees payable to public vaccinators are now to be "5*s.* for vaccination and 2*s.* per visit, against previous payments of 7*s.* and 2*s.* 4*d*, with a fee of 2*s.* 6*d.* for revaccination." The fee payable to vaccination officers is to be 1*s.* 4*d.*, a reduction of 4*d.* It is stated that the officials are willing to accept this scale of fees.

Mr. Walter Whitehead on the Advantages of Hospital Treatment.

A bazaar was held the other week in aid of the endowment fund of the Aitken Memorial and Jubilee Cottage Hospital at Ramsbottom. It was opened on the first day by Lord James of Hereford and on the day following by Mr. Walter Whitehead. The latter took the opportunity of showing the advantages of hospitals to such a community as that of Ramsbottom which is a manufacturing town where the people are chiefly employed in the mills. He said that years ago it mattered little where patients were treated, but now surgical treatment involved so many details—comparatively trifling, perhaps, taken singly—upon the observance of which the success of the case depended that it was very important to have recourse to a hospital. He thought that a patient had a 25 per cent. better chance of recovery in a hospital than in a palace, especially if it were a surgical case, and the new hospital with its nine beds would prove a great boon to Ramsbottom. Patients would not have to take the long journey to Manchester and it might lighten a little the pressure on the Manchester Royal Infirmary. "How great that pressure was they would understand when he said that there were sometimes as many as 40 patients waiting for a bed to be vacant, and he was afraid that in many cases they had to wait till they were past medical or surgical treatment." This is an argument in favour of an early decision as to what is to be done with the Manchester Royal Infirmary.

Infant Mortality in the Northwich District.

It is discouraging that, notwithstanding the energy and activity as to sanitary matters now displayed by authorities in town and country, the mortality among infants in far too many places would seem to indicate that a considerable proportion of our highly civilised Christian people are living in a state of barbarism. In the annual report of the medical officer of health of the Northwich Urban District, recently issued, it is stated that the deaths under the age of one year constitute—as is so often the case—the most serious item in the mortality tables, 30 per cent. of the total mortality coming under this head. It is discreditable that 214 per 1000—more than one-fifth of those born—should die before the year is out, especially when so many of the deaths are from preventable disease. Many factors are at work—ignorance, apathy, neglect, and in far too many cases no great wish that the child should live. How much is the compulsory education in our board or voluntary schools doing to build up character and to give the knowledge that will help the mothers of the coming generation to save their children from untimely death?

Scarlet Fever in the Police-court.

A case that occurred recently at Sale, Manchester, shows the almost incredible stupidity which some people exhibit with

regard to infectious disease. A woman was summoned for letting her boy attend school and run in the street while affected with scarlet fever, and either ignorantly or impudently took the child—still infectious—with her to the police-court when she answered the summons. She was fined 40*s.*, the bench making the very wise, if obvious, remark that "the case was serious."

May 1st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh University General Council.

THE reports in connexion with the approaching meeting of the General Council of the University of Edinburgh have just been issued. The business committee record with deep regret the death of Sir William Priestley, the representative of the Universities of Edinburgh and St. Andrews in Parliament. The finance committee point out the necessity for augmentation of the general university fund. This fund stands as follows:—Total revenue in 1898-9, £45,769 16*s.* 9*d.*, in 1897-8, £43,501 6*s.* 8*d.*; expenditure in 1898-9, £45,320 5*s.* 4*d.*, in 1897-8, £43,904 4*s.* 3*d.*; excess of expenditure over revenue (1897-8), £402 17*s.* 7*d.*; surplus revenue (1898-9), £469 11*s.* 5*d.* The upkeep of the M'Ewan Hall is not met by the considerable revenue which comes in as rent for concerts, and the general university fund has to bear the loss. The expenditure upon the principal's official residence, which he does not occupy, has also been heavy. The deficit might in future become serious.

Dispute between Hospital Committee and Medical Men.

At the last meeting of the Joint Committee of the new Infectious Diseases Hospital, Elgin, the clerk submitted a minute of meeting of the medical practitioners of the town of Elgin (transmitted by Dr. Watson, medical officer to the hospital), who had unanimously resolved that "if the salary [i.e., of the medical officer] is to be a fixed one £50 is the minimum which should be offered and accepted. If the salary is not to be absolutely fixed they would be prepared to accept either of these alternatives—£40 a year on the understanding that if at the end of the year this was found to be inadequate remuneration for services rendered an additional sum should be allowed; or if it should be preferred to pay per visit the rate should be not less than 5*s.* per visit." It was argued that "it was the duty of the committee to break down this combination of doctors," and it was ultimately agreed to refer the matter to the town council and county council. It was also resolved to open the hospital on May 15th if duly certified by the medical and sanitary officers and that persons who in the meantime sent patients to the hospital would have to provide for medical attendance.

The Queen and the Red Cross Hospital Movement.

Funds are being raised in the city of Aberdeen and in various parts of Aberdeenshire and adjoining counties for the equipment of beds in the Scottish National Red Cross Hospital at Cape Town. The Queen's Balmoral estate is in Crathie parish and in connexion with the bed proposed to be called the "Crathie Bed" the Queen has contributed £10 and Princess Henry of Battenberg has contributed £3.

City Hospital, Aberdeen.

The salary of Dr. J. S. Laing, resident medical officer, is to be increased by £25 per annum, making it £100, with furnished rooms, board, and washing.

Aberdeen University.

The summer classes in the medical department opened on April 14th and 25th.—Mr. W. B. C. Middleton, M.B. Aberd., medical officer of health, Singapore, has presented to the Anthropological Museum of the University an extensive and valuable collection of specimens illustrating the habits and customs of the natives of the Malay Archipelago, as well as a large number of objects illustrative of the anthropology of the West Indies, New South Wales, Queensland, Victoria, Fiji, and New Hebrides, collected by the late very Rev. James Ross, M.A. Aberd., Ph.D., New South Wales.

The Forthcoming Public Health Congress in Aberdeen.

In connexion with the annual meeting of the Royal Institute of Public Health, to be held in Aberdeen in August next, Professor D. J. Hamilton, Aberdeen University, has been appointed president of the bacteriological section, and Dr. Farquharson, M.P., secretary of the Municipal Hygiene Section. Other appointments have also been made. About 3000 invitations have been issued and a successful congress is expected. Professor M. Hay, M.D. Edin., medical officer of health, and Mr. K. Cameron, sanitary inspector, Aberdeen, are acting as local secretaries.

May 1st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Royal Visit to Dublin from its Medical Aspect.

ALTHOUGH addresses were received by Her Majesty from the Royal College of Physicians of Ireland and the Royal College of Surgeons in Ireland the personal visits of the Royal party to medical institutions were strictly confined to those connected with public charity. It was hoped that Royalty would distinguish the Royal College of Surgeons in Ireland by a visit, for there are few public bodies in Ireland which have been more intimately associated with Royal receptions in the past than that College. Ever since George IV. came to Dublin in 1821 the institution has been conspicuous in its homage to the Throne. The best portrait in Ireland of the Queen is to be seen there, while the examination hall, known as the Albert Hall, contains a most life-like bust of the late Prince Consort. During the recent brief visit of Her Majesty time probably did not permit of any such honours outside those conferred on medical charitable institutions. It seems, indeed, surprising that Royalty should have during the brief period found time to honour so many medical institutions. The Queen herself graciously distinguished three of the Dublin clinical hospitals by a visit in person: the Adelaide Hospital on April 17th, the Meath Hospital in the following week, and finally the Mater Misericordiæ Hospital on April 24th. The first of these institutions honoured by her presence was the Adelaide Hospital. She was received by representatives of the governors by the medical staff, including the senior physician (Dr. James Little) and the senior surgeon (Mr. Heaston), and by the lady superintendent and the large staff of nurses connected with the institution. She was similarly welcomed at the Meath Hospital, where she was received by the governors and by the medical staff, including Sir Philip Smyly, the senior surgeon. Her visit to the Mater Misericordiæ Hospital was made on one of the latter days of her sojourn in Ireland, and was, in point of time, the last of the public bodies visited by Her Majesty. Her coming there was heralded by the morning papers and her visit was accordingly witnessed by some thousands of the citizens who were anxious to obtain a glimpse of their Queen. She was received by the lady superior of the sisters of mercy and by the medical staff, and was especially gracious on this occasion. She made a complimentary allusion to the large and handsome front of the hospital and inquired as to its capacity. She was informed by the senior physician, Mr. Christopher Nixon, that the building harboured 500 inmates, including 430 patients under treatment, and that it was supported entirely by voluntary contributions from the public. The terrace on the western side of the hospital entrance was occupied by the sisters of mercy, while that on the eastern aspect was filled by Miss M. Gilcrey, the lady superintendent of nurses, and her large staff of lay nurses. Many visits were made to the hospitals by Princess Christian, Princess Henry of Battenberg, and her Excellency Lady Cadogan during the period of the Queen's visit to Dublin. Perhaps the most notable of these was the visit which distinguished the City of Dublin Hospital. Her Royal Highness Princess Christian, accompanied by her Excellency the Countess Cadogan and a brilliant suite, visited the City of Dublin Hospital on April 21st. It was at this time the Princess Christian laid the foundation stone of the new nursing House in connexion with the hospital, and I stated that her Royal mother had commanded that the title "Royal" should henceforth be prefixed to the name of the City of Dublin Hospital. Many other visits were made by Royalty to medical charitable institutions. The Princess Henry of Battenberg visited the Hospital for Children in Temple-street and was received by the sisters of charity who manage that institution. The Princess Christian paid a visit to St. Vincent's Hospital, Leeson-street, and was met at

there by the sisters of charity and by the medical staff of the hospital. The Mater Misericordiæ Hospital is proud of the special honour conferred on it—doubtless on account of its being the largest of the charitable hospitals in Ireland. It alone, among charitable institutions and hospitals, was twice honoured by visits from Royalty during Her Majesty's visit—on the first occasion by a visit from the Princess Christian accompanied by Her Excellency the Countess Cadogan, with a brilliant following, and, secondly, on April 24th, by the presence of Her Majesty the Queen.

The New Coroner for the City of Dublin.

Mr. Louis A. Byrne, F.R.C.S. Irel., has recently been elected coroner for the city of Dublin in succession to the late Mr. Joseph E. Kenny.

Downpatrick Asylum.

Dr. Martin has been appointed assistant resident medical officer in place of Dr. G. W. O'F. Clark (resigned). The salary of Mr. M. J. Nolan, the resident medical superintendent, has been increased by £100 per annum.

The Mater Infirmorum Hospital, Belfast.

This new Belfast Hospital was formally opened on April 23rd, when, at the invitation of those connected with it, there was an immense assemblage of people of all denominations. His Eminence Cardinal Logue, who presided, called upon the Lord Mayor of Belfast who in a few suitable words declared the hospital open and on behalf of himself and his fellow citizens wished it every possible success. The Marquis of Dufferin and Ava, K.P., invoked the blessing of the Almighty to rest upon the institution, upon the Sisters of Mercy who administered its affairs, and upon the patients who would find refuge and relief within its walls. At the conclusion Dr. Henry, the Roman Catholic Bishop of Down, announced amidst great enthusiasm that the undertaking of that building (which cost, it is said, close on £50,000) had been launched free of debt. It is also stated that there is a nucleus of an endowment fund. At a charity sermon preached by Cardinal Logue in one of the Belfast chapels on the previous day a sum of £1900 was collected. This hospital, which will be a great addition to the charities of Belfast, has a frontage of 230 feet to the Crumlin-road and is situated in an area of slightly over one acre. The hospital stands on a foundation of red boulder-clay with a gentle incline from north to south. It is designed on the "pavilion" system. The principal portions of the hospital may be said to consist of three distinct blocks facing the Crumlin-road, the centre one being the administration building, flanked by a pavilion block on each side, that on the east being for males and that on the west for females. Each pavilion is three storeys in height and contains two large wards on each floor, each of these wards being provided with two sanitary chambers in towers. In connexion with each of the large wards there is a ward kitchen store and a small ward with one bed. Between the extreme pavilions and the administration block is placed a smaller pavilion, which contains smaller wards and day-rooms for convalescents, and also the children's wards. The hospital is planned for 150 beds besides the cots for children. The extern department is placed in the west pavilion, with waiting-room for patients and consulting-rooms for the members of the medical staff. Every sanitary convenience is provided. There is a home for nurses and in the administration block there are rooms for the intern medical officers. In the first floor of the administration block there are special wards for paying patients, while the top floor is reserved for the use of the nuns who labour in the hospital. There is a chapel for the use of inmates and patients behind the administration block. There are observation and "recovery" wards for the patients' immediate use after operations, operation-rooms, and lecture theatre. There are admirable kitchen arrangements and dining-rooms for the officials and working staff, a laundry, boiler- and engine-houses, and a mortuary and post-mortem room. The hospital is built of red brickwork with stone dressings, it is heated by hot water and lighted by electricity. The front range of the buildings are recessed 28 feet from the Crumlin road, and this space is planted as a garden and railed off. The principal entrance is in the centre of the administration block. The floors of the wards and corridors are of concrete covered with "tenazzo." The windows are of the new "N.A.P." pattern—that is, they can be moved up and down, while they also revolve on pivots and so can be easily cleaned. The roofs of the hospital are covered with the patent vulcanite flat roofing and are laid out as gardens with grass-plots, flower-beds, &c. There is a special entrance large enough to admit the ambulance wagon with accident cases, and in this way the patient can be brought direct to the hoist and be carried, still on the ambulance stretcher, to the floor where he is to be attended to or treated. Mr. William J. Fennell, M.R.I.A.I., is the architect and he has succeeded in planning a hospital of a most efficient kind with every modern convenience which will be a great addition to the medical institutions of Belfast.

Newry Union.

Dr. T. O'Riordan, Ballymote, Sligo, has been elected dispensary medical officer of the Meigh district of the Newry Union.

Appointment of Professor of Materia Medica at the Queen's College, Cork.

Dr. John Dundon has been appointed to the chair of Materia Medica at the Queen's College, Cork. Dr. Dundon had a very distinguished career when a student of the Cork Queen's College and in the year 1894 graduated with honours at the Royal University; four years later he obtained the Fellowship of the Royal College of Surgeons in Ireland.

May 1st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Hygiene of the Paris Metropolitan Railway.

THE Paris Metropolitan railway which should have been ready for the opening of the Exhibition is not, as is the case with so many of the things promised for this date, yet completed. Hygienic difficulties are the cause of its not being opened for traffic. Very likely, however, this is not the only cause, for the underground railway, which has been in consideration for some ten years, was only definitely started last year and the hurry with which the work has been carried on has been the cause of several miscalculations. Unforeseen springs of water, for instance, have thrown many difficulties in the way of the works. A bridge to be placed over the St. Martin canal has not been delivered by the Creusot works owing to strikes, and finally, the carriages have been declared to be unsatisfactory. Apparently the line cannot be open to the public before an interval of three months, although the tunnel is completed, the stations and stairways to them are finished, and the rails are laid. The meeting of the Municipal Council showed that the hygienic conditions of the line were very defective and many alterations would have to be made before it could be opened for traffic. M. Parisse, at the meeting held on April 14th, drew the attention of the Council to the very deficient ventilation of the tunnel. The engineers responsible for the works relied upon the stairways leading to the stations for this purpose. These are very numerous for there is a station about every 200 metres and they are on very variable levels. Besides, there is a considerable difference of temperature between the air of the outside and that of the inside. M. Parisse, however, considers that the means of aeration are altogether insufficient for a tunnel containing a number of persons bringing in mud and sputa on their shoes together with other impurities. I myself when visiting the tunnel just after its completion was struck by the strong urinous odour which prevailed, caused by the workmen having to use the soil of the tunnel itself as a urinal. Another source of ventilation which was counted upon was the displacement of the air by the movement of the trains, which are driven by electricity and which, despite the numerous stops, go at a pace sufficient to traverse the greatest length of Paris in 20 minutes. M. Parisse, however, declares that movement of the air is not necessarily the same thing as renewal and that arrangements must be made for a continual fresh supply. The Council proposes to erect a series of electric fans which will supply fresh air previously filtered and the stairways will serve as upcast shafts for the escape of the foul air. To consider the question the Council has appointed a commission, consisting of 15 members, representing the Municipal Council, the Academy of Sciences, the Academy of Medicine, the Prefecture of the Seine and the Prefecture of Police. This commission will

inquire into the matter and study the various means whereby the safety of both travellers and their property can be best secured.

Immunity against Symptomatic Charbon by the Administration of Preventive Serum.

In some former researches into this question M. Arloing studied the preventive action of the serum of an ox strongly immunised against symptomatic charbon, and decided that his serum is capable of neutralising in vitro an amount of virus equivalent to five times a mortal dose. On April 9th he laid before the Academy of Sciences the results of some new researches. He stated that this condition of passive immunity is only ephemeral and disappears completely at the end of about eight days. But a much more lasting immunity can be produced by injecting some days after the administration of the serum a lethal dose of virus. This immunity lasts from 12 to 15 days. At the end of this time local manifestations appear, but such are never fatal. M. Arloing tried to obtain the same result by injecting the serum and the virus at the same time. Death, however, was only retarded. A control animal died in from 30 to 40 hours, while the others lived for four or five days.

A Hospital Debate.

At the Society of Surgery a full dress debate has taken place as to the necessity for every hospital surgeon being provided with separate wards for suppurating and septic cases. A keen discussion which lasted for over an hour took place upon this occasion [illegible] Tuffier, Nélaton, Routier, [illegible] for the most rigorous aseps[illegible] have four or five baths before being operated upon and those in a bath specially allotted for such cases instead of as at present being sent to the baths common to the whole hospital, which only serve to store (*emmagasiner*) microbes from all the medical and surgical wards in the hospital. M. Quenu considers that a surgeon should use gloves for any septic operation and should never make a post-mortem examination or even go into any laboratory of pathological anatomy. M. Rochard pointed out that for all that M. Quenu was in charge of the anatomical department of the central school of the hospitals, and M. Bazy had no hesitation in allowing that he had performed two laparotomies which could not wait just after having opened a gangrenous carbuncle. Notwithstanding this, however, the two cases did very well indeed, and this he attributed to the fact that he was quite awake to the necessity for making his hands aseptic. M. Bazy, with whom M. Routier agreed, considered that it was necessary to avoid exaggeration on this point. If this were not d[illegible] operating in any [illegible] desirable in theor[illegible] point was that they should try to arrive at the ideal as nearly as possible. Results showed that the most careful cleansing of the hands gave success provided that the operator bore in mind that no negligences were committed during the operation itself.

Death of Dr. Apostoli.

The death is announced in Paris of Dr. Apostoli, aged 53 years, well known for his writings upon electro therapy. He left a number of works upon the treatment of fibroma by electricity and in his later years was immersed in the study of sinusoidal currents. Though attached to no hospital and never holding any official position he was editor of the leading French journal of electro therapeutics and his private clinic was thronged by patients, students, and foreign medical men.

May 1st.

ROME.

(FROM OUR OWN CORRESPONDENT.)

The International Congress against Tuberculosis.

FEW, indeed, were the English-speaking representatives at the Congress just closed, and the fact is regrettable, as all the other great Powers and several of the smaller ones contributed their delegates, many of whom are in the first rank in medicine, scientific and clinical. The Congress itself, moreover, was perhaps the most successful ever held in Italy and served to allay the impression left by too many of its predecessors that brilliant oratory is more conspicuous on such occasions than practical induction resulting from accurate observation and cautious thinking. Italy, indeed, spared no pains to start her crusade against tuberculosis with success. The leaders of all her medical schools co-operated with those of their Neapolitan sister towards that consummation, while her Minister of Public Instruction not only strained his official resources in behalf of the Congress but gave its proceedings the benefit of his genial presence and his large clinical experience. And she had her reward. Foreign delegates of the stamp of Rudolf Virchow, Karl Fesser, and Benno Baginsky of Berlin and Lannelongue of Paris (to mention only a few) bore cordial testimony to the prophylactic and therapeutic value of such papers as those of Sanarelli of Bologna, Cecchierelli of Parma, Rosata of Perugia, Maramaldi and Giofredi of Naples, and other representatives of Italian schools, and the discussions that followed—discussions in which the presidents of the sections such as De Giovanni of Padua and De Renzis of Naples encouraged the general practitioners among the members to join—evoked a professional knowledge and ratiocinative power of the happiest augury for their country's medical future. The evidence adduced, moreover, as to the interest taken by the public in the "anti tuberculous crusade" abounded in gratifying details, prominent among which were the large donations bequeathed by private testators, not only to the clinical schools in general, but to the special sanatoria for tuberculous patients arising in all the centres of population from the Alps to Etna. And not only will the Italians themselves profit by this spread of knowledge and prophylactic effort against tuberculosis, but the world of travel that throngs their winter cities and maritime resorts will, ere long, have one of its chief deterrents minimised, if not removed. The paper of Dr. Giuseppe Sanarelli of Bologna (whose work at Montevideo in investigating the bacillus of yellow fever is known to both hemispheres) gave highly re-assuring evidence in this direction—a paper on the "Profilassi della Tubercolosi sulle Strade Ferrate," which drew from the Commendatore Santoliquido (Director of Public Hygiene in the Ministry of the Interior) confirmatory testimony, still further reinforced by Professor De Giovanni, president of the "Sezione Profilattica" of the Congress. Dr. Sanarelli concluded by pressing on the Government the adoption of a series of precautions, ten in number, by which the risks to the traveller on Italian lines will be reduced well nigh to nil and the danger of contracting tuberculous disease or aggravating it when present *pro tanto* obviated. Concurrently with the Congress against tuberculosis another, though not on an international scale, ran its course—and that a successful one—on laryngology, at which the bearings of that special department of medicine on tuberculous disease were happily accentuated. The official "Atti," or transactions of both congresses, will be published in the course of the summer, and by their renewed discussion must tend still further to put the prophylaxis and treatment of tuberculosis on a sound and satisfactory basis. As to the Exposition of Hygiene, which was to have been an attractive feature of the congresses, its opening has had to be postponed till May 6th—an unfortunate necessity, as the summer heat will deter the Northern visitor from availing himself of its many unique opportunities of observation and instruction. It will not be closed, however, till the middle of October next.

April 30th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

The First Ten Years' Work of the New York Cancer Hospital.

THE New York Cancer Hospital was founded in [illegible] and [illegible] opened in February [illegible] Provided with the [illegible] [illegible] and [illegible] [illegible] Dr Paul [illegible] [illegible] [illegible] the [illegible] than 5000 [illegible] In the [illegible] Of [illegible]

with in New York but feeling confident that in the end the results following the Pasteur treatment would convince its most obstinate antagonists Dr. Gibier pursued his experiments. He treated his first patient on Feb. 20th, 1890. For many years the work was carried on in the city of New York, but in 1898 it was removed to the country, where the Institute owned an experimental station and a farm. An office is kept in New York where all patients are received before being sent to the Pasteur Sanatorium. This plan of treating the patients in the country has proved exceedingly satisfactory. Patients who are being treated preventively against hydrophobia must lead during the treatment and for a time afterwards a very quiet life and observe as closely as possible the prescribed rules of hygiene; and by the present arrangement they are under the almost constant supervision of the resident physician. In all kinds of weather they can enjoy the pure mountain air without being confined to their rooms, and their diet is, of course, carefully selected and regulated. The more important results of the 10 years' treatment may be summarised as follows. Of the 1367 persons treated, 154 (11 per cent) were bitten on the face or head, 746 on the hands, and 467 on other parts of the body. In 447 (32·6 per cent.) cases the animal inflicting the wound was proved to be rabid by inoculation of rabbits or guinea-pigs or by the death by hydrophobia of other persons or animals which it had bitten. In 268 cases (19 6 per cent.) the animal was declared rabid by clinical or veterinary examination. In the remaining 652 cases the animal had disappeared or had been shot after having acted in such a manner as to lead one to suspect rabies. The yearly statistics have shown a mortality of, respectively, 0 deaths in 169 cases (0 per cent.) in 1890; two deaths in 100 cases (2 per cent.) in 1891; 0 deaths in 105 cases (0 per cent.) in 1892; 0 deaths in 85 cases in 1893; one death in 89 cases in 1894; two deaths in 167 cases (1·19 per cent.) in 1895; 0 deaths in 238 cases (0 per cent.) in 1896; one death in 133 cases (0 74 per cent.) in 1897; one death in 125 cases (0·80 per cent.) in 1898. Of these 1367 persons treated 456 were children under 10 years of age, 683 were men, and 228 were women. In 1287 cases the wounds were inflicted by dogs, in 70 cases by cats, in five by men, in two by cows, in two by horses, and once by a skunk. 1100 persons came to receive the treatment during the first week after being bitten; 140 the second week; 50 the third week; 39 the fourth week; nine the fifth week; five the sixth week; four the seventh week; five the eighth week; five the eleventh week; six the twelfth week; and four the fifteenth week. Out of the 19 patients who died in the 10 years three died before the completion of the treatment and seven within 15 days after the treatment had been completed. These 10 patients, who, according to the rule established by Pasteur, are not included in the statistics, leave a mortality of nine among 1357 patients, or 0 66 per cent. These figures compared with those of other institutions show that the results obtained from the Pasteur treatment are very nearly uniform. At the Pasteur Institute at Lyons 372 cases were treated from Nov. 1st, 1897, to Nov. 1st, 1899; 26 persons had been bitten on the face (6 per cent.), 233 on the hands, 143 on other parts of the body. In 58 cases (15 5 per cent) the animal had been proved to be rabid, in 207 cases (55 6 per cent.) it was very probably rabid, in 107 cases rabies was suspected. At the Institute of Marseilles 1460 persons have been treated since its opening five years ago. Six deaths have occurred (0 40 per cent.). In 397 cases (21 per cent) the animal inflicting the bite had been proved to be rabid; it was very probably so in 789 cases (54 per cent.). At the Athens Institute 797 persons were treated from August, 1894, to the end of 1897 and two deaths are recorded (0·25 per cent.).

The Health of Manilla.

Army reports show that the census of Manilla just completed by the Health Department gives the city an unpleasantly high rank among the unhealthy cities of the world. At a conservative estimate it establishes a death-rate of over 40 per cent. Former estimates and censuses have given Manilla a population of 300,000. The new census, which was a careful count of the natives and Chinese living in buildings and boats in the police districts of Manilla, gives a population of 190,714, of whom 30,000 are Chinamen. There are to be added about 50,000 more inhabitants, including those of several villages within city limits, the Americans and Europeans, and 1400 priests in monasteries. The deaths in Manilla officially reported during the six months from July 1st to Dec. 31st last year were 6302; of these 2941 were children. Some of the causes were: beri-beri, 507; tuberculosis, 385; bronchitis, 314; dysentery, 229; fevers, 287; while stomach troubles ranked high. Manilla has now three diseases epidemic, bubonic plague, beri-beri, and small-pox. The latter diseases, together with leprosy, are always present in the Philippines and the people look upon them as a matter of course, only avoiding direct contact with the sufferers. Two months ago the first case of bubonic plague was discovered in Manilla; since then there have been 200 cases, according to the estimates of the health authorities, and at least 80 per cent. of them have proved fatal. Yet there has been no panic, no families have fled from the city, and the usual routine of life has been preserved. The repressive measures of the health officers have been comparatively simple but have proved remarkably effective considering the conditions they have had to fight. Their aim has been to make and keep the city clean, which is the last thing that the Philippinos and Chinese propose to do unless they are driven to it.

National Health Legislation.

A renewed effort is being made to have a Bill providing for a national board of health passed in the present session of Congress. Demands for its enactment have been made by many public and commercial bodies and men eminent in special fields of science. The Bill is intended to prevent the spread of contagious diseases between the States. There is at present an organisation known as the Marine Hospital Service which is under the control of the Treasury Department. It has been active for many years in maintaining coast quarantine and in 1893 its powers were extended to the operations of quarantine between the States and, in emergencies, within the States, but it is contended that this service is not sufficient. The new Bill will provide for an advisory board or commission, to consist of one representative from each State and territorial board of health, in addition to a representative appointed from the medical corps of the army and of the navy and from the United States Department of Justice. This advisory board will be under the supervision of a commissioner of public health. It is contended that such a commission would be instrumental in bringing about a thorough coöperation between the general Government and all the States and territories, to the great improvement of the conditions of the public health. A special committee of the New York Board of Trade, in a report on this subject, states that they have been very much impressed with the great importance of the question of preserving the public health and with the need of legislation which will create in the United States a national system of coast and inter-State disinfection. They use the word "disinfection" as distinguished from quarantine because they are led to believe that with the adoption of a proper and general system of sanitation and disinfection throughout the country, guided and controlled by one general head in thorough harmony and sympathy with every local and State board, every such board could be brought into touch and coöperation with every other local and State board, and what has heretofore been known as quarantine would practically disappear as being unnecessary, barbarous, and obsolete. With the disuse of quarantine would cease the serious and unnecessary interruptions of commerce and travel in times of epidemic and with the perfecting of such a system as they outline the recurrence of epidemics would become less and less frequent.

Insanity among the United States Troops.

The public mind has been much agitated by reports of the large number of insane soldiers in the army serving in the Philippines. In reply to a Senate resolution the Secretary of War has prepared a statement in regard to insanity and suicide among the troops in the Philippines. From this it appears that there has been a smaller rate of insanity among the troops in the East than there has been in the regular army for 10 years. From July 31st, 1898, to March 20th, 1900, 35 cases were reported from the Philippine Islands. The mean strength of the force during that period was 35,000 men, which would be a rate of 31·3 cases in a full twelvemonth. The mean strength of the army for the 10 years ending July, 1898, was 29,000 men with a mean annual rate of insane of 31·1. In regard to suicides it appears that since the close of the war the annual rate has been 0 64 per 1000 men, while in the regular army for 10 years the suicides were at the rate of 0 63 per thousand annually. The current newspaper reports alleged that the insane brought

from the Philippines were in a demented and hopeless condition, but the fact is that of 37 of the insane soldiers sent to the Government asylum 11 have recovered, showing that their state was by no means so bad as had been represented.

April 17th.

Obituary.

ROBERT GLASGOW PATTESON, B.A., M.B. (T.C.D.), F.R.C.S. IRELL.

As already mentioned by our Dublin correspondent,[1] the death of Dr. R. G. Patteson of Dublin took place from pneumonia, secondary to Bright's disease, at his mother's residence, Dundalk, on April 11th, at the early age of 38 years. Born in Dundalk in 1862, he studied at the grammar school there, and entered Trinity College, Dublin, in 1879, obtaining a junior exhibition, which in two years was followed by a senior exhibition. He graduated M.B. in 1885, in the same year winning the Haughton medal in clinical medicine at Sir Patrick Dun's Hospital. In 1886 he was surgical travelling prizeman in Trinity College, and in connexion with this pursued his studies at London, Berlin (under Koch), and at Vienna. Returning to Dublin he acted as assistant surgeon in the dispensary of St. Vincent's Hospital, until in 1895 he was elected as surgeon to the Meath Hospital in succession to Sir George Porter. In 1890, when only 28 years of age, he became a Fellow of the Royal College of Surgeons in Ireland and shortly afterwards was appointed examiner in physiology, pathology, and histology. He was a Fellow and Member of the Surgical Council of the Royal Academy of Medicine of Ireland. Dr. Patteson was an excellent writer and had made several important communications, especially on skin ailments. He was the author of "A Synopsis of Diseases of the Skin and Hair," "Trichomycosis Nodosa, a Bacillary Disease of the Hair," "Treatment of Chronic Eczema," "Contribution to Pathology of Joint Bodies," "Adenoma of the Breast in Childhood," &c. Shortly before his death he was engaged to write articles in the new "Encyclopædia Medica," and in the first volume of that work two have already appeared on "The Axilla" and "Boils and Carbuncle." Dr. Patteson was a thoroughly educated medical man of a very scientific turn of mind, and, from the work he had already done, the greatest hopes were entertained of a brilliant professional career which has unfortunately been cut short by his early death. He was interred on April 14th from his mother's residence at Dundalk, the attendance at the funeral being one of the largest ever seen in co. Louth, the little rural burying place of Kane receiving the remains of one whose premature demise is a distinct loss to medical science in Ireland.

DANIEL AINLEY, L.R.C.P. EDIN., M.R.C.S. ENG.

THE death of Mr. Daniel Ainley of Halifax leaves a considerable void in the ranks of the profession in that town. A native of Halifax, where he was born 65 years ago, Mr. Ainley on reaching man's estate was for a time engaged in business pursuits which he relinquished in order to devote himself to medical study at St. Bartholomew's Hospital. In 1868 he became qualified as M.R.C.S. Eng., and commenced practice in Halifax; in 1874 he took the diploma of L.R.C.P. Edin. His professional abilities and the confidence which his fellow-townsmen reposed in him led to his being appointed medical officer of health for the borough in 1872. He continued to carry on private practice for a considerable time after entering on the duties of this appointment, but some years ago various changes were made in the health department of the corporation, and from that time to the end of his life Mr. Ainley confined himself to the work of the medical officer of health. One of the principal events in the medical history of Halifax was the small-pox epidemic of 1892 and 1893, when Mr. Ainley's department had to provide for over 500 patients who were removed to hospital. The deceased was a prominent member of the Halifax Temperance Society and an office-bearer in Salem Chapel. He died on April 24th at Bournemouth, where he was on a visit to his son-in-law.

[1] THE LANCET, April 21st, p. 1172.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. J. A. Murphy, formerly Professor of Medicine in the Miami Medical College, Cincinnati.—Dr. A. Murillo, Dean of the Medical Faculty of Santiago, Chili.—Dr. P. Cavallo, one of the original editors of the well known Italian medical journal *Il Morgagni*.—Dr. Saxtorph, Professor of Surgery in Copenhagen, aged 78 years.—Dr. Albert B. Strong, formerly Lecturer on Anatomy in the Rush Medical College, Chicago.—Dr. Pasquale Sgrosso, teacher of Ophthalmology in the University of Naples.—Dr. Josef Gruber, Professor of Otology in Vienna, and author of a large number of papers and works on diseases of the ear, at the age of 73 years.—Dr. Hofmokl, Extraordinary Professor of Surgery in Vienna, at the age of 60 years. He was formerly assistant to Professor Dumreicher.—Dr. Thomas B. Hood, Professor of Diseases of the Nervous System in the Howard University, Washington.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At the third examination for medical and surgical degrees, Easter term, the following candidates were successful:—

Part I. Surgery and Midwifery.—G. F. Barham, B.A., and A. E. Bodington, M.A., Caius; A. R. M. Brenan, B.A., Trinity; J. M. Brydone, Jesus; F. J. Child, B.A., Christ's; H. M. Clarke, B.A., and J. S. Clarke, B.A., Caius; J. O. Cooke, B.A., Sidney Sussex; K. F. Crompton, B.A., Caius; G. W. Dearing, B.A., Trinity; J. D. Dunlop, B.A., Sidney Sussex; W. E. M. Ede, B.A., King's; A. Emerson, B.A., Caius; R. L. V. Foster, B.A., King's; T. B. Gilbert Smith, B.A., Trinity; W. H. C. Greene, B.A., Corpus Christi; E. B. Leech, B.A., Christ's; N. Maclaren, B.A., Trinity; A. S. Mellor, B.A., King's; C. H. Miller, B.A., J. C. Newman, B.A., and G. H. Orton, B.A., Trinity; T. W. Paterson, B.A., Caius; J. S. S. Perkins, B.A., St. John's; J. C. R. Reddish, M.A., and L. Reynolds, B.A., Trinity; H. H. Rich, B.A., Peterhouse; J. C. A. Rigby, B.A., Caius; R. W. S. Rowland, B.A., H. Sebert, L. B. Scott, B.A., Christ's; G. A. C. Shipman, B.A., Trinity; J. L. Timmins, B.A., Emmanuel; R. H. Trewick, B.A., Trinity; H. Walker, B.A., King's; T. H. R. Watts-Sylvester, B.A., and H. P. Williams, B.A., Caius; W. W. Wingate Saul, M.A., Trinity, and H. C. S. Woodward, M.A., Downing.

At the examination in sanitary science for the diploma in public health the following candidates satisfied the examiners in both parts of the examination:—

Herbert Taylor Bury, Joseph Sebastian de Silva, James Madison Gardiner, Leonard Gilbert, Samuel George Victor Harris, William McCallum, Brendan MacCarthy, William McGillivray, Murray Murray, Arnot Kedslaspard Mudall, Donald Munro, Hugh Basil Greaves Newham, John Vernon Rees Roberts, Robert [illegible], Sholto Douglas Truman, George Lewis Tuson, Mabel Wood, Mary Frances Williams, Bertram Mitchell Young, and Henry William Pennyfather [illegible].

It is proposed to appoint Dr. Nuttall, who has for some time been assisting Professor Woodhead in the pathological department, a University lecturer in Bacteriology and Preventive Medicine; and Dr. Haddon, the leader of the Cambridge Expedition to New Guinea and Borneo, a lecturer in Ethnology. On April 26th Mr. G. A. Auden, M.A., Christ's, was admitted to the degree of Doctor of Medicine, and Mr. B. B. B. Truman, B.A., of Trinity Hall, to the degrees of M.B. and B.C.

UNIVERSITY OF DURHAM.—At the Convocation held on April 25th the following degrees and diplomas were conferred:—

Doctor in Medicine.—Vincent Dorey, M.B., B.S. Durham; Arthur William Gilroy, M.B., B.S. Durham; John Harris, B.A., M.B., B.S. Durham; Ralph Acton Rogers Lechmere, M.B., B.S. Durham; John Lowry, M.B., B.S. Durham; and Percy Hugh Waddell Lowry, M.B., B.S. Durham.

Doctor in Medicine (by thesis).—[illegible] Whitaker Brockley, M.R.C.S. Eng., L.R.C.P. Lond.; William Edward [illegible], M.R.C.S. Eng., L.R.C.P. Lond., D.P.H. Camb.; Arthur Gwalchmai Morris, M.R.C.P., F.R.C.S.I., L.R.C.P. Edin.; Thomas Wilson Hunter, L.R.C.P. Edin., L.R.C.S. Edin., D.P.H. Camb.; George [illegible], M.R.C.S. Eng., L.R.C.P. Lond.; and Alfred Vincent Hassall Hyde Margetts, M.R.C.S. Eng., L.R.C.P. Lond.

Doctor in Hygiene (by thesis).—Samuel Agnew Lewis, M.D., B.Sc., B.Hy. Durham.

Bachelors in Medicine.—[illegible] M.R.C.S., L.R.C.P. Lond.; [illegible] Lond., M.R.C.S. Eng., L.R.C.P. Edin.; and Hugh Ap Evan Morris, [illegible] George Cecil [illegible].

Dix, and Henry Eggleston, College of Medicine, Newcastle-upon-Tyne; Henry Reginald Ellis, M.R.C.S. Eng., L.R.C.P. Lond., St. Bartholomew's Hospital; Joseph James French, Charles Thomas Holmes, Maurice Jacobs, John Macfadyen, John Robert Mitchell, and Eliot Swainston, College of Medicine, Newcastle-upon-Tyne; William Johnston Symes, University College, Sheffield; and John Charles Velenski, St. George's Hospital and College of Medicine, Newcastle-upon-Tyne.

Bachelor in Surgery (B.S.).—Christopher Osmond Bodman, M.R.C.S., L.R.C.P., University College, Bristol; Edleston Harvey Cooke, St. Thomas's Hospital; Frank Aaron Davies, Mason College, Birmingham; George Oswald Morrell Dickenson, Richard Henry Dix, Henry Eggleston, Joseph James French, Charles Thomas Holmes, Maurice Jacobs, John Macfayden, and Eliot Swainston, College of Medicine, Newcastle-upon-Tyne; William Johnston Symes, University College, Sheffield; and John Charles Velenski, St. George's Hospital and College of Medicine, Newcastle-upon-Tyne.

Bachelor in Hygiene (B.Hy.).—Henry Edward Davison, M.B., B.S. Durh., M.R.C.S. Eng., L.R.C.P. Lond.

Diploma in Public Health (D.P.H.).—Arthur John Collis, M.A., M.B., B.S. Camb., M.R.C.S. Eng., L.R.C.P., and Sydney Duke Turner, M.R.C.S., L.R.C.P.

At the third examination for the degree of Bachelor in Medicine held at the College of Medicine, Newcastle-upon-Tyne, in April the following candidates, satisfied the examiners:—

Second-class Honours.—Sydney Duke Turner, M.R.C.S., L.R.C.P., St. Thomas's Hospital; George Mack, College of Medicine, Newcastle-upon-Tyne; and Harry Carlile Sturdy, M.R.C.S., L.R.C.P., Guy's Hospital.

Pass List.—Stanley Cornell Clapham, M.R.C.S., L.R.C.P., Guy's Hospital; Mary Evelyn De Rusett, College of Medicine, Newcastle-upon-Tyne; Alice Maud Dodd and Mary Jane D'Vaz, London School of Medicine for Women; William Robert Davidson Daglish, College of Medicine, Newcastle-upon-Tyne; Evelyn John Evatt, Royal College of Surgeons, Ireland; Henry Wallace Furnivall, James Herries Graham, James Alfred Giles, Arthur Hines, Leonard Montgomery Markham, Ernest Edward Norman, and Robert William Nevin, College of Medicine, Newcastle-upon-Tyne; Michael Joseph Quirke, Mason [illegible] Anders Ryman, St. George's Hospita[illegible] spital; Ralph Stuart Renton, College [illegible] Tyne; Robert Walker, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; and Hugh Widdas, College of Medicine, Newcastle-upon-Tyne.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—At the April sittings of the Conjoint Board, held in Glasgow, the following candidates passed the respective examinations:—

First Examination, Five Years' Course.—Bertram H. Watch, Anderson's College; John Watson (with distinction) and Thomas William Roberts, St. [illegible] Ian Campbell and Thomas Edward Fliter [illegible]

First Examinat[illegible]—William Pritchard Airey, Anderson's ar[illegible] John Charles Grant, New-[illegible] leuden, Mason College, Birmingham; Lewis [illegible] College, Manchester; and Edwin A. Shanks, [illegible] Anderson's C[illegible]

S[illegible] Five Year[illegible] Macdonald, St. Mungo's College; [illegible] Owens College; Albert Edward [illegible] School of Medicine; Richard Lewis, University College, Liverpool, and Anderson's College; James Walsh, Edinburgh Schools; Timothy Foley, Queen's College, Cork; Charles A. Bruce-Whyte, Edinburgh Schools; Evan Owen Roberts, St. Mungo's College; Gerald W. Smithwick, Melbourne University; and Thomas Russell, University College of Medicine, Newcastle.

Second Examination, Four Years' Course.—Herbert Davis Pitt, Mason University College; William Pritchard Airey, Anderson's and St. Mungo's Colleges; John Dunlop, Edinburgh Schools; [illegible] n's College, Cork; and Angus Macleod, [illegible]

T[illegible] John Reaside Smith, Anderson's College (with distinction); John M'Intyre, St. Mungo's College; Terence Aloysius Welch, Owens College; William Henry Duncan, Anderson's College and Glasgow University; Kennedy Jos. O'Brien, Edinburgh School; Harry Miller Roberts, St. Mungo's College; Thomas Ernest Harty, Queen's College, Cork; John William Isbister, St. Mungo's College; Archibald MacMillan, Anderson's College (with distinction); Anthony H. Corley, Queen's College, Belfast; Hugh Williams, St. Mungo's College; Louis Edward Stavnes, Westminster Hospital; and Hugh De Mel, Ceylon Medical College.

F[illegible] Examination (and admitted Licentiates of the three Cooperating Colleges).—John Campbell Douglas, St. Mungo's College (with honours); Thomas Blane Adam, Anderson's and St. Mungo's Colleges; David Speid C. Reid, Anderson's College; Helen Sinclair Macdonald, London School of Medicine for Women and Queen Margaret College; W. Airlie Ogilvy, St. Mungo's College; John Thomas Moore, Dublin Schools; Sydney S. Menzies, London Schools and Mason University College; Arthur Harold Wilson, Mason University College; Matthew O'Halloran, Edinburgh; Gangahanta Nag, Medical College, Calcutta; Alexander Fraser Jack, St. Mungo's College; Owen Felix M'Carthy, Queen's College, Cork; Sidney Gerald Gomes, Ceylon Medical College; and William Mason, Anderson's College.

BRISTOL YOUNG PEOPLE'S ANTI-SMOKING LEAGUE.—This society was established last June on the occasion of a visit by Dr. Edmunds of London to the higher grade schools of the Bristol School Board. In November Dr. Martin of Manchester visited 25 other board schools and addressed the children and pupil teachers on the evils of cigarette smoking. As a result of these visits nearly 2000 young people, mostly boys, have signed the anti-smoking pledge. Nothing but sympathy can be felt for a movement which seeks to put down smoking amongst boys of tender age.

BARRY HOSPITAL.—Mr. G. Neale, L.R.C.P. & S. Edin., J.P., Mr. P. J. O'Donnell, L.R.C.S. Irel., and Mr. P. A. Kelly, L.R.C.P. Edin., L.R.C.S. Irel., have been elected medical representatives on the town hospital committee by the Barry District Council.

PRESENTATION TO A MEDICAL MAN.—On April 25th in the Reading-room, Kerry, North Wales, Mr. Frederick Wilson, M.B. Edin., was presented by the members of the St. John Ambulance Association, Kerry, with a silver spirit flask as a slight token of appreciation of his instructive lectures to the class on first aid.

MEDICAL MAGISTRATES.—The following gentlemen have been appointed magistrates for New South Wales by His Excellency the Lieutenant-Governor:—Malcolm L. Cameron, M.D., Ch.M. Canada, of Clarence River; Henry Wm. Devlin, M.R.C.P. Irel.; of St. Asnot's, Miller-street, North Sydney; Thomas Carson Fisher, M.D. Dub., of Boivral; Frank St. B. Gaden, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., of Grenfell; William Irwin, M.B., M.S. Glasg., of Singleton; [illegible] L.R.C.S. Irel., of Parramatta; [illegible] M.R.C.S., of Berrima; Alexander John Park, M.B., C.M. Edin., of Narrabri; and John St. Clair Gunn, M.B., C.M. Glasg., of Marlborough, New Zealand, for that colony.

MEDICO-PSYCHOLOGICAL ASSOCIATION.—The spring meeting of the South-Eastern Division of this association was held at the City of London Asylum, Dartford, on April 25th, when 22 members were present. In the morning a visit was paid to the asylum, upon which the Corporation of London have spent £80,000 during the last two or three years. A luncheon followed, after which the general meeting was held, when Dr. Ernest White, the medical superintendent of the asylum and divisional secretary, read a paper upon the Remodelling of an Old Asylum and Dr. Arthur Patterson one upon an Analysis of 1000 Consecutive Admissions into the City of London Asylum from Jan. 1st, 1892, to Dec. 31st, 1899. In the evening the members and visitors dined together at the Café Monico, Piccadilly-circus, W.

THE LATE MR. E. H. CROGHAN.—Mr. Edward H. Croghan, who died at Cape Town about a month ago after a long illness, had been for many years a well-known medical practitioner in several South African towns. It was very early in "the eighties" that he first arrived in South Africa and he settled in Kimberley, where he was in a year or two joined by his brother Mr. John Croghan. When the gold mines of the Rand rendered that district populous Mr. E. H. Croghan removed there from Kimberley and established a lucrative practice which he carried on as long as British subjects were allowed to remain. When the nurses of the Johannesburg Hospital were ordered to leave the town he accompanied them on their journey to Durban and was then appointed surgeon-captain to the Imperial Light Infantry. In a few weeks he was made surgeon-major, but in January the state of his health made it necessary for him to apply for leave of absence. Mr. Croghan was an enthusiastic Freemason and his name is perpetuated by the E. H. Croghan Lodge. He leaves a widow and two sons.

THE YORKSHIRE VETERINARY MEDICAL SOCIETY. The spring meeting of this society was held at the Queen's Hotel, Leeds, on Friday, April 27th, when the President, Mr. M. Robinson, of Barnsley presided. It was decided to appoint Mr. J. McKinna of Huddersfield to represent the society at the Conference of the Royal Institute of Public Health to be held in Aberdeen in August. Mr. H. G. Bowes of Leeds read a paper on "Diseases of Animals Communicable to Man." Mr. Bowes condemned the existing system under which each local authority was at liberty to adopt its own rules dealing with tuberculosis. What they wanted was a uniform method of dealing with the matter by a central authority such as the Board of Agriculture. Adverting to the question as to who were best qualified to inspect meat he said he thought the veterinary surgeon the most competent. The meat inspector was the most cosmopolitan of men—local authorities apparently vying with each other

in obtaining the least competent. Large towns, at any rate, ought to follow the example of Edinburgh and Manchester in appointing veterinary surgeons as meat inspectors. Mr. Bowes also dealt with the subjects of anthrax, glanders, and hydrophobia.

ON Tuesday, April 24th, Mr. John S. Crone, L.R.C.P.I., J.P., of Kensal Lodge, Kensal Rise, was unanimously elected chairman of the Willesden District Council for the ensuing year.

Parliamentary Intelligence.

HOUSE OF COMMONS.

THURSDAY, APRIL 26TH.

Vaccination in the St. Pancras Workhouse.

MR. CHANNING asked the President of the Local Government Board whether his attention had been called to the action of the medical officer of St. Pancras Workhouse in insisting on re vaccinating [illegible] of age with- [illegible] the medical [illegible] in accordance [illegible] regard to the [illegible] Mr. CHANNING [illegible] workhouse that [illegible] obtained, but that there are some instances where this consent is not obtainable—as, [illegible] this sub-committee may be forwarded to me. On receipt of it I will consider whether any action on my part is necessary.

Expenditure under the Vaccination Act.

[illegible]

FRIDAY, APRIL 27TH.

The Edinburgh and St. Andrews Universities Vacancy.

At this sitting of the House a writ was issued for the election of a member to represent the Universities of Edinburgh and St. Andrews in the room of the late sir William Priestley.

MONDAY, APRIL 30TH.

Plague Regulations in India.

Mr. MACLEAN asked the Secretary of State for India whether since the plague riot took place at Cawnpore the regulations had been modified and the compulsory removal of plague stricken patients to hospital had been abolished, and why this change was not made at or the riot broke out.—Lord GEORGE HAMILTON replied: The Viceroy has informed me by telegram that "the Lieutenant-Governor of the North-West P[illegible] found th[illegible] [illegible] reports [illegible] regulati[illegible] operati[illegible] [illegible] on the subject of the hon. member's question and I do not expect to receive any until detailed reports on the occurrence reach us.—Mr. MACLEAN: Were the regulations modified?—Lord GEORGE HAMILTON replied: I cannot answer that but they were not withdrawn.

Tenders for Carbolic Acid.

[illegible] of medical use and had not interfered with the use of pure products such as phenol and potassic [illegible] for industrial purposes, while from the report [illegible] it appears that the fatalities from carbolic acid [illegible] as for the whole of the [illegible] population; whether he was aware that since he stated that it was in that the Privy Council were prepared to consider whether carbolic acid could be satisfactorily dealt with in some way but could not take any step except on the resolution of the Pharmaceutical Society, the council of that society had passed a resolution declaring that carbolic acid in crystals, commercial carbolic acid, and liquids containing more than 5 per cent. of phenol were to be deemed poisons and added to the second part of Schedule A of the Pharmacy Acts; whether, although that resolution was communicated to the Privy Council in July last, it has [illegible] whether he would represent [illegible] as can give effect to it with [illegible] of suffering and death.—Sir [illegible] going into detail into the first [illegible] there is no doubt that the number of deaths caused by carbolic acid is deplorably great and shows that some remedy is desirable. I am informed that the Pharmaceutical Society have passed a resolution in the terms quoted by the hon. Member, but I must explain that the matter is by no means a simple one. It is, however, now under the active consideration of the departments concerned in consultation with the society with great [illegible] in the direction desired.—Dr. [illegible] return dealing with the whole [illegible] replied: It is not a question [illegible] really answering for the Privy Council and, as I understand, the question is moving forward.

TUESDAY, MAY 1ST.

Superannuation Allowances for Medical Officers of Health.

On the motion of Dr. FARQUHARSON a Bill was introduced and read a first time "to amend the law relating to medical officers of health, inspectors of nuisances, and sanitary inspectors, and to provide for superannuation allowances to such officers and inspectors, and for contribution towards such allowances by such officers and inspectors, and make other relative provisions." The Bill consists of 12 clauses and covers all the officers mentioned in the title by adopting in the definition clause that the term "officer of health" includes a medical officer of health, an inspector of nuisances, and a sanitary inspector under the Public Health Act, 1875, and the Public Health (London) Act, 1891, or either of them. On the subject of tenure of office the measure proposes that subject to the provisions of the Act every officer of health [illegible] required by the local [illegible] retire under the superannuation authority with the [illegible] granted by that Board. [illegible] Board shall [illegible] sufficient [illegible] and for [illegible] forth [illegible] charge [illegible] infirmity of mind or body or [illegible] age or who shall have completed an aggregate service of 40 years or who shall have attained the full age of 65 years shall be entitled to receive during life a superannuation allowance. The officer who has served for 10 years but less than 11 shall be entitled to an annual allowance equal to [illegible] his salary during the previous twelfth for every additional [illegible] period of 40 years which he shall be granted. Provision is [illegible] also a percentage [illegible] of his salary and there are a number of other clauses in the Bill which the exigencies of space do not permit us to explain.

Appointments.

Successful applicants for Vacancies, members of Public Institutions, and others possessing a claim on authority for this column, are invited to forward it to THE LANCET Office, addressed to the Sub-Editor, not later than Wednesday on the Thursday morning of each week, for publication in the next number.

BRANDRICK, THOMAS, M.D. Ch.M. Edin., has been appointed Medical Officer for the City of Adelaide, Australia.

BUCHAN, A. HILL, M.A., M.D., C.M., M.R.C.S. Edin., has been appointed an Assistant Physician at Leith Hospital.

CARTER, STUART, L.R.C.P. Ed., C.M. Edin., has been appointed Honorary Assistant Dental Surgeon to Royal Infirmary, Edinburgh.

CHESSMAN, E. H., L.S.A., L.R.C.P., has been appointed Public Vaccinator by the Wandsworth Board of Guardians, vice G. [illegible] resigned.

COOPER, H. H., L.R.C.P. Lond., has been appointed House Physician to the Sussex Hospital, Brighton.

CRUMMELIN, C. E., M.D. Cantab., has been appointed to succeed Medical Officer of Health and Coroner, New South Wales, vice C. [illegible] resigned.

CULLINAN, W., M.B. Dublin, L.R.C.P., L.R.C.S., L.M.P. & S. Glasgow, D.P.H., has been appointed Medical Officer of Health for Sierra Leone.

LAY, JOHN, M.B. Edin., M.R.C.P. Lond., has been appointed an Assistant Physician to the Royal Infirmary, Edinburgh.

[illegible], F. E., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer to the Leeds Hospital Fund of the Friendly Societies, Leeds Local Medical Committee, vice [illegible] resigned.

[illegible], J., L.R.C.P. [illegible] Medical Officer for Public Vaccinator [illegible] Board of Guardians, West Ham, &c.

FARRANT, SAMUEL, M.R.C.S., L.S.A., Surgeon-Lieutenant-Colonel West Somerset Yeomanry, has been appointed to take medical charge of the troops at Taunton.

FLYNN, E. P., L.R.C.P., L.R.C.S. Irel., has been appointed Certifying Surgeon under the Factory Acts for the Union of Dungarvan in the county of Waterford.

GASS, R. B., M.B., C.M. Edin., has been re-appointed Medical Officer of Health by the Heysham Urban District Council.

GASTER, S., M.R.C.S., L.R.C.P. Lond., has been appointed Casualty House Surgeon to the Royal Free Hospital, Gray's-inn-road.

GILLIES, S., M.D. Lond., D.P.H. Camb., has been appointed *pro tem.*, to act as an Official Visitor to the Hospital for the Insane, Parramatta and the Licensed House for the Insane, Cook's River, Sydney, New South Wales.

HADFIELD, P. HEYWOOD, M.A., L.R.C.S. & P. Edin., L.F.P. & S. Glasg., has been appointed Senior House Surgeon at the Stanley Hospital, Liverpool.

HAMILTON, GRAEME, M.B., Ch.B. Edinburgh, has been appointed Senior House Surgeon to the Children's Infirmary, Liverpool.

HAWTHORNE, C. O., M.D. Glasg., M.R.C.P. Lond., has been appointed Assistant Physician to the Royal Hospital for Children and Women, Waterloo Bridge-road, London.

JONES, T. E., L.R.C.P. Lond., M.R.C.S., has been appointed Certifying Surgeon under the Factory Acts for the Urban District of Llangefni and Rural District of Twrcelyn.

KIRKPATRICK, STEWART, L.R.C.P., L.R.C.S. Edin., L.F.P. & S. Glasg., has been appointed by the War Office as Civilian Medical Officer, and to take up his duties at York—Home Service.

KYLE, H. G., B.A., M.B., B.Ch. Oxon., has been appointed House Physician to the Royal Free Hospital, Gray's-Inn-road.

LAPRAIK, G., M.B., C.M. Glasg., has been appointed a Public Vaccinator for the district of Thames, New Zealand.

LYS, GEORGE, L.R.C.P., Lond., M.R.C.S., has been appointed Medical Officer for the Bere Regis Sanitary District of the Wareham and Purbeck Union, vice F. D. Lys, resigned.

MACKINNON, W. J., M.B., C.M. Glasg., has been appointed Certifying Surgeon under the Factory Acts for the Biggar District, which comprises the civil parishes of Biggar, Covington, and Thankerton, Crawford, Culter, Crawfordjohn, Libberton, Lamington, and Wandel, Symington, Wiston, and Roberton and Walston in the county of Lanark.

MEREDITH, R. W. H., M.R.C.S., L.R.C.P., has been appointed House Surgeon to the Seamen's Hospital, Greenwich.

MULLEN, W. L., M.D., Ch.B. Melb., has been appointed, *pro tem.*, Acting Medical Superintendent of the Metropolitan Lunatic Asylum, Kew, Victoria, Australia.

NOLANS, F., L.R.C.P., L.R.C.S. Irel., has been appointed Certifying Surgeon under the Factory Acts for the Gorey Dispensary District in the county of Wexford.

RITCHIE, R. H., M.B., Ch.B. Melb., has been appointed Officer of Health for the Shire of Arapiles, Victoria, Australia.

[illegible] Ch.B. Edin., has been appointed Medical [illegible] Foundry Workmen, Llanelly.

[illegible] .P. Lond., M.R.C.S., has been appointed [illegible] Officer and Vaccinator at Wellington, New South Wales.

STAPLETON, E. P., M.B., B.Ch., B.A.O. (T.C.D.), has been appointed House Surgeon to the Royal Free Hospital, Gray's-Inn-road.

STEELL, J., M.B., Ch.M. Edin., has been appointed, *pro tem.*, acting Medical Superintendent of the Yarra Bend Lunatic Asylum, Melbourne, Victoria, Australia.

STRATON, C. R., L.R.C.P., F.R.C.S. Edin., has been re-appointed Medical Officer of Health by the Wilton Urban Sanitary Authority.

TEAGUE, D. G. M., M.B., C.M. Edin., has been appointed Medical Officer of the Mount Garnet Hospital, Chillagoe District, Queensland.

THAIN, L. L., M.R.C.S., has been appointed Medical Officer for the Kentchurch Sanitary District and the Workhouse of the Dore Union, vice W. M. Jennings, resigned.

THWAITES, J. S., M.B. Melb., has been appointed Officer of Health for the United Shire of Newham, Victoria, Australia.

WOODFORDE, R. E. H., L.R.C.P., Lond., M.R.C.S., has been appointed Medical Officer for the Third Sanitary District of the Royston Union, vice J. G. Robertson, deceased.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRMINGHAM GENERAL DISPENSARY.—Three qualified Resident [illegible] for from two to three months' consecutive engagement. Terms 4 guineas per week, with furnished apartments.

BIRMINGHAM AND MIDLAND EYE HOSPITAL, Birmingham.—Assistant House Surgeon. Salary £60 per annum, with apartments and [illegible]

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN, Birmingham.—Resident Medical Officer and a Resident Surgical [illegible]. Salary £40 each per annum with board, washing, and attendance in the hospital.

B[illegible] HOSPITAL, Bootle, Liverpool.—Senior Resident Medical [illegible]. Salary £130 per annum, with board, &c.

CARLISLE INFIRMARY.—Assistant House Physician for six months. Salary at the rate of £50 per annum, with board, washing, and apartments.

CARLISLE DISPENSARY.—House Surgeon. Salary £120 per annum, with [illegible] (not board).

CHILDREN'S HOSPITAL, Nottingham.—House Surgeon (non-resident) [illegible] months. Salary at the rate of £100 per annum.

CITY ASYLUM, Nottingham.—Second Assistant Medical Officer, unmarried. Salary £150, with board, apartments, and washing.

CITY OF GLASGOW FEVER HOSPITAL.—Physician Superintendent at the Belvedere Hospital. Salary £400 per annum, with house accommodation, board, and attendance. Applications to Mr. J. Lindsay, City Chambers, Glasgow.

CLAYTON HOSPITAL AND WAKEFIELD GENERAL DISPENSARY, Wakefield.—Senior House Surgeon, unmarried. Salary (during the wa[illegible] £150 per annum, with board, lodging, and washing.

COUNTY ASYLUM, Rainhill, near Liverpool.—Assistant Medical Officer to act as Locum Tenens for about four months during the summer. Salary £3 3s. per week, with furnished apartments and board.

CUMBERLAND AND WESTMORLAND ASYLUM, Garlands, Carlisle.—Junior Assistant Medical Officer, unmarried. Salary £130 a year, rising to £150, with board, residence, &c.

DENBIGHSHIRE INFIRMARY, Denbigh.—House Surgeon for 12 months. Salary £80, with board, residence, and washing.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY, Dumfries.—House Surgeon. Salary £50 per annum, with board and washing.

DUNDEE ROYAL INFIRMARY.—Resident Medical Assistant for six months. Salary at the rate of £40 per annum, with board and washing.

DURHAM COUNTY ASYLUM, Winterton, Ferryhill.—Second Assistant Medical Officer. Salary £170 per annum, rising £10 annually, to £220, with rooms, board, laundry, and attendance.

FARRINGDON GENERAL DISPENSARY, 17, Bartlett's-buildings, Holborn-circus, London.—Resident Medical Officer. Salary £120 per annum, with apartments, coals, gas, and attendance and permission to take resident pupils.

GATESHEAD UNION.—Assistant Resident Medical Officer for the Workhouse. Salary £150 per annum, with furnished apartments, rations, and washing. Subject to superannuation deduction. Applications to the Union Clerk, Offices, Prince Consort-road, Gateshead.

GENERAL INFIRMARY at Leeds.—House Surgeon for twelve months. Board, lodging, and washing provided. Also Resident Medical Officer. Salary £100 per annum, with board, residence, and washing.

HOSPITAL FOR DISEASES OF THE THROAT, Golden-square, London.—Senior Clinical Assistant.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Assistant Resident Medical Officer for six months. Honorarium given at the rate of 50 guineas per annum, residence in the hospital, with board and washing.

LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY, Loughborough.—Resident House Surgeon. Salary £100 per annum, with [illegible]

MANCHES[illegible].—Medical Officer for the D[illegible] [Sa]lary £180 per annum. Applications to the Secretary, Children's Dispensary, Gartside-street, Manchester.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House Surgeon. Salary £70 per annum, with residence, board, and washing.

MIDDLESEX HOSPITAL, W.—Dental Surgeon.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Junior Resident Medical Officer for six months. Salary at the rate of £40 per annum, with board, attendance, and washing.

NORTHAMPTON GENERAL INFIRMARY.—Qualified Assistant to the House Surgeon for six months. Honorarium £25, with board, lodging, and washing.

NORTH-WEST LONDON HOSPITAL, Kentish Town-road.—Resident Medical Officer and Assistant Resident Medical Officer for six months. [illegible] each.

NO[illegible] -Assistant Resident Surgeon, [illegible] all found, except board.

PE[illegible] Medical Officer. Salary £150 per annum.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar, London.—Assistant House Surgeon for six months. Salary at the rate of £65 per annum, with board and residence.

ROYAL DEVON AND EXETER HOSPITAL, Exeter.—Assistant House Surgeon for six months. Salary at the rate of £100 per annum, with board, lodging, and washing. Also Junior Assistant House Surgeon for six months. Board, lodging, and washing provided.

ROYAL HALIFAX INFIRMARY.—Third House Surgeon, unmarried. Salary £50 per annum, with residence, board, and washing.

ROYAL SOUTHERN HOSPITAL, Liverpool.—Second and Third House Surgeons. Salary 80 and 60 guineas per annum.

ST. MARY'S CHILDREN'S HOSPITAL, Plaistow, E.—Assistant Resident Medical Officer for six months, unmarried. Salary £80 per annum, with board, residence, laundry, &c.

SALOP INFIRMARY, Shrewsbury.—Assistant House Surgeon for six months. Salary at the rate of £40 per annum, with board and washing.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Junior House Surgeon for six months. Salary £50 per annum, with residence, board, and washing.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, Plymouth.—Assistant House Surgeon for six months. Salary at the rate of £50 per annum, with board and residence.

STOCKPORT INFIRMARY.—House Surgeon. Salary £100 per annum, with residence, board, and washing.

SURREY COUNTY ASYLUM, Brookwood, near Woking.—Third Assistant Medical Officer, unmarried. Salary £120, rising £10 annually to £150, with board, lodging, attendance, and laundry.

TEIGNMOUTH HOSPITAL, South Devon.—House Surgeon. Salary £80 per annum, with board, lodging, and washing. £6 per annum allowed in lieu of stimulants.

THE CHIEF INSPECTOR OF FACTORIES gives notice of vacancies for Certifying Surgeons under the Factory Acts at Howden in the East Riding of the County of York, at Osmotherley in the North Riding of the County of York, at Southend in the County of Essex, and at Selkirk, in the County of Selkirk.

THREE COUNTIES ASYLUM, near Hitchin.—Second Assistant Medical Officer, unmarried. Salary commencing at £150 per annum, with board, apartments, washing, and attendance.

VICTORIA HOSPITAL FOR CHILDREN, Queen's-road, Chelsea, S.W.—Resident Medical Officer for six months. Honorarium £25, with board and lodging in the hospital. Also Assistant Physician to the Out-patients for two years.

[illegible] INFIRMARY, St. John's-hill, near [illegible] Medical Officer for three [illegible] per annum, with board, lodging, [illegible] Salary £110

YORK LUNATIC ASYLUM, Bootham, York.—Assistant Resident Medical Officer. Salary £130 a year, with board, washing, and attendance.

Births, Marriages, and Deaths.

BIRTHS.

CARRUTHERS.—On [illegible] al-hill, Norwood, the wife of S. [illegible]

CHEYNE.—On Ap[illegible] [illegible]ndish-square, W., the wife of W. Watson Cheyne, Esq., F.R.C.S., F.R.S., &c., of a daughter.

[illegible] at Upper Westbourne-terrace, W., the [illegible], M.D., F.R.C.P., of a daughter.

[illegible] rock," Lightcliffe, Yorks, the wife of [illegible] a son.

[illegible] House, Shanklin, I.W., the wife of W. Whitelaw Scott, L.R.C.S.I., L.K.Q.C.P.I., of a son.

TURNER.—April 29th, at Amersham, Bucks, the wife of Frederic Senior Turner, M.R.C.S., L.R.C.P. Lond., of a daughter.

MARRIAGES.

BOWEN-DAVIES—BURTON.—On the 26th of April, at St. Mary's Church, Denbigh, by the Rev. J. A. Burton, cousin of the bride, assisted by the Rev. Dan Davies, rector, and H. Eaton Thomas, senior curate, Wm. Lloyd Bowen-Davies, M.R.C.S. Eng., L.R.C.P. Lond., St. Asaph, second son of Wm. Bowen-Davies, Broad Oak House, Golden Grove, Carmarthen, to Harriette Alice, only daughter of Frederick Burton, Gwaynynog, Denbigh, and Hopefield, Pendleton, Manchester.

DUFFETT—WOOD.—On April 28th, at St. John's Church, Upper St. Leonards, Henry Allcroft Duffett, F.R.C.S., of Withy Holt, Sidcup, Kent, to Elizabeth Gertrude, daughter of Charles Wood, of Charles-road, St. Leonards-on-Sea and Lincoln's Inn, Barrister-at-law.

FINLEY—MCKELVIE.—On April 25th, at St. John's Church, Hensingham, Cumberland, by the Rev. G. B. Gilbanks, M.A., of Abbey-Town, assisted by the Rev. W. H. Wilkinson, vicar of the parish, Harry Finley, M.D. Lond., of West Malvern, Worcestershire, to Lilian, elder daughter of the late John McKelvie of Whitehaven, and of Mrs. McKelvie, the Cross, Hensingham.

MAY—HILL.—On April 25th, at St. George's Church, Hanover square, W., Henry B. May, M.A., M.B. Camb., of St. Albans, to Ethel Mary, daughter of the late T. Rowland Hill, of Tunbridge Wells.

NORMAN—CHEESE.—On April 25th, at St. Mary Abbot's, Kensington, Albert Norman, L.R.C.P., L.R.C.S., F.R.M.S., youngest son of the late James Norman, of East Southernhay, Exeter, to Julia Elizabeth, youngest daughter of James Cheese, of Cornwall-gardens, South Kensington.

PARKER-CATER—CLEMENT-SMITH.—On April 26th, at St. Luke's Church, Richmond, Alfred Parker-Cater, L.D.S., R.C.S.E., of St. Mary's-grove, Stafford, to Charlie, second daughter of Dr. Clement-Smith of Argyll Hall, Torquay.

POOLE—SWIRE.—On April 25th, at St. Leonard's Church, Newark, John Copeland Poole, M.R.C.S., of Hampton Wick, to Margaret, youngest daughter of the late Rev. Frederick Swire, rector of Elston, of Appleton-gate, Newark.

RUTHERFORD—PRIOR.—On April 26th, at Christ Church, Gipsy-hill, Alfred Ernest Half Rutherford, M.R.C.S., L.R.C.P. London, of Upper Norwood, to Ellen Ada, youngest daughter of the late Edward George Prior of Balham.

SHANN—RAE.—On April 25th, at the Marylebone Parish Church, William Arthur Shann, M.B. Cantab., of Lowestoft, to Clara R. Rae, widow of Captain V. R. Rae (P.W.O.), West Yorkshire Regiment.

SHEARER—WOOLLEY.—On April 25th, at the parish church, Beckenham, Robert Prendergast Shearer, M.B., of Ruddington, Nottingham, to Lilian Boyle, second daughter of T. Boyle Woolley, Oakwood, Beckenham.

TUXFORD—SUMMERS.—On April 25th, at St. Luke's Church, Southampton, by the Rev. O. G. Owen, Reginald Tuxford, M.R.C.S. Eng., L.R.C.P. Lond., second son of Dr. Arthur Tuxford, J.P., Boston, to Bertha, second daughter of T. Summers, Southampton.

WROUGHTON—HARRIS.—On April 25th, at St. James's Church, Tunbridge Wells, William Charles Haultain Wroughton, M.R.C.S., L.R.C.P. Lond., fourth son of Colonel W. N. Wroughton, Indian Staff Corps, to Rose Edith, only daughter of the late J. C. Harris, Esq., of Joyce Grove, Oxon.

DEATHS.

CLARKE.—On April 23rd, at 1[illegible], New Hall-lane, Preston, of [illegible], after a short illness, J. K. Clarke, M.R.C.S., L.R.C.P.

NEWMAN.—On April 23rd, at St. Martin's, Bowness, Windermere, Anthony John Newman, L.R.C.P. I., M.R.C.S., aged [illegible] years.

WILLIS.—On April 27th, at North[illegible], Wimborne Minster, Dorset, John Willis, F.R.C.S. Eng., in his [illegible] year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

A CHAT WITH A CELEBRITY.

A CORRESPONDENT has sent us a page from a periodical entitled *Home Life* and asks us what we think of it. Under the heading "Chats with Celebrities" we are introduced to a person named Ada S. Ballin who "has a world wide reputation as an authority on health." Mrs. Ballin says that she has the names of 10,000 patients on her books and that her fee for consultation or treatment is one guinea though she makes a reduction for "governesses or other poor women who have struggled for a living or in the case of servants." It has been necessary owing to the number of persons who have "benefited" from her advice for her to move from her pretty home in —— Park to a more central position in ——, where she has, in the opinion of the writer of the article, "the handsomest visiting- and consulting rooms in London." What we think of the whole thing is that it is the usual puff of a person living, and according to her own account living very comfortably, upon unqualified medical practice as a dermatological specialist.

THE NEALE TESTIMONIAL FUND.

THE following subscriptions have been received by Mr. MacAlister for this fund. It is proposed to close the list very shortly, and it is, therefore, earnestly hoped that those who intend to subscribe will send in their subscriptions to Mr. J. Y. W. MacAlister, 20, Hanover-square, without delay. Cheques should be made payable to "Bearer" and crossed "Neale Testimonial a/c, National Provincial Bank."

	£	s.	d.		£	s.	d.
Sir William Turner, F.R.S.	1	1	0	Sir Edwin Saunders	1	1	0
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Mr. Thomas Bryant	3	3	0	Dr. J. Abercrombie	1	1	0
Dr. Amand Routh	2	2	0	Dr. Thomas Buzzard	2	2	0
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Mr. R. P. Cooper	0	10	6	Lord Lister, F.R.S.	5	[illegible]	[illegible]
K.	0	10	0	Dr. J. J. Macwhirter Dunbar	1	1	0
Dr. G. Fielding Blandford	1	1	0	Mr. R. Unwin Berry	[illegible]	[illegible]	[illegible]
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Mr. Christopher Heath	1	1	0	Mr. C. R. B. Keetley	1	1	0
Mr. Henry Power	1	1	0	Mr. Edward Wood[illegible]	[illegible]	[illegible]	6
Dr. Frederick T. Roberts	1	1	0	Dr. W. H. Cheadle	1	1	0
The Bristol Medical Library	1	1	0	Mr. D'Arcy Power	[illegible]	[illegible]	[illegible]
Sir Douglas Powell	2	2	0	Mr. W. Adams Frost	[illegible]	[illegible]	[illegible]
Mr. Malcolm Morris	1	1	0	Dr. A. Fraser	1	1	0
Sir William Broadbent, F.R.S.	5	5	0	Dr. E. Grube	1	1	0
Dr. F. W. Pavy, F.R.S.	2	2	0	Dr. A. Donald	0	10	6
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Sir Thomas Smith	1	1	0	Dr. R. Clifford Beale	1	1	0
Dr. J. Ford Anderson	1	1	0	Mr. T. Holmes	1	1	0
Dr. J. Moorhead	1	1	0	Dr. G. Sims Woodhead	1	1	0
Dr. W. P. Herringham	1	1	0	Dr. James Little	[illegible]	[illegible]	[illegible]
Dr. A. Foxwell	1	1	0	Mr. G. Anderson Critchett	2	2	0
Dr. Byrom Bramwell	5	0	0	Mr. W. H. Bennett	[illegible]	[illegible]	[illegible]
Dr. Wharton Hood	1	1	0	Dr. P. Horrocks	1	1	0
Dr. T. F. Chavasse	1	1	0	Dr. F. de Havilland Hall	1	1	0
Mr. Edward Nettleship	1	1	0	Mr. H. G. Howse	[illegible]	[illegible]	[illegible]
Dr. R. W. Goodall	1	1	0	Dr. P. H. Pye-Smith, F.R.S.	[illegible]	[illegible]	[illegible]
				Mr. J. Adams [illegible]	[illegible]	[illegible]	[illegible]
				Dr. R. A. Gibbons	[illegible]	[illegible]	[illegible]
				Mr. John [illegible]	[illegible]	[illegible]	[illegible]
				Dr. A. Haig	[illegible]	[illegible]	[illegible]

TROPON AND PLASMON.

To the Editors of THE LANCET.

SIRS,—Would you or any of your readers be kind enough to [illegible] me as to the dietetic value of "Tropon" and "Plasmon," and if they are genuine food-stuffs [illegible]

I am, Sirs, yours faithfully,

April [illegible], 1900. [illegible]

*** An analysis of Tropon appeared in THE LANCET of [illegible] Plasmon is described as a [illegible] We have [illegible] analysis. [illegible]

THE ART OF [illegible].

LEADING men in all walks of life are [illegible] of [illegible] the general rule. [illegible]

the patient removed his false apparatus of mastication. Equally well known is the story of the professor who while pointing out the meaning of the unequal size of a patient's pupils was discomfited on discovering that one eye was made of glass. The May issue of the *Phonographic Record*, in commenting on the mistake of a foreign professor who, on hearing that a patient suffering from bronchial catarrh was a musician, immediately told his students that here he had an illustration of the effects of blowing wind instruments, but subsequently found that the man only played a big drum, makes itself responsible for the following story. A French professor was demonstrating to the obstetrical class the presentation, remarking that he felt the eyes, nose, cheek bones, &c., and finishing up with, "And now I pass my finger into the mouth, Voilà"; with this the professor withdraws his finger, which to the amusement of the students is seen to be covered with meconium.

AN INCLUSIVE ANNUAL SUM TO COVER MEDICAL ATTENDANCE FOR ACCIDENTS.

To the Editors of THE LANCET.

SIRS,—I have lately been appointed surgeon to a large engineering works employing about 2000 hands. They have paid separately for each patient they sent me who sustained an accident at the factory, but they now want to make a regular fixed payment to avoid all trouble. I should be glad if any of your subscribers would give me any information as to what is the usual charge per head per man for *accidents only* as I do not quite know what to charge. I take it that a certain annual sum per head should be charged. Any information from any of your subscribers who hold similar appointments would be of great service.

I am, Sirs, yours faithfully,

May 1st, 1900. AN OLD SUBSCRIBER.

DAMAGES CLAIMED FOR ANTENATAL INJURIES.

THE *St. Louis Courier of Medicine*, published in Missouri, U.S.A., states that "the Supreme Court of Illinois has recently handed down a decision in a peculiar case. It was that of an infant who claimed damages for a deformity alleged to have resulted from injury to the mother before its birth. The mother, while pregnant, was injured in an elevator accident at St. Luke's Hospital, Chicago, her left leg being caught and crushed. When the child was born, his left leg was deformed. The hospital authorities settled with the woman for her injuries, and then she brought suit in the child's name for $50,000 damages for the deformity, which it was claimed was due to the same accident. The Court dismissed the suit on the ground that at the time of the accident the child could not be credited as a separate being capable of sustaining an action independently of the mother."

WANTED—A PISTOLS BILL.

THE advocates of free shooting who objected to the Pistols Bill introduced into the House of Commons some time back will be interested in a case which formed the subject of an inquest at the Banbury Infirmary on May 1st. Shortly the story was that a boy named Hale had fired a toy pistol at another boy named Plummer with the result that the bullet entered Plummer's brain and he died. The jury in returning a verdict of "Death from misadventure" added a rider protesting against the sale of pistols to children. We trust that their protest will have some effect.

THE INEBRIATES ACT.

THE perennial difficulty which arises in cases coming under this Act found a fresh illustration in a charge heard before Mr. Hopkins at Lambeth Police-court on May 1st. A young woman was charged with being drunk and disorderly, and the case had been adjourned in order that if possible a home might be found for her. It was stated that the London County Council has at present made arrangements with the managers of only two houses—namely, that at Ashford for Roman Catholic women and that at Duxhurst for those who are not Roman Catholics. An application to Duxhurst had elicited the reply that the home was full. Mr. Hopkins, after remarking upon the inadequacy of accommodation, sent the prisoner to gaol for 14 days. The Inebriates Act is at present almost a dead letter, and the worst feature of the matter is that persons who are really suffering from an illness, albeit self-acquired, have to expiate their sin by the same process as have criminals, owing to there being no means to carry out the provisions of the Act.

CONSUMPTIVE.—We published in THE LANCET of Sept. 9th and Sept. 23rd, last, information concerning existing British open air sanatoria for patients suffering from tuberculosis who are able to pay for their treatment. Most of these are in the open country and two are in the well favoured town of Bournemouth. The east coast, so well known for its dry, bracing climate, possesses two and will soon have a third under the direction of Dr. Burton-Fanning. In the west of England there are two excellent establishments, on the Mendips and the Cotswolds respectively. Both of these are at a considerable elevation (for England) above the sea-level. Others are situated respectively on the edge of the New Forest, on the slopes of the Malvern Hills, on the Sussex downs, while yet another will shortly be opened on the special hills which look to Guildford in Surrey. In Ireland a similar one has been recently started at Rostrevor, but in Scotland, the pioneer in open-air sanatoria for the poor, we know of none for the middle and upper classes. Nearly all the existing British institutions have had to increase their accommodation owing to the large demand for beds. Most of them have been greatly influenced by the methods of Dr. Walther of Nordrach in Germany. The fees payable vary from two to seven guineas per week, although we believe that a few beds for the middle classes can occasionally be had for less. Small fees can only be remunerative where the accommodation is very simple, unless electric lighting and other heavy items of expense are omitted.

Inquirer.—(1) The address of the *Clinical Journal* is 34, Welbeck-street, W., and that of *Treatment*, 11, Adam-street, Strand, W.C.; (2) the address of the *Deutsche Medicinische Wochenschrift* is Berlin; (3) the name Kernig's sign is given to the following phenomenon—ability to extend the thighs with ease when lying down but only with difficulty when sitting.

G. P.—Our correspondent should read "Vaccination Vindicated" by Dr. J. C. McVail. The book is a complete exposure of the statistical sophistries of the leading anti-vaccinationists. The Jenner Society (hon. sec. Dr. Francis T. Bond, Gloucester) have some copies, we believe, for sale, price 5*s*.

Perplexed.—We see no reason why our correspondent should not please himself. How he should employ time that he can spare from his practice is a matter for his own consideration only, and he may be able to place his technical skill at the disposal of his brother practitioners.

L. G. P.—A coroner's duty is not only to hold inquests but also to decide if they ought to be held. Probably the coroner was in possession of information that in his opinion made it certain that the death was natural.

M.P.—A radical cure might be performed. The Naval Medical Department publishes a list of the conditions which disqualify in which the exact condition is not mentioned.

Etiquette should be advised by his partner or by some practitioner of long standing in his neighbourhood. The custom varies in different districts.

J. J. I.—We do not understand the question. Why does not our correspondent apply to the Apothecaries' Hall, Blackfriars?

E. E.—The address of the Medical Defence Union is 4, Trafalgar-square, London, W.; secretary, Dr. A. G. Bateman.

Dr. T. W. Hime.—The very large number of corrections prevent the insertion of the letter this week.

H. D.—The Royal Meteorological Society, 70, Victoria-street, London, S.W.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 3rd, 1900.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp Shade.	Min. Temp	Wet Bulb.	Dry Bulb	Remarks at 8.30 A.M.
April 27	29·96	NNE	...	96	53	39	44	47	Hazy
" 28	30·13	S.E.	...	78	54	41	40	44	Fine
" 29	29·89	S.W.	...	101	61	39	45	48	Cloudy
" 30	29·75	W.	0·01	72	57	47	52	53	Raining
May 1	29·96	W.	0·04	102	65	48	47	50	Cloudy
" 2	29·96	W.	...	113	69	50	51	56	Cloudy
" 3	29·49	S.W.	...	100	58	50	50	53	Raining

During the week marked copies of the following newspapers have been received: *Scotsman, Western Mail (Cardiff), Brighton Gazette, Belfast Evening Telegraph, Times of India, Pioneer Mail, Citizen, Builder, Architect, Liverpool Daily Post, Daily Argus, Bristol Mercury, West Australian, Northampton Daily Chronicle, Yorkshire Post, Oswestry Advertiser, Leeds Mercury, Melbourne Leader, Birmingham Daily Post, Glasgow Herald, Nottingham Daily Express, South Wales Daily News, Northern Daily Telegraph, Cork Herald, Toronto World, Sanitary Record, Local Government Chronicle, City Press, Hertfordshire Mercury, Mining Journal, Oban Times, Horwich Chronicle, Ripley Advertiser, Loughborough Echo, Bath Herald, Australasian Medical Gazette, Swansea Journal, Guy's Hospital Gazette, Surrey Advertiser, Buxton Chronicle, Isle of Wight Herald, Local Government Journal, Croydon Advertiser, Dorset Recorder, Sussex Daily News, Daily Telegraph, Montgomery County Times, Norfolk Standard, Carnarvon Herald, St. Bartholomew's Hospital Journal, Southampton Times, Salisbury Times, Reading Mercury, &c. &c.*

Medical Diary for the ensuing Week.

OPERATIONS.

St. George's (Ophthalmic) (1 P.M.), St. Mary's (2 P.M.), National Orthopædic (2 P.M.), Samaritan (2.30 P.M.), St. [illegible] Northern Central (2.30 P.M.), West-[illegible] (2.30 P.M.), London Throat (2 P.M.), [illegible] mas's [illegible]), St. [illegible] Isex West [illegible]nico-[illegible] P.M.), [illegible]), St. [illegible]ering-[illegible]ary's [illegible]), Gt. [illegible]ndon [illegible] P.M.), [illegible] P.M.), [illegible] P.M.), [illegible]mic [illegible] the [illegible] hospital operations are performed daily.

SOCIETIES.

MONDAY (7th).—SOCIETY OF ARTS, 8 P.M. Prof. V. Lewes: The Incandescent Gas Mantle and its Use (Cantor Lecture.)

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (10, Leicester-square, W.C.).—7 P.M. Council Meeting. 8 P.M. Casual Communications.—Mr. H. Baldwin, Mr. J. A. Fothergill, and Mr. W. R. Acland. Adjourned Discussion on Mr. J. P. Colyer's paper on the Treatment of Superior Protrusion.

OTOLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos street, [illegible] The shown by Mr. P. C. [illegible] Mr. C. H. Fagge, Dr. [illegible] P. Pritchard, Dr. H. Tilley, and Mr. F. Waggett. A discussion will be held on cases shown. Specimens will be shown and Notes of Cases read by Dr. Jobson Horne, Dr. Macnaughton-Jones, Dr. W. Milligan, and Prof. F. Pritchard. The discussion will follow each item.

TUESDAY (8th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—Address: Mr. F. Treves and Mr. C. Dent: On the Wounded in the Present War (illustrated by lantern). Sir W. MacCormac will speak.

THURSDAY (10th).—BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—Specimens will be shown by Dr. W. Walter, Dr. W. Ramsay, Dr. A. Giles, Mr. F. Edge, and Mr. F. Jordan. Papers:—Dr. H. Snow: Notes of Two Cases of Vagino-rectal Incision for Cancer.—Mr. R. Morison: Some New Methods of Pelvic Operations in the Female.

NEUROLOGICAL SOCIETY OF LONDON (11, Chandos street, W.).—8.30 P.M. Pathological Evening. Dr. W. Barrett: Subdural Blood Cyst.—Dr. P. R. Batten: Cyst in Seventh Post-spinal Ganglion associated with Subcutaneous Hæmorrhage following Distribution of the Body.—Dr. Taylor: Changes in the Cells of the Third and Sixth Nuclei from a Case of Ophthalmoplegia Interna. Another Specimen.

FRIDAY (11th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Papers:—Dr. P. L. Batten and Dr. Prichard: A Case of Acute Encephalitis in a Child following Influenza.—Mr. [illegible] Blair Sutton: On a [illegible] Cysts of the [illegible] Bowel.—Mr. [illegible] Lilliat: [illegible] without Lilliat [illegible]

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION (11, Chandos street, Cavendish-square, W.).—8.30 P.M. Demonstration:—Dr. Macintyre (Glasgow): On the Use of X rays in Diseases of the Upper Respiratory Tract.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (7th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Pringle: Consultation (Surgical).

TUESDAY (8th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. [illegible] Consultation (Medical).

[illegible] HOSPITAL FOR SICK CHILDREN (Gt. Ormond street, W.C.).—4 P.M. [illegible]

WEDNESDAY (9th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Clinical [illegible]

EVELINA HOSPITAL (Southwark Bridge-road, S.E.).—4.30 P.M. Dr. N. Tirard: Clinical Demonstration of Medical Cases. (Post-graduate Course.)

THURSDAY (10th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Hutchinson: Consultation. (Surgical.)

CHARING CROSS HOSPITAL.—4 P.M. Dr. J. Mitchell Bruce: Cases in the Wards. (Post-graduate Course.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond street, W.C.).—4 P.M. Dr. Thursfield: Pathological Demonstration.

FRIDAY (11th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. T. Collins: Consultation. (Eye.)

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE, OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connection whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and not to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

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Six Months	0 16 3	Six Months	0 17 6
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SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases lighter rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for the transmission of subscriptions. Any claim for increased rates, on this or on any other ground, will be resisted. The publishers of THE LANCET have for many years paid, and continue to pay, the whole of the postage for the transmission of their journals to subscribers, and agents are authorized to receive, and to retain, from subscribers, the full amount of the subscription.

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A Clinical Lecture

PTOSIS OF THE LIVER AND THE FLOATING LOBE.[1]

By FREDERICK TREVES, F.R.C.S.

SURGEON EXTRAORDINARY TO HER MAJESTY THE QUEEN; SURGEON TO THE LONDON HOSPITAL.

GENTLEMEN,—I propose to deal this afternoon with the condition known as ptosis of the liver and with that subject of questionable methods of treatment.

DEFINITIONS

[illegible] the spine, or [illegible] In fact, in [illegible] ribs and is discovered as a free abdominal tumour in the belly cavity.

The "floating lobe" represents a condition which is quite distinct from the simple ptosis or state of prolapse which has just been defined. In the case of the "floating" lobe the main body of the liver need not have sunk downwards and the upper limit of hepatic dulness need not be other than normal. A portion of the right lobe of the liver has, however, become projected downwards in the form of a large tongue-like appendage. This unusual lobe hangs down in the right flank and readily [illegible] ll into the right [illegible] ive apron in front [illegible] ggestion that the [illegible] a portion of the [illegible] sild down until [illegible] To this partial or [illegible] ng terms "floating [illegible] e," and "Reidel's lobe." The condition is often associated with some sinking down of the whole organ or some tilting down (*mouvement de bascule*) of the right portion of it.

It [illegible] scription of [illegible] Cantani in [illegible] The literature [illegible] ry copious and [illegible] ected cases of [illegible]

It will be desirable to deal first with ptosis of the entire liver and then with the peculiar deformity known as the floating lobe.

MEANS BY WHICH THE LIVER IS SUSPENDED.

Without going into anatomical detail it is well to take a brief note of the position of the liver and of the means whereby it is retained in place.

The upper limit of hepatic dulness is represented in the mammary line by the fifth rib, in the mid-axillary line by the seventh rib, in the scapular line by the ninth rib, and [illegible] ib [illegible] tion this line of dulness descends [illegible] er limit of dulness corresponds in [illegible] with the costal margin, in the axillary line to the tent [illegible] ire to the twelfth rib. On [illegible] of the liver on the right [illegible] ch to an inch and a half.

[illegible] weight of the liver is between 50 and 60 ounces one is struck with the fact that these structures appear feeble and somewhat inadequate for their work. 2. By intra-abdominal [illegible] ented by the resistance of the anterior [illegible] n the one hand and the gastro-intestinal [illegible] This mass tends to force up the under [illegible] r and to prevent the tilting either in an [illegible] lateral direction. When the viscera are [illegible] body is erect there is a tendency for the [illegible] border of the liver to nod forwards and [illegible] lobe to tilt downwards. The important [illegible] developed and muscular abdominal wall plays in the support of the liver can be appreciated when it is compared with the relaxed, flabby, and pendulous parietes met with in the "wallet belly" or *ventre en tablier*. 3. Possibly by intra-hepatic tension. Glénard and Strauss[2] injected water into the veins of the liver in a cadaver. The increase thus produced in the volume of the organ showed itself by the straightening of the under concave surface, which became even convex, by the projection forwards and upwards towards the anterior abdominal parietes of the anterior edge of the liver, and by the lowering of this margin below the costal margin while the upper line of hepatic dulness became raised. It has been noted in support of the view suggested by these experiments that in cases of chronic congestion of the liver even with flaccid abdominal walls the anterior edge of the gland will often keep in place well. 4. Above all by the vena cava. There is no doubt but that this great vessel, with its firm hold of the liver on the one hand and its close connexion with the aorta and vertebral column on the other, represents the most substantial means whereby the liver is suspended. This fact has been fully demonstrated by Faure and Landau.[3] Faure, indeed, says that the liver is appended to the vena cava as the heart is to the great vessels, and that the pedicle of the liver is the vena cava. The hold that this great vein has upon the organ is very evident in removing the liver in an ordinary post-mortem examination.

THE MANNER OF THE DOWNFALL

The ptosis of the liver may be of any degree. In the slightest forms the anterior border on the right side will project an inch or two inches below the costal margin. In the most extreme type the whole gland appears, on superficial examination, to have dropped from its place and to be loose in the abdominal cavity. The liver, however, even in the extreme cases, is not so free from its connexions as may at first seem. If the organ moves from its place it can move only in one direction—viz., downwards. It does not, however, sink bodily downwards with the inclination of its surfaces unchanged. The attachments of the liver become relaxed, but they do not all yield to the same degree. The most potent means of attachment of the gland is, as already stated, the vena cava. It thus happens that in ptosis of the liver the posterior surface or border of the organ leaves the least. The movement of the liver in its downfall can be best appreciated by imagining it to be suspended from the right by its somewhat narrow posterior surface at the site of the fossa for the vena cava. The anterior part of the liver moves, as it were, forwards. The sharp anterior border becomes lower and lower, the upper and convex surface becomes more

[1] Prepared for delivery at the London Hospital during the last winter term.

[2] Annali Universali di Medicina, Milano, 1870, p. 371.

[3] Les Hépatites Scléreuses, Paris, 1898, p. [illegible]. Among other monographs on the subject may be mentioned those of Lauer, Appareil Suspenseur du Foie, Thèse de Paris, 1877; Lam, Die Wandernde Leber, Berlin, 1878; and by Terrier and Auvray, Le Foie Mobile, Revue de Chirurgie, 1887, p. [illegible].

[4] Lancet, October 20th and 27th, 1894.

[5] In the monographs referred to in Note 3.

cases—e.g., the floating-lobe—may be nearly parallel with the median line. The hands are kept in place and the patient is told to take a deep inspiration. During this inspiration the left thumb is made to slide from below upwards and outwards and from behind forwards. The edge of the liver should now slip past the thumb. The position of the left thumb, and if necessary of the right hand, must be shifted until the hepatic margin is discovered. It can be felt even when it lies above the costal margin.

FIG. 2.

The examination of the liver by the "procedé du po ce." Step 3 (Glénard.)

During repeated acts of inspiration the lower border of the organ can be well examined. The left thumb is so deeply placed that the liver margin when it presents itself will come in front of that digit.

The purpose of this method of examination is simple. The loin is elevated by the left hand so that the liver may be pushed forwards and its lower margin brought nearer to the surface. By means of the right hand the intestinal mass on the right side of the abdomen is forced under the inferior surface of the liver, with the effect that the lower edge of the gland is tilted towards the anterior parietes and so made more accessible to examination. The act of inspiration forces the entire organ downwards and not only brings it well into the area of manipulation, but by imparting movement to it makes the sharp lower margin more easily recognisable.

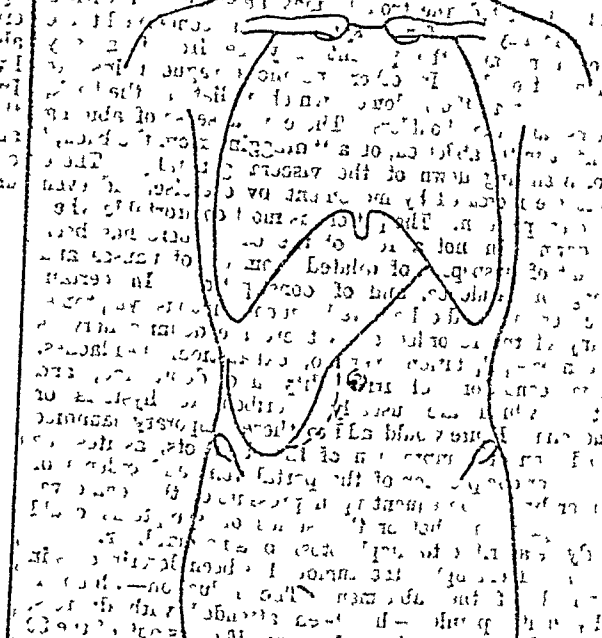
It will be noticed that the left [illegible] calls the third hand—approaches the border of the liver from behind forwards and from below upwards. It is during expiration that the thumb takes up its position well in the depths of the hypochondrium, below and behind (i.e., deeper than) the track which will be taken by the edge of the liver when it descends.

THE FLOATING LOBE.

I have already referred to this curious deformation of the liver. It takes the form of a tongue-shaped process which projects downwards from the right lobe of the liver. It is most usually derived from the right front part of the right lobe, but it may take its origin from the quadrate lobe to the left of the gall-bladder. The lower end of the "linguiform lobe" may easily reach the level of the iliac crest or extend into the iliac fossa (Fig 3). A form of this liver appendage was figured by Cruveilhier in his "Anatomie Pathologique," published in 1842. The fullest account of the condition was, however, given by Riedel[1] in 1888. His monograph is illustrated by eight diagrams showing various phases of the deformity. In recognition of his work the lobe—called by him the "tongue-shaped process"—is commonly referred to as "Riedel's lobe."

The linguiform lobe is very commonly associated with a distended gall-bladder containing gall-stones. Such an association is shown in Cruveilhier's plate. Riedel assumes that the gall-bladder, as it enlarges draws a tongue of liver with it. This tongue covers the gall-bladder wholly or

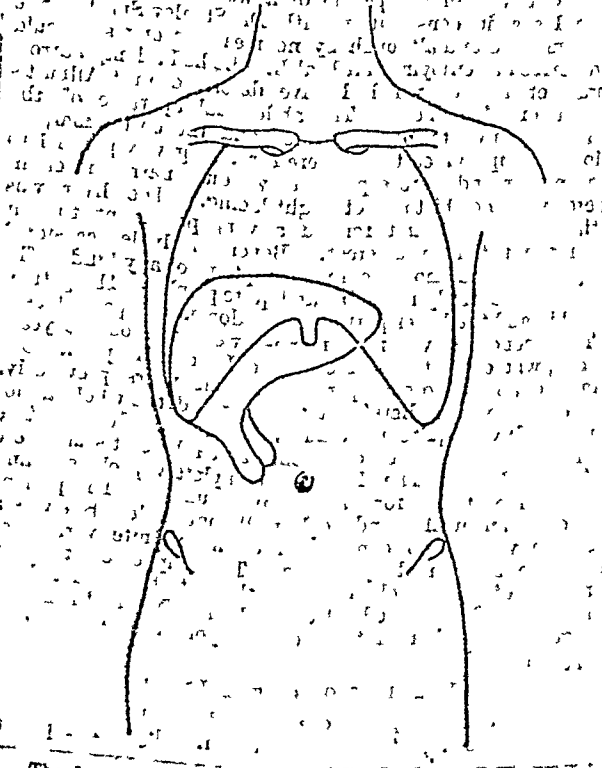
FIG. 3.



The floating lobe. (One of Riedel's cases.) The dotted line shows the gall-bladder.

partially. (See Fig. 4.) It has, moreover, been shown by Riedel and by Terrier that after cholecystotomy in such cases the floating lobe slowly retreats and in time vanishes. Probably all examples of a Riedel's lobe connected with the

FIG. 4.



The floating lobe. (Hellier's case.) Beneath the lobe is a distended gall-bladder.

[1] Berliner Klinische Wochenschrift, 1888, No. 29 and No. 30.

lobus quadratus are dependent upon gall-stones. In many cases, however, in which the appendage arises from the right front of the right lobe the gall-bladder is found to be quite normal.

Some fibrous transformation is often to be noticed in these lobes, especially when they arise from the quadrate lobe or closely cover a distended gall bladder. The lobe may be attached to the liver by a pedicle which may be quite thin. The appendix varies in size from a mere tongue-shaped slip of liver tissue to a mass measuring 20 centimetres by 10 centimetres as in a case reported by Pichevin.

The *clinical manifestations* of Riedel's lobe are of interest [illegible] ceptions, [illegible] iscovered [illegible] or in the [illegible] one on the one hand or may extend into the iliac fossa on the other. In a case of Langenbuch's in which the lobe arose to the left of the gall-bladder the tumour was exactly in the median line and extended from the xiphoid cartilage nearly to the umbilicus. The tumour is variously described as of the size of a kidney, as of the size of one or even of two fists, or as being four finger-breadths across. Its long axis is vertical and in an instance or so the tumour has been visible. It is solid and elastic and its surface is smooth. Its lower end, when in evidence, is usually very well defined and is often compared to the lower end of the kidney. In many cases it can be grasped between the [illegible] tumour moves on respiration, but [illegible] Its mobility is very conspicuous. [illegible] of being pushed back or reduced towards the kidney: It never seems, however, to quite reach the renal hollow. Pressure on the loin from behind may make the lobe more prominent, especially when a moveable kidney exists at the same time. The tumour can also be, as a rule, displaced laterally and be made to reach the median line or to pass to the left of that line. In a case reported by Dr. Hellier[11] the mass could not only be pushed to the left side, but when the patient lay upon the left side the tumour extended to a point nearly three inches to the left of the navel (Fig. 4). More than one writer has described the mass as slipping [illegible] is being never reduced. The [illegible] therefore, well merited. In a [illegible] been little marked or absent, and I think in all these instances adhesions existed. The tumour is repeatedly stated to be tender on manipulation. The upper limit of the tumour is indefinite. It is lost under the ribs or is felt to commence just below the costal margin and at least one writer speaks of the abdomen as being free between the tumour and the ribs. Among the recorded cases it is repeatedly stated that no connexion could be established between the tumour and the liver. The hepatic area of dulness is generally normal and only occasionally is it lower than usual. The more solid examples of Riedel's lobe are dull on percussion but the slenderer forms of this appendage are resonant all over. Such resonance depends upon the existence of intestine beneath the thin lobe and greatly adds to the difficulty in diagnosis.

It will be no matter of surprise that up to the present time the linguiform lobe has been seldom recognised during life or before operation. For example, Gérard has collected six recorded examples, in five of which laparotomy was performed and in one of which a necropsy was made. In no instance was the true condition recognised. In three cases the diagnosis of moveable kidney was made, in one no diagnosis was attempted, and the remaining two cases were believed to be examples respectively of a hydatid cyst and a new growth. In other instances the diagnosis of tumour of the omentum, of abscess, and of distended gall bladder has been made. By far the commonest error, however, has been the mistaking of Riedel's lobe for a moveable kidney. I have met with four examples of this curious deformity, of which three cases were in the London Hospital and one case was in private practice. The patients were in each instance middle-aged women. In one case a moveable kidney was suspected which I was asked to suture. Feeling a little uncertain about the tumour I made an incision in the semilunar line and found a Riedel's lobe covering a gall-bladder containing stones. The kidney was very moveable. In a second case a linguiform lobe was suspected during an examination under ether. A distended gall-bladder containing gall stones was found beneath the appendage. In a third case there were symptoms of sub-hepatic inflammation of a chronic type. A tender swelling was discovered which was assumed to be wholly inflammatory. It proved to be an adherent Riedel's lobe. The gall-bladder was not involved. In the last case there had been relapsing perityphlitis and I was about to remove the appendix. Above the still tender appendix was a vague swelling which appeared elastic and which strongly suggested a large chronic abscess between the right iliac fossa and the liver. As it was for the most part resonant it was assumed to contain gas. Unfortunately for this diagnosis there was neither tenderness over the mass nor fever. The incision made over the appendix area exposed the lower end of a Riedel's lobe which was adherent. The gall-bladder was not involved. The diseased appendix was removed.

In many of the reported cases the floating lobe has been attended with subjective symptoms, such as pain, backache, nausea, constipation, dragging sensations, digestive disturbances, and the like. Some of the symptoms, and especially those attended with attacks of colic and jaundice, have been due to gall stones. In other examples the troubles must be placed in the same category with those which are often associated with moveable kidney.

TREATMENT.

The medical management of ptosis of the liver calls for little comment and consists merely in the treatment of [illegible] a is relieved by dieting and by drugs, constipation [illegible] to, a certain amount of rest is insisted upon, and such movements as cause discomfort are discontinued. Prominent among the measures which have been employed in ptosis of the liver are such methods of treatment for the relief of neurasthenia as happen to be in fashion at the time. Some writers have advised galvanism, probably because galvanism, as a therapeutic measure, has long been considered appropriate to obscure or hopeless disorders. It is difficult, however, to understand how any form of the electric current could cause a wandering liver to return tamely to its place under the ribs. Well made belts are no doubt of very considerable service in the treatment of ptosis of the entire gland. Their use is much to be commended. Dr. Graham[12] has given an account of cases relieved by suitable supports.

The treatment by operation may be considered as it has been applied (1) to the floating lobe and (2) to ptosis of the whole gland.

In the operative treatment of the floating lobe three measures have been carried out: (1) the lobe has been excised; (2) the lobe has been sutured to the anterior abdominal wall; and (3) the distended gall-bladder, with which the condition is often associated, has been treated by cholecystotomy. Resection of the floating lobe has been carried out by Langenbuch[13] and Bastianelli[14] and cases of the suturing of this lobe to the parietes are reported by Billroth,[15] Tschering,[16] and Langenbuch.[17] In all these cases the patients were females; in all the abnormal lobe was encountered unexpectedly, and in all a cure followed. From one to four sutures were used to secure the lobe. The instances of cholecystotomy performed in cases in which a floating lobe existed are numerous.

The operative treatment of ptosis of the whole organ has consisted in the tying of the organ in place by means of various schemes of suturing. To these measures the name "hepatopexy" has been given. The first operation of this kind appears to have been performed by Gerard Hadewych in 1891. He fixed the anterior border of the liver to the costal margin by four silk sutures. Langenbuch[18] employed eight silk sutures in the same way. Incidentally [illegible] sutures. In June, 1895,[19] I secured a ptosed liver in place by three silk sutures, the median of which took hold of the round ligament. The stitches were passed through the fibrous structures by the side of the rectus muscle. Lanelongue[20] bared the convex surface of the liver over a

[illegible]

space measuring six centimetres by three centimetres and then fixed the organ to the anterior abdominal wall by three catgut sutures. Péan[23] establishes below the liver a "*cloisonnement peritoneal horizontal.*" The abdomen is opened by a transverse incision and by means of silk and catgut sutures the peritoneum of the anterior abdominal wall is united to that of the postero-lateral wall below the replaced liver. Legueu[24] suspends the liver by a double thread which goes entirely through the substance of the gland. Francke[25] fixed the liver to the anterior abdominal wall by eight or nine sutures. No sutures are placed in the region of the gall-bladder. In the gap thus left iodoform gauze is introduced between the liver and the diaphragm and left in place for eight days. Substantial adhesions are said to be produced by this method. Depage[26] not only fixes the liver by sutures, but he dissects up extensive skin flaps from the front of the abdomen and attempts to reconstruct the abdominal wall. Terrier and Auvray[27] give abstracts of 15 examples of these operations with 11 cures, two deaths, and two uncertain results. So far as the surgical management of Riedel's lobe is concerned I think that the indications for operation do not go beyond the treatment of the distended gall-bladder with which this deformity is often associated. Cholecystotomy has been followed by the complete cure of the patient and the disappearance of the floating lobe.

I cannot see that there is any justification for the suturing of the lobe to the abdominal parietes, much less for the wholesale excision of the whole of the protruding part of the gland. It has never been shown that the mere existence of this lobe has *per se* caused any inconvenience or that its mobility has been a source of distress. Any nervous symptoms which co-exist are of a kind which would vanish after a simple exploratory incision and that circumstance probably explains the "cures" which have followed these uncouth measures.

With regard to the cases of complete ptosis much may be done by carefully applied and substantial support. Such support will probably need to be represented by something more elaborate than a belt. It may be desirable to hold up the relaxed abdominal wall by a thin metal plate taking its bearing from a pelvic band. The cases calling for operation are very few indeed. A ponderous organ like the liver cannot be efficiently supported by a few isolated sutures of silk or catgut. The operation can be needed only in extreme examples and in these a large nervous element will probably have to be reckoned with. Of the measures advised the most sound would appear to be that carried out by Francke. The sutures should be of silk and be passed well into the gland. The incision should be in the right semilunar line when possible. The rest in bed should be for from four to six weeks.

[23] Péan: Congrès de Chirurgie, Paris, October, 1896.
[24] Traité de Chirurgie, par Dentu et Delbet, vol viii., p. 256.
[25] Centralblatt für Chirurgie, 1896, p. 776.
[26] De l'Intervention Chirurgicale dans la Splanchnoptose, Brussels, 1893
[27] Revue de Chirurgie, 1897, p. 746.

LUNACY IN THE WEST OF ENGLAND.—The Cornwall County Council was recently informed that the asylum at Bodmin will have practically to be rebuilt to accommodate the increased number of patients. It has been notified to the Dorset County Council that the asylum in that county is also fast filling up and must be enlarged. The Plymouth Borough Council has recently decided upon an addition to the asylum at Blackadon to meet the growing demand upon its accommodation.

ROYAL MINERAL WATER HOSPITAL, BATH.—The annual meeting of the supporters of this institution was held on May 1st under the presidency of Colonel Vaughton-Dymock. The report stated that 1251 in-patients had been admitted during 1899, the daily average number in the hospital was 152, and the average stay of each patient was 44½ days. The financial statement showed that the expenditure amounted to £5879, which was higher than usual owing to considerable repairs and improvements having been made in the hospital; there was a favourable balance of £464 remaining. 20 beds have been placed at the disposal of the War Office authorities for the wounded soldiers, but up to the present only nine soldiers have been sent. Colonel Vaughton-Dymock was re-elected president.

The Milroy Lectures

ON

SUMMER DIARRHŒA,

WITH SPECIAL RELATION TO CAUSATION AND PREVENTION.

Delivered before the Royal College of Physicians of London on March 8th, 13th, and 15th, 1900.

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LECTURE I.

Delivered on March 8th, 1900.

INTRODUCTORY.

MR. PRESIDENT AND GENTLEMEN,—For many years the high mortality due to diarrhœa has attracted attention in the study of preventive medicine. In England and Wales the number of deaths from this cause alone was 30,077 in 1898 and 31,069 in 1899; it caused 5·4 per cent. as against 12·6, the total mortality of the principal zymotics in 1898, and 5·3 out of 12 per cent. in 1899. On the whole the death-rate from that cause has maintained a steady average between the years 1847 and 1897. This persistence shows that the disease has not tended to lessen either in frequency or in virulence under the improved methods of modern public health administration. At the same time our knowledge of acute specific diarrhœa in the form which will be discussed in these lectures has been greatly extended—thanks chiefly to the late Dr. Ballard, whose researches were embodied in the classical report on the subject presented to the Local Government Board in 1889. Indeed, it may be said that since then workers in the same direction have done little beyond amplifying his inquiries and conclusions.

SYNONYMS OF DIARRHŒA.

The name most frequently applied to the malady is "diarrhœa." Many other terms are in use as set forth in the subjoined list. There is in addition to what may be called "bacterial diarrhœa"—that is, an acute malady due to bacterial agencies—a certain margin of cases included under diarrhœa where that condition is simply an accidental complication of some other disorder, as tabes mesenterica, measles, or chronic nephritis. This source of error is of little importance to the statistician on account of its general occurrence in all parts of the kingdom, whereby it affects but slightly any comparison between different places or the same place in different years. The headings of the following groups of synonyms sufficiently indicate the principles that have led to their adoption.

A.—1. Diarrhœa. 2. Summer diarrhœa. 3. Epidemic diarrhœa. 4. Acute diarrhœa; zymotic diarrhœa.

B. *Terms designating severe cases resembling somewhat true cholera.*—5. Choleraic diarrhœa. 6 English cholera. 7. Cholera nostras. 8. Cholera infantum or infantile cholera. 9. Cholera.

C. *With presence of bloody stools or tenesmus.*—10. Dysentery. 11. Dysenteric diarrhœa.

D. *With recognition of local inflammatory condition.*—12. Enteritis. 13. Gastro-enteritis. 14. Gastritis. 15. Muco-enteritis. 16. Intestinal catarrh. 17. Enteric catarrh. 18. Gastro-intestinal catarrh. 19. Gastro-enteric catarrh.

E. *Diarrhœa coupled with some ill-defined cause of death.*—20. Diarrhœa and atrophy. 21. Diarrhœa and asthenia. 22. Diarrhœa and debility. 23. Diarrhœa and marasmus. 24. Diarrhœa and want of breast milk. 25. Diarrhœa and vomiting. 26. Diarrhœa and sickness. 27. Diarrhœa and convulsions. 28. Diarrhœa and teething. 29. Diarrhœa and old age. 30. Diarrhœa and senile decay.

The instructions of the Registrar-General, quoted by Dr. Newsholme,[1] in classifying diarrhœal deaths are as follows: "Diarrhœa.—Deaths from *intestinal* or enteric catarrh and from *gastro-intestinal* or *gastro-enteric catarrh* should be included under this heading. Diarrhœa should, however, be

[1] Public Health, December, 1899, p. 143.

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weekly returns of births and deaths.) It has been suggested by Dr. Newsholme that where fatal enteritis or gastro-enteritis in the opinion of the certifying practitioner has been due to the specific disease summer diarrhœa should be distinguished by the prefix "epidemic" an included in the diarrhœa returns. That recommendation has been endorsed by a committee of the Royal College of Physicians of London. This important subject has been considered by a committee appointed on July 27th, 1899, by the . The resulting report . main conclusions were . a the part of medical practitioners to the employment of the term "diarrhœa" in certifying the cause of death. The term is generally held by the public to imply a mild disease, insufficient by itself to cause death. This fact explains the reluctance of the practitioner to employ it in the death certificate, since it may be conceived to imply a stigma upon his own capacity. "It is therefore desirable, if possible, to substitute for it some name equally accurate but conveying to the public the idea of a more serious affection; but we regard it as essential that the idea of specificity intended to be conveyed by the term 'epidemic' should be retained." In accordance with that view the committee recommended the College to authorise the use of the term "epidemic enteritis" (or, if preferred by the practitioner, "zymotic enteritis"), and at the same time to encourage the entire disuse in certificates of death of such synonyms as "gastro-enteritis," "muco enteritis," or "gastric catarrh." It is to be hoped, therefore, that the step thus taken by the Royal College of Physicians of London will introduce an era of greater accuracy in the statistics not only of summer diarrhœa, but also of zymotic diseases generally.

CLASSIFICATION.

The question of classification, which is closely connected with that of synonym, has been ably summarised by Dr. Fotheringham of Toronto as follows[2]. "A clinical classification may first be attempted based upon the symptoms. Thus cases may be:—1. *Acute.* (*a*) Acute intestinal inflammation from the first, with little constitutional poisoning, thus corresponding to the adult type; (*b*) virulent toxæmia or even general infection with little evidence of intestinal lesion. Or—2 *Chronic*, in which (*a*) intestine shows severe and obstinate ulcerative inflammation; or (*b*) persistent ilative power with little or no while the primary trouble in infection, in some cases the outstanding symptoms soon cease to be those due to lesion of the alimentary canal, and come to be those due to lesion in other organs, especially the lungs and the kidneys."

Blackader of Montreal in a helpful and exhaustive article[3] adopts Booker's bacter modification, as follow diarrhœas; functional, food, and most frequent ystemic infection are rhœas, in which in local inflammatory Chronic diarrhœas, s have more or less subsided, but in which the stools remain abnormal both in character and in frequency and nutrition is apt to be much impaired." This latter condition may be regarded as a useful addition of Blackader's to the more purely bacteriological classification of Booker, which is shortly as follows: "(1) Non inflammatory dyspeptic diarrhœas; (2) streptococcic gastro enteritis; (3) bacillary gastro-enteritis; (4) mixed cases. The latter class includes by far the larger number of cases seen in practice. Still another classification is based on anatomical considerations, and it becomes a duty to decide whether a case is one of enteritis, colitis, or entero-colitis, since radical differences exist in the treatment to be adopted in each case. For instance, neither opium nor irrigation of the bowel can be said to be so necessary in enteritis as in colitis with small, frequent, slimy, and blood-stained stools, tenesmus, and often prolapse of the rectal mucosa. Nor would bismuth be nearly so useful in colitis as in enteritis, with its large, watery, often foul-smelling dejections."

DEFINITION.

Summer diarrhœa is an acute specific disease characterised by gastro-intestinal irritation and general con . . . the summer months, although . . . riods of the year. It is doubt- . . . a manifold and perhaps of a . . . a disease of children, and is . . . from one person to another . . . Summer diarrhœa is an acute symptomatic disease, running a fairly definite course. An attack may set in without premonitory symptoms. In the majority of cases, however, the child is "out of sorts" for days or even weeks before the invasion, and shows signs of dullness, dizziness, slight looseness of the bowels, and feverishness. It usually begins with an incubation stage, followed by fever, vomiting, diarrhœa, and general sepsis. It is specific in so far as it is caused by micro-organisms or by their products; the causative organisms, however, may be of varied species, a fact which probably accounts for the many variations in the acuteness, severity, and duration of the resulting disorder. It is established by many observations, as in the classical instance of the Holmsley outbreak recorded by Dr. Bruce Low,[4] that the malady is communicable from the sick to the healthy.

CLINICAL FEATURES.

The clinical picture usually presented by summer diarrhœa is distinctive enough. After a more or less definite premonitory stage the little patient is seized with diarrhœa, vomiting, and convulsions. The temperature is usually high and often runs up to 105° F. or even to 107°. The child is restless, the breathing is embarrassed, the urine is scanty or suppressed, and a fugitive rash is sometimes present. After a few hours collapse sets in and the temperature falls to normal or subnormal—97° or 96°. In serious cases there are pallor of the surface, retraction of the abdomen, falling in of the fontanelle, slow and laboured breathing, feeble pulse, cold breath, apathy, and general prostration. After remaining in this state of collapse perhaps for several days the child dies, death often being preceded by a sudden rise of temperature. In less severe cases reaction occurs, and there is a secondary fever with morning fall and evening rise of temperature. Diarrhœa then ceases to be a chief symptom, but there is great irritability of the stomach and vomiting is excited by everything administered by the mouth.

The essential nature of the disease is a gastro-intestinal inflammation, running an acute course. The general septic condition is shown by the fever, the skin rash, the vomiting, prostration, nervous irritation, and by such frequent complications as bronchitis, broncho pneumonia, and nephritis. The diarrhœa may be trifling in amount or of short duration, so Ballard thought—even in fatal cases. As a rule, however, it is the constant and prominent symptom. It has no specific character, although the stools are usually at first yellow, and later become watery, brown, and offensive. At times they are stained with blood and may cease for some time before death. Vomiting may occur without diarrhœa during the first day of the illness. Cyanosis is most marked in the later stages, often when vomiting and diarrhœa have lessened, and is either with coma may be due to uræmia from kidney complications. Loss of flesh is often rapid.

A full account of the disease may be found in any modern text-book of medicine. For our present inquiry it will be assumed that the epidemic diseases are well known and recognisable so to render a more detailed description unnecessary. Some points in our definition—namely, the summer incidence, the communicability of the disease from one person to another, and the infectious origin—will be discussed elsewhere.

PATHOLOGICAL CHANGES.

The local changes in the intestines are due to inflammatory processes of varying severity. They were . . . by Dr. Ballard ten years ago, and have . . . have done little to extend his observations. The following is a summary of the . . . of the changes given by Dr. Booker of Buffalo . . . Ballard . . .

[2] Infant Feeding and Infantile Diarrhœa. (Toronto Medical Recorder, Toronto, 1899.) Quoted in Practitioner (October, 1899, p. 37).

[3] Article in Cyclopædia of Practical Medicine, Indexed.

[4] Appendix to Report Dr. Ballard's Report on Epidemic Diarrhœa. Local Government Board Report, 1893.

[5] The Medical Handbook of Hygiene, 1899. The Diseases of Infancy and Childhood, 1899.

summer diarrhœa upon organs, [illegible] appear to be due to the action of [illegible] the intestinal canal. At any rate, it seems [illegible] lish any direct action of errant pathological organisms. Almost any organ of the body may be involved and in varying degr[illegible] involved slightly [illegible] way the amount [illegible] ly determined. A[illegible] found in summer [illegible] tubercular and parenchymatous inflammations of the kidney, fatty and other changes [illegible] orrhages and other changes in the spleen [illegible] intestinal tract, such [illegible] lium, infiltration of [illegible] solitary and agminate glands, with foci of [illegible]

HAS INFANTILE DIARRHŒA INCREASED OR DECREASED IN RECENT YEARS?

The mortality from diarrhœa as shown in recent reports is unfortunately not comparable with that in earlier years. This fact is owing to the gradual introduction of the terms "gastro-enteritis," "muco-enteritis," and even "enteritis" alone, in certificates of death from the epidemic disease which used to be described as diarrhœa. Dr. Ballard speaks of the use of the three terms mentioned by persons desiring to signify thereby that they recognise in the illness an inflammatory condition of the digestive mucous tract.[6] Had he been writing now he would probably have deprecated the loose use of terms much more strongly than he did ten years ago. In his classical report he remarks: "It is obvious [illegible] that this malady, which we designate as diarrhœa, is not a mere dyspepsia nor a mere enteritis—although enteritis is one element in the disorder—but a *general disease* of specific character, to which a distinct and specific name other than 'diarrhœa' (the name of only one symptom of the disease) ought to be attached." Such a term is still wanted; the adoption of a title like "gastro-enteritis" simply shirks the difficulty. It is true that "diarrhœa" is the name of a single symptom; but, on the other hand, except when secondary to some definite disease—e.g., tabes mesenterica—it nearly always refers to [illegible] origin. Enteritis and its c[illegible] would apparently indicate a more local inflammation—as, for instance, the purging caused by bitter apple. It would be impossible, however, to imagine any diarrhœa uncomplicated by micro-organisms in the intestine. Again, large doses, say, of calomel will cause purging and if excessive would set up nephritis, but the enteritis in that case would be a local and the nephritis part of a general effect. In bacterial diarrhœa—meaning by that term diarrhœa due to the ingestion of irritant bacteria or [illegible] lesion is almost certainly local in th[illegible] becomes generalised. With these points in view it is not easy to follow M. Bertillon in his classification, which takes diarrhœa boldly out of the class of general diseases and places it with enteritis among diseases of the digestive system. According to Dr. Ballard, diarrhœa has "just as much or as little right to be regarded primarily as a kidney disease as it has to be regarded primarily as an intestinal disease." If his view be the right one then M. Bertillon might almost as well have transferred the malady to urinary as to digestive diseases.

The practical points with which we are more directly concerned at this stage of the inquiry are, first, that an increasing number of medical men in England certify deaths due to "diarrhœa" as due to "enteritis" or some of its varieties; secondly, that up to the present time the Registrar-General has returned all varieties of enteritis under the heading "enteritis." It follows that the decrease under the heading of "diarrhœa" has been accompanied by an increase under "enteritis."

Table I. shows the death-rates in England and Wales during the 25 years, 1873-97, registered as due (1) to diarrhœa, (2) to enteritis, and (3) to diarrhœa and enteritis together. The fifth column shows the mean temperature at Greenwich of the third quarter of each year.

From a first glance at the diarrhœa column it would appear that the disease has been less prevalent in the later than in the earlier years. Taking the years in groups of five the average rate was—in 1873-77, 882 per 1,000,000; in 1878-82, 757 per 1,000,000; in 1883-87, 759 per 1,000,000; in 1888-92, 537 per 1,000,000; and in 1893-97, 713 per 1,000,000.

TABLE I.—*Death-rates per 1,000,000 living in England and Wales.*

	Diarrhœa.	Enteritis.	Total.	Temperature of third quarter above (+) or below (−) average of 49 years.
1873	962	123	1085	+ 0·1° F.
1874	923	131	1054	+ 0·7
1875	1028	131	1159	+ 0·5
1876	917	115	1032	+ 1·6
1877	619	105	724	− 1·7
1878	1003	116	1119	+ 0·8
1879	452	96	548	− 2·1
1880	1171	118	1289	+ 1·2
1881	558	104	662	− 0·2
1882	653	113	766	− 2·1
1883	593	108	706	− 0·7
1884	978	120	1098	+ 2·5
1885	492	109	601	− 1·1
1886	899	143	1042	+ 1·0
1887	727	131	858	+ 0·8
1888	455	128	583	− 2·7
1889	648	160	808	− 1·3
1890	606	180	786	− 0·8
1891	469	178	647	− 0·9
1892	505	191	696	− 1·0
1893	954	290	1244	+ 1·7
1894	350	198	548	− 1·6
1895	874	349	1223	+ 2·1
1896	546	317	863	+ 0·2
1897	840	427	1267	+ 0·7

Looking at the temperature column it is seen that four out of the five years 1873-77 were warmer than the average, thus partly accounting for the high rate. 1878-82 included two warm and three cool years, and 1883-87 (with a some-[illegible] ended three warm years. The years [illegible] nd the rate was the lowest of all the [illegible] 1893-97 there were four warm years [illegible] a" rate was less than in any period [illegible] years, 1888-92. When, however, the [illegible] e taken into account the whole aspect [illegible] From 1873 to 1888 the mortality from enteritis fluctuated, but within narrow limits. In 1889 an increase began and the figures generally rise and fall in rough proportion with those for diarrhœa. In 1896 and 1897 the deaths from enteritis were more than half as great as those from "diarrhœa." Possibly some of the cases of enteritis are really caused by a purely local inflammation due to causes other than bacterial; but there can be little doubt that the majority of them are due to bacterial "diarrhœa." The cases of non-bacterial local inflammation may reasonably be supposed to vary little from year to year. And in that case the total of the two columns, diarrhœa and enteritis, will fairly exhibit the actual variations of the disease, which was once intelligibly if inaccurately known as "diarrhœa." The average of these figures for the five periods of five years each are as follows. 1873-77, 1011 per 1,000,000; 1878-82, 877 per 1,000,000; 1883-87, 861 per 1,000,000; 1888-92, 704 per 1,000,000; and 1893-97, 1029 per 1,000,000. Thus, although the five cold years 1888-92 give the lowest average, the five years 1893-97 give the highest average of all. There is therefore no evidence of a decrease of diarrhœa mortality in England and Wales generally during recent years. This conclusion is supported by Dr. Newsholme,[7] who has drawn up in graphic

[6] Report cit. for 1887, p. 13.

[7] A Contribution to the Study of Epidemic Diarrhœa, Presidential Address delivered before the Association of Medical Officers of Health, 1899.

form the annual death-rate per 1,000,000 living in England and Wales between the years 1847 and 1896 from diarrhœa

40 years. The general conclusion above stated is further confirmed by Table II.

TABLE II.—*Continuation of Registrar-General's Report, which ended at*

ber of Deaths from Diarrhœa in England and Wales and in London, and the Annual Mortality per 1000 Persons living during the 50 Years 1838–87.

Years.	England and Wales. Deaths.	England and Wales. Rates per 1000.	London. Deaths.	London. Rates per 1000.
1832	17,186	[illegible]	2,112	0·66
1833	15,933	0·80	2,023	0·63
1834	20,413	0·93	3,069	0·95
1835	15,269	[illegible]	2,722	0·83
1836	24,749	0·90	4,996	0·99
1837	20,290	0·73	3,501	0·94
1838	12,839	0·46	2,206	0·59
1839	18,434	0·65	2,623	0·65
1840	17,429	0·61	2,750	0·66
1841	13,653	0·47	2,435	0·53
1842	14,898	0·51	2,557	0·60
1843	23,870	0·80	3,427	0·[illegible]
1844	10,513	0·35	1,745	0·40
1845	23,552	0·81	3,614	0·83
1846	16,824	0·56	3,207	0·72
1847	28,099	0·93	4,1[illegible]	0·93

ENGLAND AND WALES.

Generally speaking, the zymotic diseases that have either disappeared altogether or been reduced to a small incidence are plague, cholera, typhus fever, and small-pox, while enteric fever has considerably diminished of late years. A consideration of the causes that have led to those results is not without interest and affords useful hints in approaching the study of communicable diseases that have not diminished in incidence or virulence. The disappearance of plague from Great Britain is a fact of importance as

required to banish plague. The disappearance of cholera from our shores followed upon the provision of better water-supplies in our centres of population, due to the brilliant scientific demonstration by Snow of the part played by drinking-water in the spread of the disease. Small pox has dwindled from a deadly scourge to the position of a comparatively rare disease mainly from two causes—(1) the discovery of special means of prevention—to wit, vaccination, and (2) general and special sanitary advances in the shape of better popular environment and better methods of dealing with infectious diseases.

In the diseases named it is encouraging to note that the improvement took place before we had any exact knowledge of the causa causans of the disease. We know now the specific bacteria of plague and cholera, but have hitherto failed to detect them in small pox and typhus fever. It is clear, however, that a precise knowledge of specific pathogenic bacteria is not essential to the extirpation of a given zymotic malady. On the other hand, the increase of diphtheria in recent years proves that a close acquaintance not only with the organisms at the root of the disease but also with their antidote in the shape of diphtherial antitoxin does not necessarily lead to diminished incidence. In the following diseases the diminution has been slight or there has been an actual increase: scarlet fever, measles, whooping-cough, diarrhœa, and diphtheria.

If we compare the death-rate from communicable diseases either of London or of England and Wales we find the general results much the same. There is decrease, almost to vanishing point, in small-pox, typhus fever, and simple and continued fever, a marked decrease in enteric fever, and to a less extent in scarlet fever. Measles and whooping-cough persist to about the same extent, and the same may be said of diarrhœa if under that term we include enteritis. Diphtheria shows a great increase. For the purpose of cholera, influenza, and plague need not be taken ration. They are happily not endemic in this may be looked upon as importations, although there can be little doubt that their failure to establish any real foothold is largely due to the causes that are diminishing the incidence of other communicable diseases. In considering the foregoing facts one is struck by the observation that two of the three persistent zymotic diseases—namely, measles and whooping cough—are not included in the compulsory notification Acts. Of the third member of the persistent group, diphtheria, it is remarkable as being the only communicable disease that has actually increased under the improved sanitary administration of the past 30 years. It seems possible that in this disease, which is essentially one of childhood, we may trace its increase to a fresh condition affecting the juvenile population—namely, the introduction of the Board School system in 1870.

The lessening of small pox may be attributed to vaccination and to modern notification and isolation measures; that of scarlet fever to notification and isolation, with all that those terms imply. The lessening of enteric fever may be ascribed to the improvement of drinking-water supplies, of sewage disposal systems, and of detection of sources of infected milk-supplies. It is interesting to ask here why diarrhœa, which has strong analogies with enteric fever, has not diminished in a similar ratio. Notification does not apply to diarrhœa, but there must be other causes at work to account for the difference. If diarrhœa were distributed by the same agencies as enteric fever, after making allowance for the preventive isolation and disinfection of enteric fever cases, one would still expect a reduction of diarrhœa from the general improvement of sanitary surroundings that may fairly be presumed to have lessened the incidence of the more specific fever. No such lessening of diarrhœa has taken place, however, so that in that malady we must look for some special conditions affecting the origin, the methods of distribution, and other essential factors.

INQUIRY INTO THE RELATION, IF ANY, BETWEEN THE LOCAL PREVALENCE OF DIARRHŒA AND OF ENTERIC FEVER.

The analogy between diarrhœa and enteric fever is somewhat striking. Both are filth diseases, both have a relation to soil, both have a marked seasonal curve, and both are often distributed by the agency of food. Although no very positive relationship can be traced between the two diseases, yet the inquiry is not devoid of interest. For the purpose of this comparison the Registrar-General's Supplementary Report for 1891–90 has been used. It has the advantage that the figures are hardly, if at all, disturbed, by the "gastro-enteritis" fashion of recent years. For this purpose an excess of 10 per cent. or more over the average mortality of England and Wales is defined as indicating "prevalence." The death-rate from enteric fever in England and Wales in 1891–90 was 0·20 per 1000, a rate of 0·22 per 1000 or over therefore indicates "prevalence" of this disease. The death-rate from diarrhœa in England and Wales was 0·16 per 1000; a rate of 0·73 per 1000 or over therefore indicates "prevalence" of this disease. Taken in that way there were five counties in 1891–90 which showed prevalence of both enteric fever and diarrhœa, three counties which showed prevalence of enteric fever and not of diarrhœa, and four counties which showed prevalence of diarrhœa and not of enteric fever (see Table III).

There are 12 out of 45 registrar's counties which show prevalence of enteric fever in all the southern part of the country, except London, except prevalence of other diseases. It is true that one of these counties (Hampshire) has a small excess of enteric fever mortality. This excess is entirely due to special prevalence in a group of fever outbreaks. Hayant, Portsea Island, Alverstoke, and Fareham districts of these districts only (Portsea Island) shows at the same time a prevalence of diarrhœa.

Turning to the five counties in which both diseases were "prevalent" an attempt may be made to find out what exact

little. For [illegible] with a rate of 728 per 100,000, ar[illegible] reaches 1267, 28 per cent. of the children are subject to a rate of 204 (less than the rate among the 30 per cent. "remainder" of Kent), and 18 per cent. of the children to a rate of 163 only. Again, in Warwickshire the rate is 637, and in one district it reaches 887, but among 15 per cent. of the children it is only 168. Such cases as these go far to prove that the causes of excessive diarrhœal mortality are mainly local, not climatic, that although high temperature and low rainfall may be necessary factors in producing a serious outbreak they are only able to produce it when some other conditions already exist. Temperature and rainfall may be practically the same [illegible] areas; but one of these areas may suffer heavily and the other lightly from epidemic diarrhœas. It must, however, be noted that there are some counties in which hardly any districts escape. For example, only 6 per cent. of the population of Lancashire has an average rate as low as 253 per 100,000, and only 3 per cent. of the population of Durham has an average rate so low as 156. It must be inferred that the local conditions favourable to the development of diarrhœa exist in almost every part of these counties. It will be seen that the grouping of districts as having relatively high, medium, or low death-rates in any county was necessarily somewhat arbitrary. Each county might have been divided as nearly as possible into three or more equal parts—a third part with highest rates, another third part with medium rates, and the remaining third part with lowest rates. Such division could, however, only have been rough and would often have placed two or more [illegible] equal rates in different groups of the same [illegible] purpose in view the method chosen appeared most suitable. Where a large difference existed between the rate for one district and the next higher or next lower rate that particular point has been generally chosen for the division of the groups. The rates should therefore in all cases be considered in connexion with the percentage of the several counties to which they relate.

In order to show what districts in each county stand out as relatively more liable to diarrhœa than the other parts of the counties a supplementary table has been prepared (see Table VII.). It will be seen that what are presented as Table VI. and Table VII. only give particulars relative to London, Surrey, Kent, and Sussex. These two tables are, in fact, no more than excerpts from complete tables drawn up on the same plan and supplying similar information for all the counties of England and Wales. The general conclusions given in the text were drawn from these complete tables. Table VII. shows in detail the six districts

TABLE VII.—*Districts with relatively Highest Death-rates from Diarrhœal Diseases among Children under Five Years of Age in 1881–90.*

London (six districts containing 13 per cent. of the population).		*Kent (ten districts containing 43 per cent. of the population).*	
St. George-in-the-East	914	Thanet	520
Stepney	621	Gravesend	485
Strand	769	Strood	418
Whitechapel	740	Milton	410
Fulham	723	Medway	388
Holborn	709	Dover	378
		Maidstone	377
		Hoo	361
		Sheppey	352
		Canterbury	348
Surrey (three districts containing 43 per cent. of the population).		*Sussex (three districts containing 34 per cent. of the population).*	
Richmond	488	Brighton	634
Farnham	399	Eastbourne	475
Croydon	34	Steyning	449

in London with rates of 621 per 100,000 and over, and the three districts in Surrey with rates of 342 and over, and so on. It is not a list of the districts with the highest mortality in the whole country, but only of the relatively highest in individual counties. The full list from which this is taken includes a district with a rate of only 148 in Wiltshire and excludes a district with a rate as high as 765 in Lancashire. Because 148 is a relatively high rate in Wiltshire, while 765 comes only in the second highest group of Lancashire districts. This explanation is necessary lest the object of the table should be misunderstood.

Table VIII. shows a few of the counties in the order of their

TABLE VIII.—*Opening Portion and Concluding Portion taken from complete Table showing the Counties of England and Wales arranged in the Order of the Diarrhœa Mortality of Children under Five Years of Age in 1881–90.*

County.	Diarrhœa rate per 100,000	Highest diarrhœa rate in any district	Group of districts with lowest rates as in Table VI.	
			Proportion of population to county.	Diarrhœa rate of children under 5.
Leicestershire	728	1267	18 per cent.	168
Lancashire	646	1336	6 "	253
Warwickshire	637	887	13 "	168
East Riding	590	775	11 "	213
Nottinghamshire	555	893	18 "	176
London	514	914	9 "	335
Staffordshire	514	723	17 "	237
Dorsetshire	131	292	72 per cent.	84
Westmorland	117	144	100 "	11
Wiltshire	113	173	77 "	9
North Wales	111	173	76 "	93

[illegible] and against each county [illegible] (*a*) the highest diarrhœa-rate in any district in the county; and (*b*) the percentage of population in the group of districts with the lowest rates as shown in Table VIII. The full table brings out the curious fact that some counties—e.g., Sussex, Herts, Devonshire, South Wales, and Herefordshire—which have comparatively low rates taken as wholes, contain one or more districts with excessive rates and other districts with very low rates. This further emphasises the contention that diarrhœal diseases are first and foremost the result of strictly local conditions.

REMARKS ON THE DIAGNOSIS AND PROGNOSIS IN 100 CASES OF DOUBLE OPTIC NEURITIS WITH HEADACHE.

BY R. T. WILLIAMSON, M.D., F.R.C.P. LOND.,
PHYSICIAN TO THE ANCOATS HOSPITAL, MANCHESTER;
AND
EDWARD ROBERTS, M.R.C.S. ENG.,
SURGEON TO THE ROYAL EYE HOSPITAL, MANCHESTER.

THE detection of optic neuritis is of the greatest importance in the diagnosis of cerebral affections. Nevertheless, in certain cases of double optic neuritis with headache considerable ca[illegible] as to the e[illegible] symptoms a[illegible] tumour and [illegible] met with in [illegible] kidney, for example, the patient comes under treatment for headache and failure of vision; and ophthalmoscopic examination may reveal intense optic neuritis like that of cerebral tumour (neuritic form of albuminuric retinitis). At first the symptoms appear to indicate cerebral tumour, but a careful examination of the urine and cardio-vascular system will clearly reveal the cause. Limited space does not permit an enumeration of all the causes of double optic neuritis with headache. The results of the examination of 100 cases, presenting these two symptoms reveal, however, several points of interest. Most of these cases have been seen by us conjointly; some were seen separately, whilst others (in Groups I. to VIII.) were examined by one of us (R. T. W.) whilst holding the post of medical registrar at the Manchester Royal Infirmary. For permission to include the latter amongst our cases we are indebted to the medical board of that hospital.

revealed
lidy ...
IV. Cerebral abscess (fatal) ... 3
V. Tuberculous meningitis (fatal) ... 2
VI. Chronic interstitial nephritis; neuritic form of albuminuric ... retinitis (fatal) ... 3
VI ...
... 3
... 1
... 1
... 3
VIII. localising ... indness, 21

The following are brief abstracts of the notes of the cases in Group X, which ... which we have foll ... The number of ye ... followed is given in ...

1.—A boy, aged ... ache, and vomiting ... eye. Recovery with ...

2.—A young wo ... ing, and double op ... paired vision in on ... and a half years.)

3.—A young woman, aged 18 years. Double optic neuritis, headache, and vomiting; several epileptic fits. Recovery, with useful vision in one eye; vision in the other is very defective. (Seven years.)

4.—A young woman, aged 18 years. Double optic neuritis, headache, and vomiting. Recovery, but complete blindness followed. (Four years.)

5.—A young woman, aged 19 years. Double optic neuritis, headache, and vomiting. Recovery with good vision. (Three years.)

6.—A man, aged 20 years. Double optic ... ache, and vomiting. Recovery, but comp ... followed. (Two and a half years.)

7.—A girl, aged 10 years. Double optic neuritis, headache, and vomiting; knee-jerks were absent. Recovery, but complete blindness followed. (Three years.)

8.—A boy at the age of 13 years had double optic neuritis and headache; recovery ensued. At the age of 15 years he had a return of headache and double optic neuritis; also vomiting. At a later date there was partial anæsthesia in the distribution of the right fifth cranial nerve; the right cornea was opaque; there was complete blindness in both eyes. Partial anæsthesia of the face and blindness remained, but otherwise the patient recovered and felt quite well nine months after the second attack.

9.—A girl, aged 16 years. Double optic neuritis, headache, vomiting; slight internal strabismus of the right eye. Recovery with normal vision. (Four and a half years.)

10.—A boy, aged 10 years. Double optic neuritis, headache, and vomiting. The head had increased in size. Recovery, but with complete blindness. (Three years.)

11.—A woman, aged 19 years. Double optic neuritis, headache, and vomiting. Recovery with normal vision. (Three years.)

12.—A boy, aged 13 years. Double optic neuritis, headache, and vomiting. Recovery. (Two and a half years.)

13.—A woman, aged 21 years. Double optic neuritis, much swelling of the discs, headache, and vomiting. Complete recovery with normal vision. (Four and three-quarter years.)

14.—A girl, aged 15 years. Double optic neuritis, headache, and vomiting. Recovery with good vision. (Two and a quarter years.)

15.—A boy, aged 12 years. Double optic neuritis, headache, and vomiting; slight internal strabismus of the right eye. Recovery with good vision. (Four years.)

(Five years.)

18.—A woman, aged 22 years. Double optic neuritis, headache, and vomiting. Recovery, but with total blindness. (Two and three-quarter years.)

19.—A girl, aged 14 years. Double optic neuritis, headache, and vomiting; internal strabismus (left) for 14 days. Recovery with normal vision. (Two years.)

The following are brief notes of the cases in Group IX:—

20.—A girl, aged 12 years. Headache, vomiting, and double optic neuritis in December, 1893. Recovery in 12 months, but vision ... well with the exception ... ber, 1899. Then the ... same ataxic and optic n... the headache was much less and the patient felt much better, but she was completely blind. (Six and a half years.)

21.—A young woman, aged 17 years. Headache, vomiting ... Vision was impaired. She continued for over two ... after lumbar puncture. (Two and a quarter years.)

In all cases of double optic neuritis a systematic and careful examination of the patients should be made. The urine and cardio-vascular system should be examined for signs of chronic interstitial nephritis; the gums should be examined for the lead line and other indications of lead poisoning should be sought for; the question of chlorosis or other "blood disease" should be considered; and the ears should be examined for signs of otitis. But when all these conditions have been excluded and when the symptoms are apparently due to a cerebral affection there is one group of cases in which localising brain symptoms are absent and in which the chief indications of disease are headache, double optic neuritis, and often vomiting. In most of these cases syphilis can be also excluded. A diagnosis of brain tumour is given, and the growth is thought to be situated in some region in which the localising symptoms are at first indefinite—cerebellum, temporo-sphenoidal lobe, or prefrontal region. Such a diagnosis often proves to be correct. Localising symptoms may develop later and a necropsy may show the accuracy of the opinion expressed. But sometimes, to the surprise of the medical man, a fatal termination does not occur; the ... appear and the patient recovers, ... ment of loss of vision remains. ... in good health for years or for a ... surgical men who have had a ... attention to cerebral diseases will have met with a case or cases of this kind. The chief object of our article is to call attention to this class of cases and to indicate the frequency of their occurrence. 10 out of 100 cases of double optic neuritis with headache in the table just given could (after careful examination) be placed in this group (X).

What is the cause of the symptoms in this group of cases? Possibly in some cases the symptoms are caused by a non-malignant tumour (or tuberculous mass) which ceases to extend and becomes quiescent and encapsulated. Gowers has recorded a case in which symptoms of cerebral tumour (including Jacksonian epilepsy and hemiplegia) gradually subsided and temporary recovery ensued; but three years later symptoms of cerebellar tumor developed and death occurred. The necropsy revealed a recent large tubercular mass in the cerebellum and an old encapsulated tuberculous mass just beneath the motor cortex in the right cerebral hemisphere. The latter had evidently been the cause of the early cerebral symptoms from which the patient had recovered. As instructive case has been recorded by Dr. T. K. Monro of Glasgow. The patient, at the age of 16 years, suffered from severe headache with loss of vision which passed on to complete blindness. For years he was so bedridden and confined ... ophthalmoscopic examination showed double optic neuritis. He died at the age of 13 years from cancer of the stomach. The post-mortem examination also revealed a large gummatous tumour in the right half of the cerebellum. In and probably the early cerebral symptoms had been associated with the ...

[illegible]

little. For example, in Leicestershire with a rate of 728 per 100,000, and one district where the rate reaches 1267, 28 per cent. of the children are [illegible] (less than the rate among the 30 per [illegible] Kent), and 18 per cent. of the children to a rate of 168 only. Again, in Warwickshire, the rate is 637, and in one district it reaches 887, but among 15 per cent. of the children it is only 168. Such cases [illegible] that the causes of excessive [illegible] ainly local, not climatic, that [illegible] and low rainfall may be necessary factors in producing a serious outbreak; they are only able to produce it when some other conditions already exist. Temperature and rainfall may be practically the same over neighbouring areas; but one of these areas may suffer heavily and the other lightly from epidemic diarrhœas. It must, however, be noted that there are some counties in which hardly any districts escape. For example, only 6 per cent. of the population of Lancashire has an average rate as low as 253 per 100,000, and only 3 per cent. of the population of Durham has an average rate as low as 156. It must be inferred that the local conditions favourable to the development of diarrhœa exist in almost every part of these counties. It will be seen that the grouping of districts as having relatively high, medium, or low death-rates in any county was necessarily somewhat arbitrary. Each county might have been divided as nearly as possible into three or more equal parts—a third part with highest rates, another third part with medium rates, and the remaining third part with lowest rates. Such division could, however, only [illegible] and would often have placed two or more [illegible] equal rates in different groups of the same county. For the purpose in view the method chosen appeared most suitable. Where a large difference existed between the rate for one district and the next higher or next lower rate that particular point has been generally chosen for the division of the groups. The rates should therefore in all cases be considered in connexion with the percentage of the several counties to which they relate.

In order to show what districts in each county stand out as relatively more liable to diarrhœa than the other parts of the counties a supplementary table has been prepared (see Table VII.). It will be seen that what are presented as Table VI. and Table VII. only give particulars relative to London, Surrey, Kent, and Sussex. These two tables are, in fact, no more than excerpts from complete tables drawn up on the same plan and supplying similar information for all the counties of England and Wales. The general conclusions given in the text were drawn from these complete tables. Table VII. shows in detail the six districts

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Whitechapel	740	Milton	410
Fulham	723	Medway	388
Holborn	709	Dover	378
		Maidstone	377
		Hoo	361
		Sheppey	352
		Canterbury	348
Surrey (three districts containing 41 per cent. of the population).		*Sussex (three districts containing 31 per cent. of the population).*	
Richmond	468	Brighton	631
Farnham	359	Eastbourne	475
Croydon	34	Steyning	479

in London with rates of 621 per 100,000 and over, and the three districts in Surrey with rates of 342 and over, and so on. It is not a list of the districts with the highest mortality in the whole country, but only of the relatively highest in individual counties. The full list from which this is taken includes a district with a rate of only 148 in Wiltshire and excludes a district with a rate as high as 765 in Lancashire, because 148 is a relatively high rate in Wiltshire, while 765 comes only in the second highest group of Lancashire districts. This explanation is necessary lest the object of the table should be misunderstood.

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			Proportion of population to total in county.	Diarrhœa rate of children under 5.
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Staffordshire	514	723	17	237
Dorsetshire	131	292	72 per cent.	84
Westmorland	117	144	100 "	11
Wiltshire	113	173	77 "	9
North Wales	111	173	76 "	93

[illegible] county as shown by the highest diarrhœa-rate in any district in the county; and (*b*) the percentage of population in the group of districts with the lowest rates as shown in Table VIII. The full table brings out the curious fact that some counties—e.g., Sussex, Herts, Devonshire, South Wales, and Herefordshire—which have comparatively low rates taken as wholes, contain one or more districts with excessive rates and other districts with very low rates. This further emphasises the contention that diarrhœal diseases are first and foremost the result of strictly local conditions.

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THE detection of optic neuritis is of the greatest importance in the diagnosis of cerebral affections. Nevertheless, in certain cases of double optic neuritis with headache considerable caution is necessary before coming to a conclusion as to the exact nature of the disease. Though these two symptoms are present in the majority of cases of brain tumour and are so frequently due to this cause they are also met with in other diseases. In [illegible] kidney, for example, the patient [illegible] headache and failure of vision [illegible] examination may reveal intense optic neuritis like that of cerebral tumour ([illegible] of albuminuric retinitis). At first the [illegible] indicate cerebral tumour, but a careful [illegible] of the urine and cardio-vascular system will clearly reveal the cause. Limited space does not permit an enumeration of all the causes of double optic neuritis with headache. The results of the examination of 100 cases presenting these two symptoms reveal, however, several points of interest. Most of these cases have been seen by us conjointly; some were seen separately, whilst others (in Groups I. to VIII.) were examined by one of us (R. T. W.) whilst holding the post of medical registrar at the Manchester Royal Infirmary. For permission to include the latter amongst our cases we are indebted to the medical board of that hospital.

[illegible] Cases terminating fatally, probably, majority due to brain [illegible] tumour, but no necropsy obtained [illegible] revealed [illegible] lulls be [illegible] 2
IV. Cerebral abscess (fatal) [illegible] 3
V. Tuberculous meningitis (fatal) [illegible] 2
VI. Chronic interstitial nephritis; neuritis firm of albuminuria [illegible] retinitis (fatal) [illegible] 3
VII. Toxic conditions and blood diseases:—
Chronic lead poisoning [illegible] 3
Ulcerative endocarditis (fatal) [illegible] 1
Purpura hæmorrhagica (fatal) [illegible] 1
Henoch's purpura (fatal) [illegible] 1
? Chlorosis with cerebral symptoms (recovery) [illegible] 3
[illegible] but localising blindness, 31 [illegible] 6
[illegible] 2
[illegible] 8
[illegible] 19

[illegible] cases in Group X, wh[illegible] and which we have [illegible] time. The number of [illegible] been followed is given [illegible]

1.—A boy, ag[illegible] head-ache, and vomit[illegible] left eye. Recovery with normal vision. (Seven years.)

2.—A young woman, aged 17 years. Headache, vomiting, and double optic neuritis. Recovery, but with impaired vision in one eye and blindness in the other. (Five and a half years.)

3.—A young woman, aged 18 years. Double optic neuritis, headache, and vomiting; several epileptic fits. Recovery, with useful vision in one eye; vision in the other is very defective. (Seven years.)

4.—A young woman, aged 18 years. Double optic neuritis, headache, and vomiting. Recovery, but complete blindness followed. (Four years.)

5.—A young woman, aged 19 years. Double optic neuritis, headache, and vomiting. Recovery with good vision. (Three years.)

6.—A man, aged 20 years. Double optic neuritis, headache, and vomiting. Recovery, but complete blindness followed. (Two and a half years.)

[illegible] uble optic neuritis, head-were absent. Recovery. [illegible] (Three years.)

8.—A boy at the age of 13 years had double optic neuritis and headache; recovery ensued. At the age of 15 years he had a return of headache and double optic neuritis; also vomiting. At a later date there was partial anæsthesia in the distribution of the right fifth cranial nerve; the right cornea was opaque; there was complete blindness in both eyes. Partial anæsthesia of the face and blindness remained, but otherwise the patient recovered and felt quite well nine months after the second attack.

9.—A girl, aged 16 years. Double optic neuritis, headache, vomiting; slight internal strabismus of the right eye. Recovery with normal vision. (Four and a half years.)

10.—A boy, aged 10 years. Double optic neuritis, headache, and vomiting. The head had increased in size. Recovery, but with complete blindness. (Three years.)

11.—A woman, aged 19 years. Double optic neuritis, headache, and vomiting. Recovery with normal vision. (Three years.)

12.—A boy, aged 15 years. Double optic neuritis, headache, and vomiting. Recovery. (Two and a half years.)

13.—A woman, aged 21 years. Double optic neuritis, much swelling of the discs, headache, and vomiting. Complete recovery with normal vision. (Four and three-quarter years.)

14.—A girl, aged 15 years. Double optic neuritis, headache, and vomiting. Recovery with good vision. (Five and a quarter years.)

15.—A boy, aged 12 years. Double optic neuritis, headache, and vomiting; slight internal strabismus of the right eye. Recovery with good vision. (Four years.)

17.—A youth, aged 17 years. Double optic neuritis, headache, and vomiting. Recovery with total blindness. (Five years.)

18.—A woman [illegible] optic neuritis, headache, and [illegible] with total blindness. (Two years.)

19.—A girl, aged 14 years. Double optic neuritis, headache, and vomiting; internal strabismus (left) for 14 days. Recovery with normal vision. (Two years.)

The following are brief notes of the cases in Group IX.:—

20.—A girl, aged 12 years. Headache, vomiting, and double [illegible] months, with the [illegible] ache returned. She became [illegible] peared. In April, 1900, the [illegible] the patient felt much better. (Six and a half years.)

[illegible] 17 years. Headache, vomiting. Vision was impaired. [illegible] she continued for over two [illegible] after lumbar puncture. (Two [illegible]

[illegible] neuritis a systematic and care-[illegible] should be made. The urine and cardio-vascular system should be examined for signs of chronic interstitial nephritis; the gums should be examined for the lead line and other indications of lead poisoning should be sought for; the question of chlorosis or other "blood diseases" should be considered; and the ears should be examined for signs of otitis. But when all these conditions have been excluded and when the symptoms are apparently due to a cerebral affection there is one group of cases in which localising brain symptoms are absent and in which the chief indications of disease are headache, double optic neuritis, and often vomiting. In most of these cases syphilis can be also excluded. A diagnosis of brain tumour is given, and the growth is thought to be situated in some region in which the localising symptoms are at first indefinite—cerebellum, temporo-sphenoidal lobe, or prefrontal region. Such a diagnosis often proves to be correct. Localising symptoms may develop later and a necropsy may show the accuracy of the opinion expressed. But sometimes, to the surprise of the medical man, a fatal termination does not occur; the symptoms sometimes disappear and the patient recovers, though very often impairment or loss of vision remains. The patient may continue in good health for years or for a lifetime afterwards. Most medical men who have paid much attention to cerebral diseases will have met with a case or cases of this kind. The chief object of our article is to call attention to this class of cases and to indicate the frequency of their occurrence. 19 out of 100 cases of double optic neuritis with headache in the table first given could (after careful examination) be placed in this group (X.).

What is the cause of the symptoms in this group of cases? Possibly in some cases the symptoms are caused by a non-malignant tumour (or tuberculous mass) which ceases to extend and becomes quiescent and encapsulated. Ormerod has recorded a case in which symptoms of cerebral tumour (including Jacksonian epilepsy and hemiplegia) gradually subsided and the patient recovered; but three years later symptoms of cerebellar tumour developed and death occurred. The necropsy revealed a recent large tubercle in the cerebellum and an old encapsuled tuberculous mass just beneath the motor cortex in the right cerebral hemisphere. The latter had evidently been the cause of the early cerebral symptoms from which the patient had recovered. An instructive case has been reported by Dr. T. K. Monro of Glasgow.* The patient, at the age of 18 years, suffered from severe headache with failure of vision which passed on to complete blindness. At 21 years he was an inmate of a lunatic asylum, [illegible] ophthalmoscopic examination showed double optic neuritis. He died at the age of 23 years from a cancer of the [illegible] Post-mortem examination revealed a large [illegible] tumour in the left half of the cerebellum. In addition [illegible] the early cerebral symptoms had been [illegible] with [illegible]

* [illegible] Medical Journal, [illegible]

neuritis which had passed on to optic atrophy and the cause had been the myxoma in the cerebellum which had remained quiescent for 46 years.

In some cases of double optic neuritis with headache and general cerebral symptoms when recovery occurs the cause is probably distension of the ventricles of the brain with fluid—serous meningitis of the ventricles [illegible] condition was present at the necropsy and no [illegible] could be found in two out of the 100 cases tabulated. It is probable that a number of the cases in which a diagnosis of cerebral tumour has been made, but in which recovery has occurred have been due to this condition—serous meningitis of the ventricles. Probably the two cases in Group IX. and possibly some of the cases in Group II., in which death did not occur for several years after the onset of symptoms, were of this nature. Other cases which recover may be due to [illegible]

The table given ab[illegible] diagnosis and progno[illegible] with headache. It shows the necessity for careful examination before giving either a [illegible]osis, and the clinical group of cases No. [illegible] be borne in mind whenever the diagn[illegible] localising symptoms are absent.

There are two other points to which we would draw attention. In 10 out of the 100 cases the patient recovered completely from the headache and general [illegible] and regained perfect health, but the [illegible] followed by atrophy and complete blindness. In the face of this terrible termination we cannot help thinking that simple trephining of the skull and the removal of bone, without any interference with the brain, as suggested and practised by Mr. Victor Horsley for the relief of optic neuritis and pressure symptoms, is a method of treatment worthy of more frequent trial when vision is failing markedly. Dr. James Taylor[3] has published cases which appear to show that this method of treatment may be of service in checking the optic neuritis and failure of vision. In the class of cases in Group X. if there should be a suspicion that the symptoms may be due to serous meningitis of the ventricles, lumbar puncture appears to be worthy of trial, since several cerebral cases are now on record in which this treatment appears to have been of great service, and in which the cause of the cerebral symptoms was probably that just mentioned.

Manchester.

A STUDY OF THE HEART-WALL IN DIPHTHERIA, RHEUMATIC FEVER, AND CHOREA.

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THE results upon the heart which are produced by diphtheria and rheumatic fever respectively appear at first sight to be so different that to compare them might seem to be of doubtful value. Diphtheria recalls the sudden catastrophe of death from syncope and a heart the valves and pericardium of which are unaffected. Rheumatic fever, on the other hand, recalls a prolonged illness—a series of partial victories and defeats—associated pathologically with valvular and pericardial inflammation and clinically with valvular murmurs and pericardial friction sounds. Nevertheless, it is well known that diphtheria very frequently injures the heart in a way that differs from this dramatic nerve paralysis and syncope by acting as a direct poison to the cardiac muscle. The proof of this rests not only upon clinical and pathological evidence but upon the evidence of experimental pathology. Quite recently this action of the diphtheria toxins upon the heart has been emphasised by Dr. Villy, late assistant medical officer to the Park Fever Hospital, in a paper upon vomiting and cardiac failure in this disease.[1] There is in this form of cardiac affection dilatation of the heart (which is usually moderate), feebleness of the pulse, and disturbance of rhythm. The first sound at the apex is short, and the pulmonary second sound becomes unduly loud; in severe cases the patient lies in bed pale and quiet with the muscles devoid of tone and the mind listless. The condition is one that may be seen early in the disease and may occur without any symptoms of nerve paralysis. In rheumatic fever, also, [illegible] be dilatation of the heart which is sometimes [illegible]e, and this may occur irrespectively of demonstrable valvular or pericardial inflammation. With this dilatation there are feebleness of the pulse, shortness of the first sound, and accentuation of the pulmonary second sound. There are also, to a minor degree, pallor, listlessness, and loss of muscular tone. The explanation of this condition in rheumatism i[illegible] e poison of the disease has also a di[illegible] c muscle.

In this paper I bring [illegible] in support of this view, basing the argument upon the results of clinical observation and microscopical investigation of the heart-wall. These investigations, extending over three years, include observations upon 18 cases of rheumatic heart disease, four cases [illegible] e of chorea, and a case of septicæmia i[illegible] with a pure culture of staphylococci. On [illegible] one of the cases of rheumatism, [illegible] are selected from these to illustr[illegible] argument, and I am indebted to Dr. John Mo[illegible] liphtheria, to Dr. W. B. Cheadle for [illegible] and to Dr. Archibald Garrod for the [illegible] For the sake of clearness a brief allusion will first be made to the clinical course of the cases of diphtheria and rheumatism. The details of the microscopy are dealt with at greater le[illegible] in the heart-wall in these two [illegible] he drawings from the sections of [illegible]

CASE 1. *The case of diphtheria.*—The patient, a child, about five years of age, contracted a sore-throat which developed the characters of faucial diphtheria. Later in the illness signs of progressive and grave cardiac failure became evident. The pulse was extremely feeble and there were pallor, vomiting, restlessness, and finally almost complete suppression of urine. There was no evidence of diphtheritic neuritis, and the child died from cardiac failure on the seventeenth day of the illness.

FIG. 1.

A part of the left ventricle from the case of diphtheria fixed in Herrmann's fluid. A, Muscle fibre showing much localised fatty change. B, Muscle fibre in transverse section showing fatty change. C, Muscle fibre in transverse section showing destruction of the protoplasm. D, Muscle fibre entirely destroyed. E, Cellular elements between the muscle fibres. The more gross changes are alone shown in this figure. The alterations in contour and size of the fibres are distinctly seen in this section.

[3] Transactions of the Ophthalmological Society of London, vol. xiv.

[1] Vomiting and Cardiac Failure in Connexion with Diphtheria, Medical Chronicle, September, 1899.

Dr. John Morton made a necropsy within 24 hours of death and brought me for examination parts of the left ventricle and kidneys. The kidneys showed extreme congestion, but no indication of an acute nephritis. The condition of the myocardium was as follows:—(a) Macro- [illegible] the peri- [illegible] -Fixative [illegible]

1. *In the muscle fibres.*—Transverse striation was lost in many places, but was still present in others. In some fibres longitudinal striation was more evident than usual. The contour of many of the fibres was irregular, and the irregularity was due in part to shrinking in width from destruction, and in part to bulging from fatty changes. Some of the fat droplets were of considerable size, and the areas in which the fatty changes in the fibres were marked were, as is usual in diphtheria, very irregular in distribution. Some of the fibres were completely destroyed and the field of section had in these places a reticular structure. Transverse sections of the muscle fibre showed the variability in their size with great distinctness.

2. *In the nuclei.*—The nuclei of the muscle fibres showed great variability in size and staining properties. In some fibres the nuclei were swollen, in many divided into two, and in some of these a few dark granules could be seen between the two nuclei. Some of the swollen nuclei stained diffusely and exemplified very clearly the condition of hyperchromatosis. The granules that were present in the space between the divided nuclei stained with the methyl green, and did not, as is the rule in more chronic affections of the heart, show that dark-brown colouration which is so characteristic an appearance in this tissue. Other nuclei were very small and also stained a diffuse green. Some were round in outline and appeared as mere dots in the centre of the fibre. In some the chromatin network was definite and evenly distributed; in others it was massed to the poles, leaving a colourless centre; and in others it was centric, leaving a colourless periphery. In many cases the protoplasm of the muscle fibre in the neighbourhood of the nuclei showed an appearance of vacuolisation.

3. *In the interstitial tissue.*—Some portions of the left ventricle were fixed in perchloride of mercury and the sections showed that there was no increase in the fibrous tissue of the ventricle wall, but in places there was an increase in the cellular elements between the fibres.

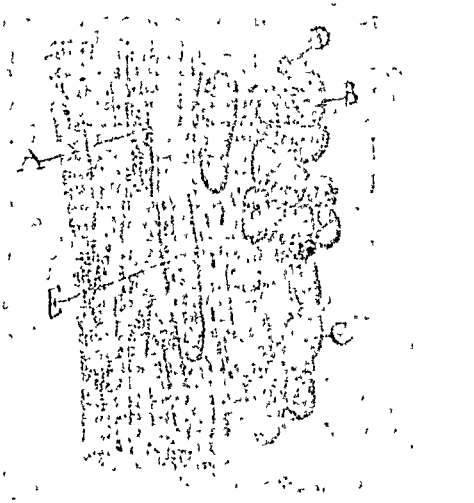
4. *In the pericardium.*—The pericardium was not inflamed.

There was, then, in this case a severe destructive lesion of the essential elements of the heart-wall such as has been recorded by many other observers in this form of diphtheritic heart failure.

At this point it is necessary to make a brief allusion to the microscopic investigations of the heart-wall in animals that have been injected with diphtheria toxins. This work has been carried out by various experimental pathologists and I quote briefly from a paper by Mollet and Regnod upon the subject.[2] These observers found that lesions of the muscular fibres were constant and that they occurred sometimes alone and sometimes together with an interstitial leucocytosis. Vascular lesions in the myocardium also were frequent. (1) Macroscopic changes.—Macroscopically there were in some cases endocardial, myocardial, and pericardial hæmorrhages, and an abnormal appearance of the myocardium [illegible] ges. (1) In the muscle [illegible] changes in the muscle [illegible] Striation was often lost. (2) In the nuclei.—The nuclei were found distorted, swollen, and stained with difficulty. (3) In the interstitial tissues.—There was in some cases an increase of the cellular elements between the fibres. More details were given in this paper as to the date of appearance and probable meaning of these abnormalities, but it is sufficient for the present purpose to recognise the similarity of these changes to those described in the case of diphtheria.

CASE 2. *The case of rheumatism.*—A young man, aged 19 years, was admitted into St. Mary's Hospital on Dec. 4th, 1899, for pains in the limbs and marked cardiac. There was a history of three previous attacks of rheumatic fever, the last occurring at the age of seven years. When admitted the patient was very ill, the face was expressed, and there was orthopnœa. The temperature was 104° F., the pulse was 108, and the respirations were 40. The pulse was feeble and the heart was excited and greatly dilated with evidence of old mitral disease. Pleural friction was audible on both sides, but I did not detect pericardial friction at the time of his admission. The next day there was general pericardial friction, and death rapidly followed on the 7th.

FIG. 2.



A part of the left ventricle from the case of acute rheumatic carditis first in Hermann's fluid. A. Muscle fibre showing much fatty change. B. Muscle fibre in transverse section showing fatty change. C. Muscle fibre in transverse section, not fatty. D. Fibrosis in a connective tissue space. E. Cells, thirty times as large as the nuclei of fibres. The finer details described in the paper would necessitate several more plates for their representation. The gross changes only are delineated in this figure. The muscle fibres are seen to be in process of hyalinisation.

The necropsy was made 14 hours after death and some ounces of slightly turbid fluid were found in the pericardial sac, with some recent lymph especially upon the posterior aspect of the heart. There was no great distension of the pericardial sac with this fluid, nor is any means sufficient to account for the wide cardiac area during life. (1) Macroscopic changes.—The appearance of the heart-wall was remarkable for its great pallor. The mitral valve showed no recent changes but those of a moderate stenosis due to previous fibrosis. The aortic valve showed recent vegetations springing from previously unimpaired cusps. The valves on the right side were unaffected. (2) Microscopic changes. Fixative Hermann's fluid. Stain safranin.

1. *In the muscle fibres.*—The striking feature was the extreme fatty change in the muscular fibres, some of them being almost a mass of fine fat droplets. This change existed through the ventricle wall and was remarkably general. In some cases, nevertheless, a considerable number of fibres had escaped that change and the nuclei stained. The contour of the fibres was preserved and there was but little extent of destruction seen in the cases of diphtheria.

2. *In the nuclei.*—Under higher magnification [illegible] methyl green. The nuclei stained well and that [illegible] was fairly constant. Marked alterations of shape and [illegible] properties were not as sufficient as in the case of diphtheria. Under this high magnification [illegible] be seen in the [illegible] fibres in which [illegible] fatty change, possibly representing an earlier stage than the latter.

3. *In the interstitial tissue.*—[illegible] there was no increase of the cellular elements between the fibres.

4. *In the pericardium.*—[illegible] fibrinous exudate [illegible] inflammatory change [illegible] present. There was recent [illegible] of the [illegible]

To summarise. [illegible] was found in the [illegible]

[illegible]

but the destructive nature of the change was not of the same gravity as in the case of diphtheria, and it is probable that these changes were due to the direct action of the rheumatic poison upon the myocardium. At this point a difficulty arises, for in rheumatism as yet no specific organism has been generally admitted and no toxins can be measured out by pathologists for inoculation experiments upon animals. There are no investigations to be put side by side with those of Mollet and Regaud to which reference has been made, and to argue that because the changes found in the heart-wall in rheumatism and diphtheria are very similar it follows that they are necessarily due to a direct action of their poisons may seem hazardous, since rheumatism and diphtheria are widely different diseases.

Between rheumatism and septic infections there is a closer link, and a brief reference is now made to an investigation of the cardiac wall from a rabbit that had died from septicæmia caused by an inoculation of a pure culture of staphylococci. The animal died on the sixth day after the injection of staphylococci. The kidneys were full of small pyæmic abscesses, and in the heart-wall between the muscle fibres were foci of inflammatory exudation containing staphylococci. The cardiac muscle showed definite fatty change, patchy in distribution. In a paper upon venous thrombosis in rheumatic fever (1898)[3] and in papers read before the Royal Medical and Chirurgical Society and at the Portsmouth meeting of the British Medical Association[4] in 1899, I alluded to and showed under the microscope similar inflammatory foci in rheumatic fever. The close relation that rheumatism bears to septic infections is undoubted, and this observation is of value because it is an evidence that fatty changes in the heart muscle are not necessarily the result of prolonged impairment of the cardiac circulation. It is of interest, also, because it appears to throw some light upon the morbid anatomy of the third case—the case of chorea.

CASE 3. *The case of chorea.*—This case was an example of that type of chorea in which the movements are extremely violent, and death is not associated with gross cardiac inflammation. The heart after death showed only a slight inflammation of the mitral valve. Microscopical investigation showed numerous micro-organisms in the valve and in the vessels at the base of the valve. I also examined many sections of the left ventricle and found some distinct foci of inflammatory exudation comparable to those which may be found in acute rheumatism or more obviously in the acute pyæmia from the injection of staphylococci into the circulation. In addition there was early fatty change in some of the muscle fibres, patchy in distribution. The close resemblance between this condition and that found in the rabbit's heart is suggestive, and both appear to me to strengthen the probability that rheumatism directly injures the cardiac wall.

To return once more to the case of rheumatic fever. A brief analysis of this case does, I believe, furnish additional evidence in favour of the myocardial change being due to the direct action of the poison upon the muscle. The importance of the case lies especially in the fact that the pericarditis was a terminal event in the disease, and that the pericardium had not been attacked in the previous rheumatic outbreaks. When the patient was first admitted I did not detect any pericardial friction, though the illness had extended over at least four weeks and the heart was greatly dilated. This absence of pericardial friction was no complete proof of the absence of pericarditis, but after death recent flakes of lymph and a considerable quantity of slightly turbid fluid were found in the pericardial sac—a sure indication of an acute rheumatic inflammation of brief duration. If, then, the clinical and pathological facts are coupled together there can be no doubt that in this case the pericarditis was a terminal event. The extreme myocardial disease cannot, therefore, be explained as secondary to pericarditis, and no one would maintain that it was the result of a comparatively slight valvular lesion. It is most probably to be explained as the direct effect of the rheumatic poison. This view is also supported by the finding of similar myocardial disease in four other acute cases of rheumatic fever, two of which have already been published.[5] The result of this investigation of the heart in diphtheria, rheumatism, and chorea is, I believe, to strengthen this view, one maintained by Dr. D. B. Lees[6] and supported by the investigations of Dr. Theodore Fisher.[7]

The practical bearing of this view is very considerable. It emphasises the important part that active rheumatism takes in the history of rheumatic morbus cordis. It is realised that in children active rheumatism is of vital importance, a fact further borne out by my recent analysis of fatal cases of rheumatic fever in children under 12 years of age.[8] In adults the occurrence is more liable to be overlooked. The condition of chronic rheumatic morbus cordis with the secondary changes that result from previous valvular inflammation is apt to be raised to the position of a primary disease rather than to be classed as a symptomatic affection and the breakdown to be sought for in mechanical overstrain. Yet in adults, as in children, fleeting rheumatic pains in the joints and pleuritic and præcordial pains are all frequent at the time when the heart gives way. It may be safely asserted that if a children's hospital is full of cases of active rheumatism and chorea an adult hospital will be full of broken-down chronic heart disease of rheumatic origin. After death in these chronic cases recent granulations may be found on the valves without any clinical evidence of rheumatism to lead to a suspicion of the active process—a point to which Dr. A. Garrod has also called especial attention at the recent discussion on rheumatism at the Chelsea Clinical Society. It is difficult in these complex cases to point with certainty to myocardial failure as the cause of the cardiac breakdown; for there is no myocardial friction sound or bruit to clinch the diagnosis. The results have to be judged often enough by symptoms which may be almost as well explained on the hypothesis of a mechanical failure. Yet the point is one of importance, for if due to rheumatic affection of the myocardium the power of the heart is undermined at its very foundation.

Another practical point, perhaps the most important of all, concerns the first attacks of rheumatism that are met with most frequently in childhood. The myocardium may show signs of the rheumatic disease before the valves or pericardium,[9] and no clinical fact is more striking than the unobtrusive method in which rheumatism produces in childhood heart disease which is often incurable. In such cases as these, to wait for a definite systolic valvular murmur before deciding that the heart is affected is dangerously akin to awaiting fæcal vomiting for a proof of intestinal obstruction. If the development of incurable rheumatic heart disea[illegible] opportunity [illegible] demonstrable by a valvular murmur.

A study of the microscopical detail[illegible] changes in diphtheria and rheumatism [illegible] clinical fact that the dilatation in diphtheria is usually not so marked as in rheumatism, but the tendency to a fatal termination is vastly greater. The poison of diphtheria appears to destroy the muscle fibres far more than does that of rheumatism. The drawings in this paper, made under a comparatively low power, are sufficient to illustrate this point. This is, I think, a warning not to raise dilatation of the heart—a clinical entity so definite and well-recognised—into the position of a primary disease, for if this be done it is natural enough to consider that the greater the dilatation the greater the danger. Yet the truth of this, even for any one disease, is only approximate, for all diseases vary in their virulence and individual effects, and those that attack the cardiac wall may damage the muscle fibre at one time far more than at another. A poison acting upon the myocardium with great virulence will, it is clear, cause such an impairment of the heart's force that death must occur before there is marked dilatation, an occurrence not infrequent in diphtheria. It is probable that in rheumatism also this question of greater or less virulence is an important one. Though the extent of the cardiac dilatation must necessarily be a sign of very great significance, it is in these myocardial affections that the paramount importance of the symptoms becomes apparent; for

[3] Three Cases of Extensive Venous Thrombosis associated with [illegible] Rheumatic Carditis, THE LANCET, July 23rd, 1898, p. [illegible].

[4] The [illegible] Pericarditis, with an Investigation into the Microscopy [illegible] Rheumatic Morbus Cordis, Transactions of the Royal Medical and Chirurgical Society, [illegible] Observations upon the Pathology of the Myocardium, Brit. Med. Jour., November, 1899.

[5] A Case of Virulent Acute Rheumatism with Extensive Purpura, THE LANCET, October [illegible], 1899, p. [illegible].

[6] Acute Dilatation [illegible] Fever: Transactions of the Royal Medical and [illegible]

[7] Discussion upon [illegible] in Childhood at the meeting of the British [illegible] burgh, 1899.

[8] Lees and Poynton: An Analysis of 150 Fatal Cases of Rheumatism in Children under 12 Years of Age: Transactions of the Royal Medical and Chirurgical Society, 1899.

[9] Lees and Poynton: Acute Dilatation of the Heart in the Chorea and Rheumatism of Childhood, Transactions of the Royal Medical and Chirurgical Society, 1899.

[illegible] en more than the [illegible] e failure. In this [illegible] of some of those [illegible] . in which, [illegible] case, there [illegible] pain, and [illegible] , from the [illegible] ac wall in acute rheumatism are of interest because their nature and complexity are decided evidence in favour of rheumatic fever being due to a microbic infection. In this paper it [illegible] t the poison of rheu- [illegible] does not imply that [illegible] a microbic infection, though, short of absolute proof, the infectious origin of rheumatic fever appears to rest upon very strong evidence.

In conclusion, my thanks are again due to Mr. H. G. Plimmer,[1] pathologist to the hospital, for invaluable advice as to technique and methods of investigation whilst working in the laboratory at St. Mary's Hospital.

Queen Anne-street, W.

A CASE OF RUPTURED LIVER; SUCCESSFUL OPERATION ON A PULSELESS PATIENT.

By THOMAS CARWARDINE, M.S. LOND., F.R.C.S. ENG.,
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A MAN, aged 25 years, was admitted to the Bristol Royal Infirmary on Jan. 16th, 1900, at 9 A.M., a case of glass weighing half a ton having fallen and crushed him against a wall. He walked with the aid of two men, but looked ill and collapsed, and complained of pain and tenderness in the right upper abdomen. At 11 A.M. his pulse was decidedly weaker and an increase of liver dulness was observed. I first saw him at 12.30 P.M. He was then restless, sick, and in considerable pain. His lips and gums were very pale and [illegible] d [illegible] an operation was immediately and rapidly performed with [si]multaneous intravenous injection of saline fluid.

The abdomen was opened above the umbilicus. It was full of blood. There was no free gas or odour; the spleen was intact, but the liver was felt to be lacerated. The right rectus was therefore cut across—it was pale from anæmia and did not bleed—and a large quantity of clot was turned out of the abdominal cavity. The whole hand could now be passed into a laceration of the liver which extended right across the under surface from about the position of the gall-bladder—which was not to be seen—to the posterior part, dividing the liver almost in twain and leaving the upper part of the capsule floating freely on the blood-clot. The remainder of the right lobe appeared to be badly smashed and could not be defined owing to its crushed condition. The clots and fragments were removed. Then, as suturing was quite out of the question, three long pieces of iodoform gauze were packed in the laceration and a fourth piece below, comprising three and three-quarter yards of gauze several folds thick. In addition a sponge-cloth was packed below and to the left of the liver. The abdominal wound was approximated and nearly two pints of saline fluid were poured into the peritoneal cavity.

The duration of the operation was very short and the patient had severe dyspnœa afterwards and was restless, thirsty, and sick. He remained pulseless for 30 hours, after which the pulse became perceptible and gradually improved and the dressings were found to be bile-stained. On the following morning the patient was much better and deliberately sat up and asked for the paper to read the war news. Subsequently the discharge was copious, bile-stained and much strongly ammoniacal, like urine. The gauze was removed at the end of a week and a large [illegible] drain was established in the right loin. The patient went to the convalescent home two months after the injury and returned looking fat and strong with the wound nearly healed.

Ruptures of the liver from abdominal contusion are divisible into three classes, (1) [illegible] in which [illegible] ended in spontaneous recovery; (2) cases in which a late operation has been done, usually aspiration of an encysted collection of blood or pus (of these several recoveries are recorded); and (3) cases in which the injury is severe and the patient collapses sooner or later after the injury. Of such cases I can only find three previously recorded in which what may be called a primary operation has been done successfully. The fourth case, here recorded, is conspicuous by the early period at which operation became necessary and by the fact of recovery from a condition of such grave anæmia. The following is a table of the cases:—

Cases of Successful Primary Operation for Ruptured Liver.

No.	Operator	Reference.	Duration before operation	Condition of patient.	Treatment.
1	H. G. Dalton.	Lit. Brit. Med. Jour., Nov. 1st, 1890, from Weekly Medical Review, Oct. 4th.	Next day.	Much pain, abdominal distension. Three-inch rent on posterior surface of the liver. No bad symptoms afterwards.	Gauze packing.
2	Christopher Martin.	THE LANCET, May 8th, 1897, p. 1271.	30 hours.	No bad symptoms for 19 hours after the first shock of the accident. Then progressive collapse with abdominal distension. Rent from one to two inches deep across the under surface.	Hot water irrigation, epigastric and suprapubic glass drainage-tubes.
3	M. Guinard.	Gazette des Hôpitaux, 1897, p. 623; Medical Week, 1897, vol. v., 433.	12 hours.	Hæmorrhage in the abdomen. Rupture of the under surface of the left lobe to a depth of three centimetres.	Suture.
4	Thomas Carwardine.	Author's case.	Four hours.	Progressive collapse and anæmia. Pulseless before operation, and for 30 hours afterwards.	Gauze packing. Saline transfusion and infusion.

Clifton, Bristol.

MASTOID DISEASE, ACUTE OTITIS MEDIA AND PYÆMIA, OCCURRING IN AN EPILEPTIC AS A RESULT OF INJURY.

By R. A. WILSON, M.D. EDIN.,
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A MARRIED man, aged 37 years, who was epileptic, was admitted to the Bexley Heath Asylum on April 23rd, 1892. He enjoyed a tranquil existence until Jan. [illegible], 1893, when at 3 A.M. another epileptic in a frenzy of [illegible] delirium darted out of an adjacent bed and severely belaboured him about the head with an earthenware[?] utensil. For several years after this [illegible] the patient complained of a [illegible] pain [illegible] mastoid process [illegible] the symptoms could be made out [illegible] bulging of the [illegible] wall of the [illegible] Nov. [illegible] 1899, he fell in an epileptic fit [illegible] an incised wound of the right [illegible] [illegible] of the right ear. [illegible]

there was a slight diminution of the discharge, the temperature rising at night to 100°. On the 12th the temperature rose from 98 8° in the morning to 102 2° in the evening, on the 13th it rose from 99 6° to 103 4°, while on the 14th it dropped from 104 4° to 103 4°. On the 15th there was still much discharge, the morning temperature being 104 2° and the evening 106·4°. The typhoid character of the temperature continued for the next two days, rising from 104 6° to 106 4° on the 16th, and from 101° to 104 8° on the 17th. On the 18th the morning temperature was 101 4° and the evening temperature was 101 6°. The discharge had diminished. He was dull, stupid, and irritable, and appeared to have difficulty in collecting his thoughts when trying to answer questions. On the 19th the temperature, which was 99 2° in the morning, rose to 104·8° in the evening. On the 20th the morning temperature was 99 6° and the evening temperature was 103 2°. An accumulation of pus was incised and evacuated over the left elbow-joint. On the 21st an abscess over the left metacarpus was opened. The discharge from the ear, which had diminished somewhat, became more copious. Perspiration was very profuse, alternating with rigors. When addressed he "rambled" in an incoherent manner. The morning temperature was 102° and the evening temperature was 101°. On the 22nd the temperature in the morning was 100°. A collection of pus over the right ankle-joint was opened. The condition of the patient was very grave. There was marked pallor of the countenance and he was unable to speak, though able to take fluid nourishment. He died at 12 30 P.M.

Extract from post-mortem book.—The dura mater over both petrous and mastoid portions was unaffected, as were also both anterior and posterior surfaces of the petrous and external surface of the mastoid. There was no change in the lateral sinus. The bone forming the roof of the tympanum was removed and disclosed pus in that cavity. The mastoid antrum was full of thick, cheesy pus; its walls were thin but hard and dense. Free communication existed between this cavity and the tympanum.

Remarks.—It seems reasonable to suppose that the injury inflicted in January, 1893, interfered with the nutrition of the mastoid cells and was the starting-point of the whole train of ill-effects, while the fall on Nov. 16th, 1899, hurried on the process to a fatal termination. Several circumstances in the case strike one as being peculiar: (1) the fact that the disease commenced in the mastoid portion and spread to the middle ear, instead of *vice versâ;* (2) the long period of latency during which the only symptoms were deep seated pain and slight deafness; (3) the rapid progress to a fatal termination when once the process had spread to the tympanum; and (4) the limitation of the disease to the mastoid and tympanic cavity, and the non-implication of the membranes and lateral sinus, although the ultimate cause of death was pyæmia.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

INTESTINAL OBSTRUCTION DUE TO GALL-STONES.

BY E. W. PALIN, M.B. OXON.

THE following notes may be of interest in connexion with the case recorded by Mr. John J. Waddelow in THE LANCET of April 28th (p. 1205). The case occurred in my practice very recently.

A woman, aged 80 years, was suddenly seized with symptoms of acute intestinal obstruction which persisted in spite of treatment until the sixth day, when complete relief followed the passage of a gall-stone measuring a little over one inch in diameter by three quarters of an inch in thickness, nearly round, and well saturated with fæcal material. Several smaller stones were passed but unfortunately they were lost. There had never at any time in the patient's life been any symptoms pointing definitely to any gall-bladder trouble, but she passed through a very similar attack of obstruction some five or six years ago. Though the obstruction was complete for at least six days her condition never became extremely bad. Distension slightly progressed from the third to the fifth day, but was never great. She did not suffer from shock. The pulse remained fairly strong for an old woman. The tongue was dry but not brown. Vomiting was never fæcal; incessant at first it latterly diminished in frequency, and she always sat up to vomit. These considerations would probably have induced the most ardent laparotomist to pursue an expectant treatment, even if the age and surroundings of the patient had not been such as to contra-indicate operative interference.

Ryburgh, Fakenham, Norfolk.

A MISHAP WITH CARBOLIC ACID.

BY C. H. L. JOHNSTON, M.D., L.R.C.S. EDIN.

AN inebriate, whose family I have attended for many years, being on one of his periodical outbreaks, returned home in the early afternoon very much intoxicated. After a time, being thirsty, he looked about for something to drink and seeing a bottle filled with what he judged to be lager beer put the bottle to his mouth and drank the contents. The bottle contained an ounce of carbolic acid in liquid form, or 90 per cent. of the pure acid, mixed with several ounces of paraffin oil, such as is used for illuminating purposes and which the women of the family were using in a sanitary way. When it was discovered what he had done his friends gave him mustard and warm water and sent for me. I saw the man soon after, when he was vomiting and had evidently got rid of the poison. There was no erosion of the lips, mouth, or throat, and he recovered without a bad symptom. Possibly the paraffin oil may have modified the effects of the acid.

St. John, New Brunswick.

NOTE ON SIMULTANEOUS EXCISION OF BOTH MAMMÆ, WITH AXILLARY GLANDS, FOR CANCER.

BY HERBERT SNOW, M.D. LOND., &c.,
SENIOR ACTING SURGEON TO THE CANCER HOSPITAL.

A PATIENT, aged 41 years, with one child, consulted me on April 3rd, 1900, for a tumour of the right mamma. She was a spare but very healthy-looking woman who lived in the country and had never previously experienced a day's illness. The organ formed a hard prominent mass as large as an orange; it was freely mobile on the fascia, though becoming adherent to the skin. The axillary glands were slightly enlarged. The usual casual darts of [illegible] becoming more frequent. The left breast was not [illegible] of, but examination showed this also to be occupied by a hard atrophic scirrhous deposit around [illegible] which was somewhat retracted. The [illegible] be ascertained. The left axilla contained a cluster of [illegible] glands as large as beans. Both mammæ were removed and both axillæ were completely evacuated on the 7th. No shock or other untoward symptom followed. Perfect union had taken place by the 23rd and the patient went home to all appearance quite well on the 26th. The only suspicious indication then was a slightly enhanced prominence of the sternum in its upper third, suggestive of marrow infection per the residual thymus.

Remarks.—Excision of both mammæ for cancer, even when feasible, is rarely justifiable, whether it be performed at one sitting or in two stages separated by a long interval. The secondarily infected organ hardly ever betrays its condition without concurrent physical signs of extensive visceral deposit due to general blood contamination and negativing all operative procedures. An indication of the fact that the second mamma, even after the lapse of years, derives its infection from the first is to be found in the point, not I think generally recognised, that the glands in its corresponding axilla enlarge before and not after the discovery of the mammary "lump." Here, however, the excellent physical health of the patient, the absence of any sign of visceral deposit, the mobility of both the organs, and the differing characteristics of the carcinomatous growths in each—one protuberant, the other shrunken and withered—rendered the case unique in my experience, and seemed to indicate the double operation, though only as a preliminary to medicinal treatment.

Gloucester-place, W.

A Mirror of HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

KING'S COLLEGE HOSPITAL.

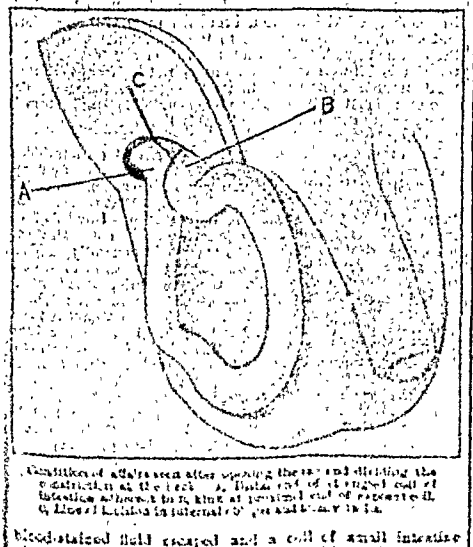
A CASE OF COMBINED EXTERNAL AND INTERNAL STRANGULATION.

(Under the care of Mr. ALBERT CARLISS.)

A MAN, aged 43 years, was admitted into King's College Hospital on Oct. 12th. He had tramped up from the country, where he had been hop picking and had partaken of very little food for 48 hours, being in a semi-starving condition. He had been the subject of an inguinal hernia on the right side for some years, but had taken no care of it. On the morning of admission the rupture had become suddenly larger, and *he had been quite unable to reduce it. He* was in great pain, but there had been no vomiting. On examination a large inguinal hernia was found to occupy the right side of the scrotum; it was not especially tense, but was very tender, and looked dusky, hot, and inflamed. An attempt to reduce it was made, but without success; as it was not very tense and and as no vomiting was present, the scrotum was fomented for a quarter of an hour and then an icebag was applied whilst the other out-patients were being seen. At the end of a couple of hours taxis was again attempted, but without result. He was now admitted and after being thoroughly bathed was anæsthetised and operated on. The A.C.E. mixture was employed as the patient was in a very feeble and weak condition.

A five-inch incision was made over the upper part of the swelling so as to expose the inguinal canal as well as the upper part of the sac, which was freed to some extent from its surroundings. On opening it two or three ounces of

FIG. 1.



Condition of affairs seen after opening the sac and dividing the constriction at the neck. A, Basal coil of strangled coil of intestine adherent to B, kink at proximal end of strangulated B. C, Blood clotted in internally strangulated bowel.

blood-stained fluid escaped and a coil of small intestine about 12 inches in length was found within. The gut was very congested and in parts showed signs of ecchymosis into the walls, evidently as the result of the taxis, but there was no loss of pulse, no shock, and no other evidence of gangrene. A hernia director was passed under the constriction at the neck of the sac and this was then nicked in two places by a hernia knife to a sufficient extent to relieve the strangulation. It was then found that the outer end of the coil of intestine (Fig. 1, A) could be drawn down easily and healthy gut was reached above, but the inner limb (Fig. 1, B) could neither be pushed back nor drawn down, and on careful attention being directed to it, it was obvious that there was here some abnormal condition, the nature of which was not at once evident. To clear up the doubt as to the condition of affairs a free incision was made upwards and slightly outwards through the whole thickness of the abdominal wall (Fig. 1, C). On dragging upon the inner limb, B, another large coil of gut, at least a foot in length, was at once pulled up and found to be also in a condition of strangulation, and the condition of affairs now demonstrated was roughly that shown in Fig. 2, although it has been impossible to reproduce quite accurately the complicated arrangement really present. It will be seen that at B, which represents the upper

FIG. 2.

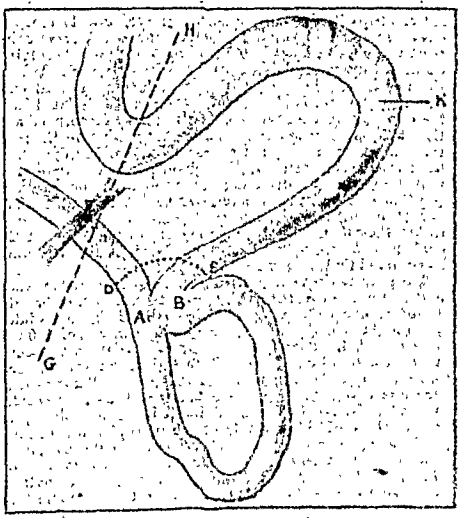


Diagram of condition of affairs seen on opening up abdomen. A, B as in Fig. 1. H, Site of strangulation in inguinal canal. K, Cicatricial band causing strangulation of coil B. E, Line of enterectomy.

limit of the portion present in the hernial sac, there was a sharp kink of the intestine due to the close adhesion of two coils to each other. It was also found that the coil B was attached tolerably firmly to the outer segment A close to the point of strangulation, D E, although this could not be made out until the further incision of the abdominal wall. The loop of gut, K, which had been strangled inside the abdomen, was much distended and the cause of strangulation consisted in a cicatricial band, H, which stretched from the inner surface of the abdominal parietes close to the internal abdominal ring to the mesentery of the affected coil. This band was divided and it was also found possible to separate the coil B from its attachment to A. The kink, however, persisted and was a very sharp one, and inasmuch as there were two raw surfaces of serous tissue left on both A and B, and as they were likely, or rather certain, to form fresh adhesions inside if they were retained, it was decided that the best practice would consist in total removal of the whole of the intestine that had been strangled, especially as it was concluded that B could not be pushed back or drawn down, as it was in a state of distension and blood-clotted, so that it was to say, as if at a late date the serial intestine and possibly gangrene might supervene.

Enterectomy was accordingly performed and the whole coil, more than two feet in length, was removed. The coil, more than two feet in length, was removed. The vessels to the mesentery were first secured and tied so as to reach to the mesentery were first secured and tied so as to control the main blood supply to it and then the circulation

spots that spurted were tied separately; in this way some time was saved, as very few ligatures were required. India-rubber tubing passed through the attachment of the mesentery and tied around the gut was utilised instead of metal intestinal clamps. It was found on cutting the intestines across that they contained very little, if any, fæcal material, and hence the clamps were removed early, as they were rather inconvenient since the gut just above the point of resection on the outer side—i.e., near D—was adherent to the abdominal wall and there was not too much tissue to spare. By this time the patient was in a somewhat alarming condition and in order to keep him alive hypodermic injections of strychnine, brandy, and ether had to be resorted to, whilst his head was kept low. Union between the divided segments had to be undertaken as rapidly as possible and therefore a Murphy's button was utilised. The two ends were very unequal in section, the inner being much the larger, and it was found that when the button had been introduced and closed in the usual way a small portion of mucous membrane from the inner segment could be seen. It was therefore tucked in as far as possible and a row of Halsted stitches was inserted all round which rendered the outer aspect of the union satisfactory. A thin strip of gauze for drainage purposes was introduced down to the line of suture in the intestine, which necessarily remained more or less immobile owing to the adhesions tying down the outer segment. Attention was then directed to the hernial sac, but only the most perfunctory radical cure could be attempted. The neck of the sac was isolated from the other structures of the cord, half of it was transfixed and tied, and the remaining portion of the wound in the peritoneum was closed by a deep row of sutures, except where the gauze drain emerged. The divided muscles were then united together by deep silk sutures, care being taken if possible to avoid the structures of the cord, but the whole proceeding had to be so hurried owing to the patient's condition that there was no certainty as to whether or not the cord had been included; fortunately, it was afterwards ascertained that no damage had been done.

The patient after being dressed was returned to the ward, and restoratives in the shape of a rectal injection of brandy, beef-tea, and coffee were administered. He passed a fairly good night and the next morning a temperature of 100·6 F. was recorded. There was no sickness and the man seemed to be comfortable. On Oct. 13th the wound was dressed, the gauze drain was partly removed, and a smaller superficial one inserted. The patient complained of thirst, but nothing was administered by the mouth for 24 hours after the operation. On the 14th the whole of the deep plug was removed, and merely a small portion placed between the margins of the divided muscles. The temperature remained about 100°; nutrition was still mainly rectal, four nutrient enemata of beef-tea, milk, and brandy being administered in the 24 hours. A simple enema resulted in a small action. On the 15th the plug was entirely omitted and there was practically no discharge from the wound. Only one enema was given and stomach feeding was commenced. After this date the patient did uninterruptedly well, although his temperature remained about 100° till the 19th. He remained very constipated and required simple enemata every day till the 29th, and then as the button had not appeared cascara tabloids were employed every other night. He was discharged from the hospital on Nov. 15th, not having yet passed the button. However, he appeared in the out-patient room about the end of November and brought the button in his hand, having passed it a day or two before, after retaining it for about six weeks. There was no impulse on coughing in the inguinal region and the hernia appeared to be satisfactorily cured. The testis was of normal size and showed that the cord had not been included in the stitches.

Remarks by Mr. CARLESS.—Cases of external strangulated hernia are so common that records of individual cases are of but little value although there are still moot points requiring settlement, such as the best way of dealing with gangrene of the gut. Internal hernia is also by no means uncommon, but here the multiplicity of causes to which it may be due and the resulting variability of the symptoms render the records of single cases desirable if there is anything special or peculiar about them. The combination, however, of internal strangulation with external such as occurred in the above case is unusual in the extreme, if not unique, and it seems desirable that a full account of it should be given.

It was evident from the condition found at the operation, even apart from the patient's history, that the hernia had been present for some time, and that probably as a result of truss-pressure or previous slighter attacks of strangulation, from which he had recovered without operation, plastic peritonitis had occurred which not only fixed the coil A to the peritoneum lining the iliac fossa, but had also produced the band F and had caused the kink B to be formed and led to its adhesion to A.

The occurrence of a slight plastic peritonitis after the relief of strangulation is probably a constant phenomenon, and is the more likely to occur where prolonged paresis of the bowel is maintained by the use of opium. The breaking through of these adhesions sometimes occurs naturally at the time when the bowels first begin to move freely, and may then give rise to intense and sudden pain and to such profound shock as to lead one to suppose that perforation had taken place. Some years back a case of this nature occurred to me. I had operated on a woman for strangulated inguinal hernia quite successfully; the bowel was congested, but not badly damaged, and was returned at once and a radical cure undertaken. A little morphia was given to relieve pain, and the case went on perfectly well till about the seventh day, when suddenly and without warning the most intense pain was experienced in the abdomen, whilst the patient became pale and collapsed. When I saw the patient a few hours later it seemed at first glance evidently a case of perforation and incipient peritonitis, but on more carefully examining the condition of affairs I came to the conclusion that it was merely due to the onset of peristalsis, sufficiently vigorous to herald an action of the bowels, and to the forcible separation of coils of intestine which had become "glued" together. Under these circumstances I recommended a good dose of castor oil guarded by a little laudanum, and after some more pain of a colicky character a good action of the bowels resulted, and there was subsequently no difficulty in this matter.

In the case here recorded it is quite easy to understand that all the contributory lesions might have resulted from plastic peritonitis following a previous attack of strangulation from which the patient had recovered. Subsequently no care was taken of his hernia, and under ordinary circumstances the only portion of bowel which descended into the sac was the loop first found there—viz., that below the adherent coils A and B. As the result of some unusual effort the kinked and adherent coil B was forced into the sac through the narrow inguinal canal and there became strangulated. The distension of the loop which followed made it irreducible and the traction exercised upon A, the proximal end of which was adherent to the abdominal wall inside the inguinal canal, pulled taut the adhesion F, passing from the abdominal wall to the mesentery not far from the intestinal attachment, and this in its turn led to the strangulation of the coil K inside the abdomen. The whole story is a very pretty one, illustrating forcibly the dangers of neglecting a hernia.

The symptoms that the patient presented on admission were not of a severe type owing to the fact that he came under observation early. There was no great tension of the sac and, indeed, when first seen I thought that reduction by taxis would be possible, and so impressed was I by this feeling that contrary to ordinary practice I did not hesitate to use a good deal more force than one would generally employ. The alternate application of heat and cold was utilised with the same object in view. This is a proceeding that is occasionally useful in suitable cases—viz., those where slight attacks of strangulation have occurred more than once and where the case is taken in hand early. I have more than once been able to effect reduction by the following means. Hot fomentations are applied for about half an hour with the object of relaxing the tissues, and then an icebag is placed over the hernia with a twofold design—viz., to constrict the dartos and tissues outside the hernial sac and to cause the contraction of the bowel and of the gases contained within it. In one case I treated in this way some years back the hernia returned by itself without the employment of any taxis. It is, however, abundantly evident that no such proceeding could have had the slightest effect in the case under consideration, whilst the taxis which was subsequently employed had merely the effect of bruising the intestinal walls.

Another point illustrated by this case is the importance of examining the bowel above the site of strangulation. There is always the possibility that some abnormal condition may be present, and it should be considered an essential part of

fibrous tissue in the inguinal
which a free incision should be
the abdomen is not unimportar
should be made through muscul
outwards. In an [illegible]
thus avoided, and [illegible]
efficient union of the [illegible]
to hernial bulging.

obstruction; (2) the raw surfaces between A and B were certain to lead to adhesions which would at some future time cause trouble; and (3) there was considerable likelihood of acute peritonitis developing within a few hours owing to the fact that the taxis had caused bruising of the gut wall, whilst the upper coil K was also in a very doubtful condition. I felt then that bold and rapid surgery was the best means of dealing with the condition of affairs and seeing that an enterectomy need not take many minutes, if one utilises a Murphy's button and secures the [illegible] mesentery, this course [illegible] justified the decision.

[illegible] for many years as to the [illegible] ous hernia, but of late [illegible] very definite shape in [illegible] I should like to add my [illegible] The experience of this condition gained by any one surgeon cannot be very great, and it is only by comparing and collating the experience of the many that we can come to a right conclusion as to the best treatment to adopt. My own experience is certainly in favour of resection of all gangrenous tissue, even in cases where the general condition of the individual seems to [illegible] In nearly every case of [illegible] we seen where an attempt has [illegible] artificial anus, and some of these were apparently favourable cases with comparatively little toxæmia, death resulted. This was due to two main causes—viz., the difficulty often experienced in emptying the bowel, owing to the contraction and adhesion of the tissues around the neck of the sac, free separation of which might involve the onset of peritonitis, and the absorption of virulently toxic material from the gangrenous bowel wall itself, to my mind a much more serious matter than the absorption of toxins from the retained fæces. The only rational treatment is obviously the removal of the whole of the gangrenous part, and the resection should be sufficiently wide of the affected coil to make certain that no damaged tissue is left behind. Present day methods of enterorrhaphy are so rapid that it certainly seems desirable to treat cases in this way. Murphy's button or some similar contrivance may be utilised [illegible]

restored. Of course, there will be always a considerable mortality associated with this operation, owing to the fact that the cases come under treatment too late, but if it is clearly understood that enterectomy is the correct method of treatment of gangrenous hernia then it may be hoped that in time we may see some reduction in the terrible figures which still represent the death rate of this serious affection.

TOTNES COTTAGE HOSPITAL.—The corner stone of the new Cottage Hospital at Totnes was laid on May 2nd by the Mayor (Mr. Windeatt), who was supported by Dr. [illegible], the ex Mayor. [illegible] given by the [illegible] at [illegible]

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The Wounded in the Present War.

A MEETING of this society was held on May 8th, Dr. FREDERICK W. PAVY, the President, being in the chair.

Mr. FREDERICK TREVES gave an address on the Wounded in the Present War. He commenced by saying that it was not possible for several reasons to deal with the subject in the scientific manner which was usual in communications made at that society. He then gave a brief description of the modern rifles in use. The great differences between old and new weapons consisted in the high velocity and greater range of the latter. Measured by the amount of damage they [illegible]

had been made within the last few years in small arms. The rifling of the barrel of the Martini-Henry rifle made one turn in 22 inches, that of the Lee-Metford one in 10, and that of the Mauser one in eight and a half. The question of the muzzle velocities of these weapons was discussed and the different bullets were described and illustrated by means of specimens and lantern slides. The bullet consisted of lead hardened by the addition of 2 per cent. of antimony and enclosed in a shell or thimble of nickel. The shell of the Mauser bullet was a trifle thicker at the point than elsewhere. The Lee-Metford shell was of uniform thickness, and being slightly thinner than the Mauser, was apt to do a little more damage by scattering when it touched a solid object. The very remarkable effects which could be produced by the modern bullet were well illustrated by a Lee-Metford cartridge, which was exhibited, and which had been pierced while in the belt of a British soldier by a Mauser bullet; this had afterwards entered the man's abdomen and passed out at his buttock without producing any symptoms whatever. Mr. Treves had met with many cases of nerve trunks pierced and bones perforated, as if by a small gimlet, by Mauser bullets. In one case the bullet had pierced the middle phalanx of both the ring and little fingers and yet the patient recovered with a practically perfect hand. There were many statements in current text-books which were not borne out by the experience of the present war. For instance, it was commonly asserted that the mechanical power of a bullet was represented by the product of mass into the square of velocity; and it followed from this that the question of range was the all-important one. But this formula could now be proved to be wrong. It was very difficult to ascertain the range at which a man was hit, not only because of the smokeless powder now used, but in many of the recent battles men were exposed to a crossfire and they did not know from which direction they were hit. Turning to the subject of the explosive effects of bullets there was no such thing as a really explosive bullet, but if the end was uncovered it splintered and pulverised the bones. In this way funnel shaped wounds were produced, the entrance hole being small and circular and the exit large and jagged. The production of such a wound was not a question of range, though he (Mr. Treves) was bound to say that the wounds he had seen produced at undoubtedly short ranges had been mostly clear and round. Specimens of "soft-nosed" (the so-called "explosive") bullet were shown. The nickel casing was cut away at the top and the lead was not hardened by antimony. These bullets produced [illegible] funnel shaped wounds. He had not [illegible] with any wounds produced by these "soft nosed" bullets until towards the end of the Ladysmith siege. At that period of the war quite [illegible] per cent. of the wounds had been produced by these soft-nosed bullets. [illegible] the day papers had [illegible] that poisoned bullets were [illegible] the bones and [illegible] which he (Mr. Treves [illegible] had evidently [illegible] them [illegible]

shell of the bullet. The paraffin was used to prevent the barrel from fouling. Pieces of common shell fired by the 4·7 inch guns, pieces of, and bullets from, shrapnel, and the base of a shell fired by the "Long Tom" of the Boers were exhibited. Shrapnel contained from 150 to 200 bullets and on bursting these latter only assumed the velocity of the shell. Pieces of shrapnel made very clean holes and a soldier's water-bottle so pierced was exhibited. Lyddite, which was a picric acid explosive, had not the terrible effects ascribed to it. Bursting on well-made ground, such as a railway embankment, a lyddite shell made a round hole of only moderate dimensions. It emitted dense yellow fumes which it was hardly possible to support, and several Boers suffering from concussion without any mark of injury had been admitted to hospital. The field hospital with General Buller's force was next described. Each soldier carried a piece of primary dressing which was very useful. Turning again to the character of wounds he (Mr. Treves) had never found pieces of felting carried into the wound as they used to be with the older rifles. In about 20 per cent. of the wounds produced by Mauser rifles the bullet was retained. A circular exit wound was rare when a bone was struck. The largest exit wounds were those produced at the shortest range. Hæmorrhage was rare. Tourniquets were very rarely wanted, but when required were readily improvised by soldiers and sailors, the strangest contrivance he had met with having been a plug of tobacco and the tape of a puttee. Internal bleeding was not uncommon in abdominal wounds at short range. There were many statements in the current text-books on gunshot injuries which could not be substantiated by the experience of the present war. For example, the fractures were not invariably oblique; the majority produced by Mauser bullets were transverse. Many other statements as to fractures would also require modification. The worst kind of bone injury were those in the head of the humerus and in the lower end of the fibula. In the present war the worst element in the treatment of fractures was the long or difficult transport. Compound fractures did very well when retained in the field hospital for a time, and there was an immense advantage in having a large field hospital immediately behind the fighting line. As regards gunshot injuries of the head, these, as a rule, required operation. As far as his observation went the majority of those who were killed on the spot were shot through the head, though there were many very wonderful recoveries. The present campaign had revealed several very striking facts as regards abdominal injuries and two in particular might be mentioned—viz.: (1) the proportion that recovered without operation was very high; and (2) the operative treatment of abdominal injuries on the field was most discouraging, however promptly the operation might be performed. In his (Mr. Treves's) belief 60 per cent. recovered without any operation and therefore the risk to life if they were not interfered with was only 40 per cent. One of the reasons why they got well without operation was that the men were generally wounded when fasting. The question of transport was here, again, a most important one. Within a few hours after Spion Kop 33 cases among the wounded brought down from that inaccessible situation died. Four remarkable cases of recovery after abdominal gunshot wounds were mentioned. The bullet in the first entered beside the umbilicus and came out at the second lumbar vertebra; in the second it entered at the anterior part of one loin and came out at the other; in the third it entered over the stomach and came out at the right loin; and in the fourth it entered at the tip of the eleventh rib and came out at the axilla. In all of these there were no more symptoms than would be produced by eating green apples. The hole in the bowel produced by a Mauser bullet was very minute and the shock of the injury appeared to stop peristalsis. The cases which did worst were those associated with copious internal hæmorrhage. The reasons why operation cases did so badly were referred to. The circumstances which indicated operative procedure in abdominal gunshot wounds were as follows: (1) when the case was seen within seven hours after the injury; (2) when the transport was short and easy; (3) in the case of antero-posterior wounds above the umbilicus when the bullet had escaped; (4) when there was extensive hæmorrhage; and (5) some wounds below the umbilicus with escapement of the bullet, especially if hæmorrhage had occurred. On the other hand, operation was contraindicated (1) if the case was not seen until more than about seven hours had elapsed; (2) when the transport had been long and arduous; (3) in transverse and oblique wounds above the level [illegible] in all cases of retained bullet; (5) in a[illegible] the liver and right kidney, because these recovered; and also (6) in most cases of wound below the umbilicus, because these also generally got well. These were the chief indications for and against operation; and in point of fact the cases suitable for immediate operation on the field were extremely few. The difficulties in performing abdominal section in these circumstances were very great.

Surgeon-General JAMES JAMESON, C.B. (Director-General, A.M.S.), thanked Mr. Treves for his address, with the conclusions of which he concurred. He wished especially to emphasise the necessity of a hospital immediately behind the field hospital. This was not always possible, but its advantages were very great. After 600 miles of railway travelling nearly every case, according to Dr. Stevenson, became septic. Cases should be kept at rest for ten days or so and then they could travel with perfect safety and arrived in excellent condition. Referring to the two plagues which Mr. Treves was reported to have mentioned elsewhere his words had already borne fruit, for he was informed that the engineers had encircled the hospital containing cases of enteric fever with barbed wire.

The PRESIDENT moved a vote of thanks to Mr. Treves for his address and announced that the debate would be resumed that day fortnight.

PATHOLOGICAL SOCIETY OF LONDON.

The Changes in the Blood in Disease.

A MEETING of this society was held on May 1st, Mr. A. PEARCE GOULD, Acting President, being in the chair.

Professor WRIGHT (Netley) resumed the discussion on the Changes in the Blood in Disease. He commenced by saying that he did not think much profit was to be derived from a mere enumeration of the red or white blood cells. An examination of the bacteria might be useful, but there were not many diseases, at least in England, in which bacteria occurred in the blood. Some of Ehrlich's suggestions were valuable, as, for instance, the occurrence of nucleated red cells in pernicious anæmia and the significance of myelocytes and normoblasts, but, after all, were there any diseases in which an examination of blood made by current methods was of really great diagnostic or prognostic value apart from other symptoms? Some years ago he examined the blood of a large number of cases of hæmophilia and came to the conclusion that the significant change in these cases was an alteration in the percentage of polynuclear white cells. A large number of these cases were children, and then he found afterwards that there were rarely more than 40 per cent. of such cells in the blood of children at seven years of age, and therefore all his results were vitiated. New methods were very much wanted for the examination of the blood and there were some recent cases which he wished were more widely known. The first and in his belief the most important matter concerning the blood was the question of its coagulability, and he then described the method for its estimation. Above all other considerations this subject was one of the highest importance. Take, for instance, the question of hæmoptysis. In phthisis the coagulability was very much reduced and the proper method of treatment was to raise the coagulability. It was desirable that medical men should make observations and see if the conditions which they wished produced had been achieved. In aneurysm, for example, it was desirable to raise the coagulability of the blood. A starvation dietary had been suggested for this end, but in starvation the coagulability went down and after a good meal it went up. In short, his observations went to show that short of producing marasmus starvation did not increase coagulability and was therefore of no use. The time of coagulability was altered considerably in different diseases and under different conditions from two or three minutes to one and a half hours or more, and this seemed to depend chiefly upon the quantity of calcium salts in the blood. The eating of acid fruits diminished coagulability and sometimes gave rise to what he called "serous hæmorrhages," resulting in the production of urticaria, œdema, &c. A method for the estimation of the lime salts in the blood was described. It was upon the presence of these that coagulability largely depended. When lime salts

[illegible] they were extracted, [illegible] the coagulability was [illegible] Professor Wright [illegible] that the lime salts were [illegible] Another [illegible] coagulability was [illegible] A case was men- [illegible] of thymus tabloids pro- [illegible] ar white corpuscles and a [illegible] ne alkalinity of the blood [illegible] to be investigated and a [illegible] believed to have been fatal by the acidity of the blood, an acid intoxication such as had been met with in rabbits. A promising field was the investigation of the agglutinins in the blood, which had a very special bearing on prognosis. In Malta fever, for instance, if a man developed agglutinin slowly it would probably be a prolonged case, and *vice versâ*. If after an attack of this disease or typhoid fever the agglutinin was high the patient would probably not have a relapse, but if low there seemed a liability to relapse.

Dr. LOURAIN SMITH said that he would confine his remarks to the subject of anæmia. He had made a series of laborious examinations on the measurement of the total volume of blood, on the oxygen capacity of the blood, and the total amount of hæmoglobin, per unit of weight to the individual. In the first place, the saturating effect must be determined of a known volume of carbon monoxide administered to the patient. This enabled him to estimate the capacity of the whole blood for carbon monoxide and consequently for oxygen. At the same time a given volume of the patient's blood was compared as regards colour with a similar volume of ox blood whose capacity for oxygen per unit of volume was known. By these means he had been able to calculate the volume of the whole blood. The oxygen capacity varied much less than the volume of blood amongst healthy subjects. The study of anæmia on this method showed that there were two types: (1) that of chlorosis, in which the total oxygen capacity was approximately normal, while the volume was increased; and (2) the anæmia of hæmorrhage, in which there was loss of oxygen capacity—i.e., of hæmoglobin. The cases of pernicious anæmia examined conformed to the latter type. As regards chlorosis it was obvious that in the blood there was a large increase in the number of red corpuscles and of leucocytes. Cases occurred in which the red corpuscles numbered about 3,000,000, the white corpuscles from 4000 to 5000, while the volume was as large as from two to three times the normal amount. A reduction of such a blood to normal volume would lead to a rise of corpuscles per cubic millimetre to 7,000,000 or 8,000,000 and the white corpuscles to a correspondingly large number. Such changes have been observed by Hayem and others during the cure of chlorosis. There was no evidence that the curative effects of iron were due to the formation of an increased amount of hæmoglobin. It was clear, also, that many of the symptoms of anæmia were due to the increase in blood volume and that cure of the condition consisted in large measure in the reduction of the volume to its normal amount.

Dr. J. H. DRYSDALE remarked that the red and white cells varied independently of each other and he entered his protest against the prevailing practice of their comparative measurement. The question of importance was the absolute number of cells of each kind that was present. Percentages were, as a general rule, of no value. The blood from the periphery differed from that of the centre of the body and this was another source of fallacy. In tumour of the spleen he had found an increase in the number of eosinophile cells. Ehrlich had well stated that the advance of hæmatology must come, not from the physiologist or the anatomist, but from the clinical physician.

Dr. WILLIAM HUNTER took exception to Professor Wright's remarks about the estimation of the corpuscles. The coagulation of blood was an important matter but other features were of equal value. There were three great groups of factors in the causation of blood changes: (1) injury; (2) nutritional or assimilative changes; and (3) infective agencies. He regarded the third as the most important. The changes due to the first and second were essentially quantitative. The most important changes in the blood were the hæmolytic changes, such as were seen especially in hæmolytic or pernicious anæmia. Clinically this disease was almost identical with chlorosis, but an examination of the blood changes showed differences of the most extreme kind. Some of these changes he then demonstrated by the lantern, especially the process of hæmolysis [illegible] troma and hæmo- [illegible] change took place [illegible] y other blood or [illegible]

Dr. ARTHUR WHITFIELD said that he had worked at the blood from the morphological standpoint only and he thought that perhaps hardly sufficient credit was given to the work of Professor Ehrlich and Professor Muir in this respect. He considered that Professor Ehrlich's work on differential stains must be regarded as the foundation of all the present knowledge of the morphology of the leucocyte. The position of the myelocyte had somewhat altered with regard to its clinical significance of late years. When first described he believed that its presence in the blood was considered to be pathognomonic of leukæmia, but further researches had shown that it was also to be found in small numbers in other diseases. After a fairly large experience in examining the blood of diseased [illegible] he was able to confirm Professor Muir's statement that the eosinophile myelocyte was confined to leukæmia. With the discovery of eosinophilia in pemphigus by Gollasch, and subsequently in dermatitis herpetiformis by Lereddé and Perrin, a great importance was attached to the presence of eosinophilia in skin diseases, and Lereddé had gone so far as to state that the simultaneous presence of eosinophilia in the blood and serum of the bulla was diagnostic of dermatitis herpetiformis. In most cases of widespread skin disease there was a polynuclear leucocytosis present, but even this was by no means invariable. More interesting was the fact that in three cases (pityriasis rubra pilaris, eczema, and psoriasis respectively) he had found varying numbers of mononucleated cells containing the eosinophile granulation cells which would naturally be reckoned as myelocytes. He would rather like to refer to a piece of work done by Justus which was apparently little known in this country. This observer in examining the blood of persons suffering from syphilis found that in such persons the administration of mercury caused a sudden fall in the hæmoglobin succeeded by a steady rise to the normal as the remedial action of the drug took effect. This sudden fall was not observed in healthy subjects and could therefore be used to aid in the diagnosis. The statements made by Justus had, he thought, been corroborated by everyone who had controlled them and the method [illegible]

[illegible] Mastitis removed from a Male Subject.

Mr. A. CORBIN KEEP: Colloid Carcinoma of the Breast.

Mr. JOHN POLAND: Compound Dislocation of the Elbow-joint.

Dr. F. PARKES WEBER: A Constricted and Furrowed Liver, a condition occurring sometimes in Emphysema.

OBSTETRICAL SOCIETY OF LONDON.

The Relations of Organic Affections of the Heart to Fibromyoma of the Uterus.—Exhibition of Specimens.

A MEETING of this society was held on May 2nd, Mr. ALBAN DORAN, the President, being in the chair.

Dr. THOMAS WILSON of Birmingham read a paper on the Relations of Organic Affections of the Heart to Fibromyoma of the Uterus. He called attention to the necessity for observing the possible evil effects produced on the other organs of the body by the growth of the uterine fibromyomata. He showed that the conjunction of serious organic affections of the heart with the presence of a fibroid was sometimes casual, but in a much larger number of cases the connexion between the diseases of the two organs was causal, the heart affection being set up by the growth of the fibroid, or both being dependent on a common cause. Occasionally the heart might be affected directly by the pressure of a large cystic fibroid or indirectly by a tumour pressing on the ureters and so leading to renal degeneration, which in its turn led to cardiac changes. Much more commonly a fibroid of moderate size led through hæmorrhagic to anæmia, and thence to cardiac dilatation or degeneration or, again, in the early stages of the growth of a tumour cardiac hypertrophy might be the result, and this latter might give place to dilatation and [illegible]

degeneration. It was not at present understood how the hypertrophy was brought about, but the condition was in some degree analogous to the enlargement of the heart found in pregnant women; there was the important difference, however, that the causing affection, pregnancy, in the latter case was definite in duration whereas the period of active growth of a fibroid [illegible] described the case of a patient who [illegible] fibroid for four and a half years; the [illegible] attacks of retention of urine, and [illegible] cardiac weakness were [illegible] Double oophorectomy [illegible] alarming heart failure [illegible] eventually made a good [illegible] heart showed a gradual [illegible] other cases in which [illegible] apparently caused by the growth of fibroids were shortly related. The nature of the cardiac affection [illegible] uterine fibroids which were present in [illegible] symptoms and signs, and the course [illegible] in turn considered, and it was poi[illegible] successful operation the heart tended [illegible] really remarkable degree. The pr[illegible] disease favoured the occurrence of [illegible] and after operation; it formed a contra-indication to the use of ergot in the treatment [illegible] it might be an important and even urge[illegible] operative interference. When an operatio[illegible] every effort must be made [illegible] possible the severity of shock and the risk c[illegible] failure, and ether should be the anæsthetic [illegible]

The PRESIDENT commended Dr. Wilson for his scientific treatment of a subject handled too en[illegible] He had himself frequently observed [illegible] independently of anæmia, in patients [illegible] One patient was subject to attacks of syncope at every menstrual period for two years; three years ago he removed the tumour, as it was growing rapidly, [illegible] Since then no attacks of syncope had [illegible] ago he removed a uterus with suppurat[illegible] one ovary. The pulse, [illegible] been regular ever since. [illegible] had recently reported a similar case in which, after removal of a fibroid uterus and both ovaries, the pulse, previously very intermittent, became and remained perfectly regular.

Dr. AMAND ROUTH recalled a case which proved the serious action of ergot in the cases under discussion. He had elevated a large impacted pelvic fibroid by hydrostatic pressure in a patient, aged 46 years. Her only symptoms had been due to pelvic pressure, and these were at once relieved. Her heart's action was feeble. Against his advice she took ergot in pills and soon became very weak and ill, and she stated that within an hour of taking a dose she had pains over the cardiac area, with breathlessness and palpitation. She was seen by Sir William Broadbent who stated that he found that her arteries were much tightened, and his previous experience of such cases enabled him to fix on the ergot as the cause of the heart trouble and of the pseudo-angina. The patient slowly improved when the drug was discontinued. Inasmuch as ergot was so generally given in cases of uterine fibroids he thought it not unlikely that unsuspected cardiac debility in such cases would be aggravated by the drug and would explain the asthenia which was not infrequent.

Dr. HERBERT SPENCER considered the paper a very valuable contribution to their knowledge of the effect [illegible] uterine fibroids on the organism. He thought that ma[illegible] of the symptoms of heart disease and the murmurs were due to the anæmia caused by the uterine hæmorrhage. Anæmia thus caused was an urgent indication for operation, especially in young subjects. It was remarkable how rapidly in some cases the symptoms disappeared and health was restored even after the removal of the ovaries only, the tumour remaining. He doubted whether fibroids often gave rise to hypertrophy of the heart. In pregnancy the heart was very frequently not hypertrophied.

Dr. G. F. BLACKER thought that there were considerable difficulties in determining the causal relationship between a fibroid tumour and organic heart disease. He wished to know upon what number of cases of fibroid tumour Dr. Wilson based his experience. With influenza so common and so often followed by cardiac mischief the previous histories of the cases under discussion were of great importance, for otherwise it would be difficult in any [illegible] instance apart from [illegible] dilated heart was d[illegible] He als[illegible] cardiac hypertrophy [illegible] to Dr. Spencer's view [illegible] the heart were probably [illegible] ss of blood, contended [illegible] heart having to over- [illegible] the extended area of [illegible] s well as the resistance through a tissue so unyielding as a fibrous tumour. In confirmation of this proposition he stated that Dr. Bedford Fenwick some years ago called attention to the fact that a similar hypertrophy and dilatation of the heart were to be observed in many cases of large ovarian cysts where a large increased area was added to the circulation, giving a greater stress of work to the heart.

Dr. WILSON, in reply, said that in the cases recorded in the paper the presence [illegible] appeared to be the only probable [illegible] cardiac condition. In none of the [illegible] history of influe[illegible] [illegible] Dr. Wilson was [illegible] [illegible] removed [illegible] and [illegible] labour, [illegible] Uterus with great [illegible] o Tubercle).

[illegible] (1) [illegible] Uterus with Cancer of the Cervix and (?) Adenoma of the [illegible] Vaginal Hysterectomy; and (2) Myxom[illegible] at the seventh month.

Dr. A. L. GALABIN: Double Pyosalpinx, inter-communicating.

Dr. H. RUSSELL ANDREWS: Imperforate Rectum with Prolapse of the Uterus and Vagina in a child one day old.

OPHTHALMOLOGICAL SOCIETY.

Opaque Nerve-fibres remote from the Disc degenerating after [illegible] Neuritis.—Exhibition of Cases and Specimen.

A CLINICAL meeting of thi[illegible] ciety was held on May 3rd, Mr. G. ANDERSON CRITCHETT, the President, being in the chair.

Mr. E. NETTLESHIP read notes of two cases in which [illegible] ith the ophthalmoscope, but [illegible] the disc by a considerable [illegible] g of one of the cases in [illegible] t the time when it was first [illegible] ormal acuteness of vision. Another drawing taken three years later showed complete atrophy of the optic nerve in consequence of neuritis. The [illegible] ve-fibres could only just be seen, having [illegible] with the rest of the nerve.—Mr. ADAMS FROST had seen a similar case in which with atrophy of the optic nerve the opaque nerve-fibres had almost disappeared.—Mr. R. W. DOYNE mentioned a case which he had seen similar to those described by Mr. Nettleship in which optic neuritis came on. This [illegible] atrophy of the nerve and the patch [illegible]

The PRESIDENT showed a boy for whom he had performed Optical Iridectomies for Lamellar Cataracts. In such cases in which the opacity was central and the vision much improved by dilating the pupil he much preferred this operation to that of removing the lens. After the operation the patient saw [illegible] and J.1.

Dr. REGINALD [illegible] erly woman whose Right Eye on Stooping became [illegible] The sight was defective owing to old ulceration. Under ordinary circumstances there was no enophthalmos. There was a double

mitral murmur. In discussing the cause Dr. Bickerton thought that it was probably a vascular dilatation or else due to the too free communication between the orbital veins with the cavernous sinus (which had no valves).—Mr. DOYNE mentioned the case of a man, aged 25 years, who had suffered from a similar condition all his life. Without any obvious cause he suddenly got most severe proptosis with inflammatory signs in the orbit. These all subsided, but the eye became blind and there was no longer any tendency to proptosis.

Mr. H. E. JULER showed a case of Proptosis with Ophthalmoplegia Externa. Five years ago the patient had a similar attack in the same [illegible] was not impaired. The pain was [illegible] sided. Some proptosis and comple[illegible] persisted. The present attack began early this year. In March severe neuro-retinitis supervened. There was no definite history of syphilis or tubercle. Iodide of potassium had been given but without benefit. The diagnosis of an inflammatory growth intimately involving the optic nerve was probable.—Mr. W. M. BEAUMONT drew attention to what appeared to be a persistent pupillary membrane, and also to the high degree of hypermetropia, due, he thought, to the growth flattening the eyeball from before back.—Mr. NETTLESHIP gave it as his opinion that the retina was really raised by an intra-ocular growth extending from the optic nerve.

Dr. W. T. LISTER showed a case of Macular Coloboma associated with old Choroiditis. He thought that in this case the coloboma was of an inflammatory origin rather than developmental.—Mr. J. B. LAWFORD discussed the matter and was also inclined to look upon the origin as being inflammatory.

Mr. G. S. KEELING (for Mr. JULER) exhibited Dr. Emile Berger's Binocular and Stereoscopic Lenses. The instrument consisted of two decentred convex lenses inclined horizontally to each other. The advantages over a simple lens were said to be the better perception of relief and the fact that little or no accommodation was necessary.

Mr. TREACHER COLLINS showed a boy with a Congenital Notch in the Outer Part of each Lower Lid, with some want of development of the malar bone.

Mr. SYDNEY STEPHENSON showed a child with a Metallic Deposit on the Cornea which probably came about in the following manner. The patient had suffered from trachoma, and for its treatment the solid stick of pure nitrate of silver had been applied by a practitioner who had then washed the eye with sodium chloride. The cornea being abraded [illegible] upon it.—The [illegible] deal if left [illegible] done in order to remove it under six months.

Dr. RAYNER BATTEN showed a girl with Congenitally Displaced Lenses who had also Aniridia and Glaucoma. She was quite blind in one eye and could only just perceive light in the other.

Mr. O. HIGGINS and Mr. A. W. ORMOND exhibited a specimen of a Spindle-celled Sarcoma of the Choroid which had been removed with the eye by Dr. Cole-Baker of Southsea in November, 1897. The patient is still alive and well with no sign of recurrence.

Mr. F. M. OGILVIE showed a patient who Shot himself with a Revolver in the Right Temple on Dec. 6th, 1899; the bullet did not emerge. He never lost consciousness, but the sight of the right eye was immediately lost, while that of the left became reduced. On Dec. 10th the right eye was excised, but it was found not to have been perforated as had been supposed, nor was the optic nerve cut. The vision of the left eye improved from less than $\frac{1}{6}$ to $\frac{6}{9}$ and J 4. Ophthalmoscopically the eye showed a very remarkable central lesion. The disc and vessels were normal, but at the macula was a slightly irregular oval area quite sharply defined and depressed below the surrounding fundus, looking almost as if a trephine had been applied and this part of the retina totally removed, the depression amounting to 3D. The bullet was located with great exactness in the left orbit, the cut in contact with the posterior and nasal sides. A number of very beautiful skiagrams taken by Mr. Mackenzie Davidson were shown illustrating this. Mr. Ogilvie concluded by calling attention to the comparatively small amount of damage done by the bullet in its passage thro' the one orbit to the other.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Laminectomy for Paralysis.—Activity of the Saliva in Diseased Conditions of the Body.—"Cross Infection" in Fever Hospitals.—Exhibition of Specimens.

THE seventh ordinary meeting of this society was held on May 2nd, Mr A. G. MILLER, the President, being in the chair.

Mr. J. M. COTTERILL showed a man on whom he had [illegible] Laminectomy for Paralysis of Fully Two Years' [illegible] The spinal caries began when the patient was [illegible] age and soon marked spinal troubles manifested themselves. The patient had been completely paralysed for six months previously to the operation both for motor and sensory functions. The sensory paralysis extended as far up as the anterior superior iliac spines. The deep reflexes were exaggerated and the superficial reflexes varied. There were two large bedsores on the buttocks, as also a purulent cystitis and incontinence of urine and fæces. Mr. Cotterill first tried the effect of counter-extension for a few weeks but with only very slight improvement. The case being most unsatisfactory operation was decided upon. The laminæ of the eighth, ninth, and tenth dorsal vertebræ with their spines were removed. It was generally stated that the pressure on the spinal cord was not due to bone but to an abscess or granulation tissue which pressed on the cord. In this case as well as in two other similar cases Mr. Cotterill had found that there was marked bony pressure on the cord from exostoses springing from the spinal arch and from the posterior surfaces of the vertebral bodies. The canal was narrowed to such an extent as barely to allow the entrance of a slate pencil. Sixteen days after the operation the patient began to improve first as regards sensation and then motion. Now, a year after the operation, he could walk with the help of two sticks. He retained his urine and passed it normally and was still progressing. It was usually affirmed that cases of paralysis of so long standing were hopeless, but this case proved that such was not the case. At the operation no perceptible caries was found, the disease having evidently been recovered from.

Dr. W. G. AITCHISON ROBERTSON read a paper on the Activity of the Saliva in Diseased Conditions of the Body. He referred to the immense importance of the salivary secretion as an agent in digestion and stated that its potency was [illegible] who studied questions of [illegible] the fallacy which might [illegible] the diastatic power of the secretion the experiments were always performed at the same hour each evening. The individual was made to wash out his mouth thoroughly, and during the succeeding half hour all the saliva which he secreted was received into a vessel and measured. Two cubic centimetres of the saliva were then mixed with 10 cubic centimetres of starch mucilage at the temperature of 33°C., and the mixture was then kept at this temperature for 10 minutes. At the end of this period the condition of the starch present was noted and further action of the ferment was prevented by rapidly boiling the mixture. The amount of sugar which had been formed by the ptyalin was then estimated by titration against standard Fehling's solution. Above 100 cases of disease of various kinds were investigated in order to see if the activity of the salivary ferment had undergone any change. With regard to gastro-intestinal disorders, the average amount of sugar formed in these was 0.060 grammes (the normal average being taken as 0.050 grammes). In chronic gastric catarrh the figure varied from 0.070 to 0.1 grammes. In acid dyspepsia the amount of sugar formed was above the healthy average, while in ulceration of the stomach the amount was generally only slightly below the normal average. In dilatation of the stomach the salivary ferment was found [illegible] to be almost absent or, at least, inactive. In cirrhosis of the liver the amount of sugar was not reduced and in [illegible] cases it was actually increased. In pulmonary [illegible] the salivary ferment was fairly active and [illegible] sugar was formed. In [illegible] the amount of the salivary ferment [illegible] was also [illegible] the [illegible] the salivary ferment [illegible] after the disease. In the [illegible] the salivary ferment [illegible]

was proposed but was refused. On the 27th she collapsed, due to the cyst bursting, and on the 30th uterine hæmorrhage began, the shock having caused abortion, which ran a septic course. Bleeding continued till August 20th. On Sept. 5th the cyst was as large as ever and examination on that day set up an attack of acute peritonitis. On the 9th she was very low, with a falling temperature and a pulse of 140. The cyst was rapidly removed with a large amount of peritonitic fluid and pus gushed from the tube as the pedicle was divided. Owing to the circumstances the abdomen was neither washed out nor drained, but the patient made a rapid recovery.—Dr. A. Emrys Jones showed a case of Angioma of the Conjunctiva.—Mr. William H. Stephenson showed a case of Leontiasis Ossea occurring in a man, aged 27 years. Mr. Stephenson remarked that the patient, who was now married, first noticed a swelling of the left side of the lower jaw when he was 14 years of age. There was then no pain or discomfort. The swelling had gradually increased in size up to the present time. 18 months ago a similar swelling began on the right side of the lower jaw and this also had gradually enlarged. During the last year the nasal bones had become enlarged and the left nostril was almost occluded. For the last two months the patient had suffered from severe neuralgic pains in the lower jaw extending up the left side of the face. The patient had met with an accident when nine years of age by falling from a coach, when the head and face were severely bruised and cut, but the jaw was not injured. The family history was good. No nervous lesion or specific disease was present. The whole of the ramus of the lower jaw appeared to be thickened and hypertrophied. The nasal bones were markedly enlarged, especially on the left side. The left superior maxilla and frontal bones were also enlarged. All the other bones were normal. Very little, Mr. Stephenson said, appeared to be known as to the etiology of this obscure and rare disease. It might occur at any period of life and in either sex. It had been thought to be due to rickets but facts did not support this theory. Injury had been mentioned as a cause. It seldom seemed to affect the cranial bones alone but the superior maxillæ and the bones forming the inner walls of the orbit were frequently affected alone. In the process of growth the affected bones became greatly increased in thickness and density, the open cancellous framework becoming converted into dense, compact bone. Cavities such as the ethmoidal and sphenoidal sinuses became obliterated and the contents destroyed. The orbit, the nose, and the mouth might be encroached upon, with resulting prominence of the eyeballs and blindness, loss of smell, and difficulties of mastication. The symptoms varied according to the position and extent of the new bone formation. Pain was often a marked symptom from pressure on the various nerves. The disease tended to run a slow course, extending over years. No treatment was of any avail, but in unilateral cases or where there was evidence of direct pressure on the nerves resection of a portion of a bone might afford relief.—Mr. E. Stanmore Bishop showed and described (1) an Ovarian Cyst with Twisted Pedicle; (2) two specimens of Fibro-Myoma Uteri; and (3) a large Pyosalpinx.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held in the Medical School, Owens College, Manchester, on April 20th, the President, Dr. J. B. Hellier of Leeds, being in the chair.—The President related a case of Tubal Pregnancy which was removed by abdominal section after rupture at the end of four months. No symptom was observed until the rupture took place. The specimen consisted of a fœtus at four and a half months with a well-developed placenta and sac. The patient made a good recovery.—The President also showed a specimen of retained Menstrual Fluid from a case of Imperforate Hymen. The case was of interest in that the patient, a girl, 15 years of age, with a tumour reaching three inches above the umbilicus, had absolutely no symptoms of pain or pressure. Six pints of this chocolate-coloured fluid were removed after incision of the hymen.—Dr. Lloyd Roberts (Manchester) showed two unusual specimens of large Fibroid Polypi. In the first case a firm mass filled the vagina and blocked the pelvis. The patient had never complained of pain and only slight hæmorrhage had been present. In the second case a tumour of the size of a large fist protruded from the cavity of the uterus nine days after a natural labour at full term.—Dr. Arnold Lea showed a soft fibroid of the size of a child's head which was removed from the vagina of a nulliparous woman, aged 42 years. The growth had caused no symptoms until 12 hours before the operation when severe uterine contractions resembling labour resulted in the discovery of the tumour, which was removed by morcellation.—Dr. Arthur Helme (Manchester) related a case of Ovarian Sarcoma in a Girl, aged 13 years, and showed the specimen with microscopic sections. The tumour was removed in April, 1899. The abdomen had recently again become enlarged and abdominal section showed that masses of soft growth were invading the omentum [illegible] peritoneum.—Dr. Helme also showed [illegible] Fibroma Uteri removed by total abdominal hysterectomy. No drainage was used. Both patients made uneventful recoveries.—Dr. Murray Cairns (Liverpool) showed a specimen of fœtus retroflexus which had caused great difficulty during delivery.—Professor W. J. Sinclair read a short paper on the "Prevention and Relief of Pain in Minor Gynæcology." He referred to the necessity of reducing the pain suffered by women in the minor manipulations and operative procedures. In some cases, also, women were very reluctant to submit themselves to total anæsthesia. In many cases operative me[illegible] slight pain by the use of a [illegible] morphia, alcohol, and cocaine locally. The administration of two ounces of alcohol, disguised if possible, and followed by a hypodermic injection of morphia had an excellent effect in diminishing sensitiveness. Under their influence curetting, intra uterine medication, Emmet's operation, and perineorrhaphy could be readily carried out. Cocaine should be used in a 10 per cent. solution locally and in his experience had never produced any toxic symptoms.—Remarks were made by Dr. J. W. Martin, Dr. J. P. Stallard, Dr. H. Briggs, and the President.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—A meeting of this society was held at 20, Hanover-square, W., on April 26th, Dr. H. Radcliffe Crocker, the President, being in the chair.—Dr. C. F. Marshall showed a case of Lupus Erythematosus in a woman.—Mr. G. Pernet showed a case of Rodent Ulcer in a man.—Dr. T. D. Savill showed a woman with Ecchymoses on the Legs, the result of subcutaneous hæmorrhages. Small ulcers were situated in the centre of some of the ecchymoses, which were said to have followed bullæ.—Dr. Savill also again brought forward the case which he showed at the last meeting—namely, a case of Papular Eruption on the Face resembling a sweat gland acne. The eruption had latterly extended to the trunk and was more pronounced on the face than when last shown.—Dr. A. Eddowes showed a case of Pityriasis Rubra developing on Eczema with scaling and much pigmentation.—Dr. W. B. Warde showed (for Dr. P. Abraham): (1) A case of Acne in a Young Man affecting the face, the trunk, and the outer side of the thighs; and (2) a case of Folliculitis of the Legs in a Youth.—Mr. Pernet showed some Cultivations of the Fungus of Tinea Nodosa and Tinea Versicolor.—Dr. Warde showed a number of Cultivations from Large-spored and Small-spored Ringworm.

Reviews and Notices of Books.

Electro-physiology. By Dr. W. BIEDERMANN of Jena. Translated by FRANCES A. WELBY. Vol. II., with 149 figures. London: Macmillan and Co., Limited. 1898. Pp. 500. Price 17s. net.

FEW men are better qualified to write a treatise on Electro-physiology than the well-known professor of physiology at the University of Jena, whose name is familiar to all for his work in this and kindred subjects and whose observations and conclusions are frequently referred to by the Germans as of accuracy, weight, and authority. The translation made by Miss Frances Welby is very good and we are scarcely ever reminded that it is a translation. The previous volume contained the first five chapters of the entire work.

The present volume commences with an Account of the Electromotive Actions that have been Observed in Vegetable Cells, summing up the observations of Jurgensen on Vallisneria; Hermann, Kunkel, Heake, and Munk on the

leaves of various plants; and of Burdon Sanderson on those of the Dionæa muscipula. A short chapter is devoted to the Structure and Organisation of Nerve and a remarkable illustration is given showing the wonderful ramification

each other. The electrical excitation of nerve is next considered, which, of course, includes the phenomena of electrotonus. The laws of excitation of nerve and contraction of muscle advanced by Ritter and Pflüger are discussed and, s followed by he current of action.

The most interesting cha which treats of Electrical lected all the principal i in regard both to the ar electrical organs. Long kn either in the form of the of the Siluros in the Nile, Redi who first made us features of the electric org the remarkable statement muscle, a view that subsequent inquiry has tended to confirm. The discovery of the Malapterurus in the rivers of Senegal by Adanson and of the Gymnotus by the Dutch explorers in Surinam further stimulated the interest of leading physicists and naturalists, and valuable anatomical researches were made by Savi, Du Bois Reymond, Hunter, Pacini, Sachs, Fritsch, and many others, amongst the latter being those of Burdon Sanderson and Gotch. Faraday, who was fortunate enough to be one of the first to examine the most powerful of all electrical showed that he could obtain fr which he laid down as essential to the identity of all forms of electricity—viz., sparking, heat, attraction and repulsion, magnetism, hydrolysis, and physiological action. The one exception was failure of conductivity through flame. The whole of this chapter is full of interesting details both in regard to the structure and the functional activity of the electrical organs in the above named fishes.

The last chapter is occupied with an account of the electro-motive phenomena observed in the eye as the result of sudden exposure of the eye to light and its sudden withdrawal. The chief observations on these points have been made by Kühne and Steiner and by Dewar and M'Kendrick, and Dr. Biedermann considers that it may be accepted as a fact that the epithelial elements or true sensory cells are the seat of the electro-motor activity.

The treatise may be regarded as the best work on electrophysiology extant, and its contents should be thoroughly mastered by all those who wish to advance and render more accurate the somewhat meagre and uncertain indications for the application of electricity in disease. It is obvious that there is a large field for observation in this direction, and remembering that the functional activities of nerves themselves are not easily calculated, that the structure of the electrical organs resembles that of muscle, and that there are many points of analogy between nervous and electrical discharges, it does not seem unlikely that various forms of paralysis hitherto regarded as incurable might be relieved or cured by the appropriate and more or less persistent employment of electrical currents. We ought to add that at the end of each chapter there is an excellent bibliography.

The Treatment of Pelvic Inflammation through the Vagina. By WILLIAM B. PRYOR, M.D. With 110 Illustrations. London: Rebman. 1899. Crown 8vo. Pp. 243. Price 8s. 6d. net.

As Dr. Pryor very truly says in his preface, there exists the utmost confusion in the profession at the present day regarding the most successful means of treating pelvic i ons. Any attempt, therefore, to increase our of this important subject and at the same time to reduce the principles of its treatment more certain is to be welcomed.

The will be called an enthusiast for the operatic by the original re to be said for this view. stress is laid upon the importance of determining whether the discharge is and the immediate necessity if The latency of gonorrhœal an the fact that producing pathological dis the mind of the physician d or to operate upon the endometritis irrigation of h's solution, to be followed solution, is recommended, 12 hours if necessary. If al symptoms do not improve ared. In cases of peripheral infection if four hours after the injection the temperature is not normal the uterus is again irrigated and packed with iodoform gauze. If 24 hours after the treatment fever is still present the uterus is curetted and packed with iodoform gauze.

In all cases of sepsis where curettage is performed because milder measures have failed to relieve the patient Douglas is opened at the same time. This operation consists in opening the peritoneal cul-de-sac, separating with the fingers any adhesions that may have already formed about the appendages, and filling up the pelvis to the level of the Fallopian tubes with strips of iodoform gauze. The vaginal and uterine plugs are removed after three days, while the pelvic dressing is taken out after seven days and replaced by fresh gauze. This dressing is renewed every four to seven days until the wound closes. Large quantities of muddy serum drain away through the gauze and when necessary the patient is given hypodermic injections of strychnine and rectal injections of salt solution.

As a result of bacteriological examination the author has found that whenever streptococci have been present and even when the peritoneal cavity contained pus the dressings have absolutely sterilised the operation field. This result is usually accomplished by the third dressing. Curettage is recommended for cases of acute gonorrhœal endometritis, whether seen early or late. The descriptions given of the various forms of pelvic inflammation are good and clear. Dr. Pryor differs from most gynæcologists in refusing to recognise the condition usually described as pelvic cellulitis, although he describes broad ligament abscess, which is supposed to be the result of pelvic cellulitis.

The practice of applying strong caustics to the pelvic cellulitis after curettage is always condemned. The operation of vaginal section as practised by him is carried by the author to operations the two chief difficulties in separating the posterior vaginal through the rectovaginal, the presence of the uterus and the presence of the intestines. The patient is placed in the lithotomy position. After opening Douglas pouch by the knife through the posterior vaginal wall, the presence of the uterus is determined with the finger, the patient is placed in the Sims' position. A [illegible] is made in the posterior vaginal wall, the posterior lip of the uterus is now made. After [illegible] the posterior lip of the uterus

blood a visual inspection is carried out. The vagina and posterior edge of the incision are drawn backwards by a Péan's retractor, and a Péan-Pryor trowel is inserted behind the uterus. By this means the uterus is pushed up behind the symphysis pubis and out of the pelvic cavity, and by manipulation of the trowel the adnexa of first one side and then the other are readily brought into view and can be dealt with. This method of vaginal exploration is satisfactory in all forms of adnexal inflammation and ovarian neoplasms. The only two conditions recognised by the author as contra-indications are an ectopic gestation which has ruptured into the broad ligament and intra-ligamentous fibroid tumours. He concludes that the operation is far preferable in cases suitable for its employment to both abdominal section and anterior colpotomy. The ease and certainty with which the pelvic organs can be explored by this variety of vaginal section enable an operator to treat a much larger number of cases by conservative measures than was formerly the case, and Dr. Pryor utters a very strong plea for such treatment in all cases that offer a chance of success. The pathological conditions for which Dr. Pryor usually does a radical operation are as follows: diffuse pelvic suppuration; genital sclerosis; puerperal pyosalpinx in women over thirty years of age; relapses after conservative op[illegible] losis; chronic metritis with infected [illegible] operations; abdominal sinus left [illegible] ectopic gestation or unruptured and associated with adnexal disease on the opposite side; and small bilateral ovarian cystomata. He occasionally performs a palliative operation in diffuse pelvic suppuration, ovarian abscess, and cases of pelvic suppuration where the general symptoms are too grave to warrant an immediate ablation. For other pelvic conditions he usually employs conservative measures. The method of performing vaginal ablation *en masse*, vaginal ablation with hemisection of the uterus ("division of the difficulties by division of the uterus," as the author happily puts it), and vaginal ablation with morcellation are all fully and clearly described.

The book is well written and the illustrations are good. The whole gives a good account of the methods of treating inflammatory and other conditions of the pelvic regions through the vagina, and will certainly do a great deal to help to settle the vexed question of abdominal *versus* vaginal section. We have perused the book with pleasure and we recommend it to all those practitioners who are interested in pelvic surgery.

A First Book in Organic Evolution. By D. KERFOOT SHUTE, A.B., M.D., Ophthalmic Surgeon to the University Hospital (Columbian), Professor of Anatomy in the Columbian University. London: Kegan Paul, Trench, Trübner, and Co., Limited. 1899. Pp. xvi., 285. Price 7*s.* 6*d.*

ALTHOUGH this book has been written, as may be read in the preface, primarily for the use of students in the medical department of the Columbian University, the requirements of the more general public have not been neglected; as the author very truly observes, "no one who aspires even to a moderate degree of intellectual culture can well afford to exclude a clear understanding of what this doctrine of evolution really is." He then expresses the hope that "this little work will render such a conception easily attainable." Without doubt it will, for the author has succeeded in setting forth a very clear account of his subject without entering into a mass of detail which probably would have an interest only for the reader more deeply versed in the subject than those for whom this work has been written.

A few words as to the arrangement. The volume has been conveniently divided into sections, each of which deals with one branch of evolution. Naturally the first section describes the cell, including a brief account of the more important facts [illegible] and considering in some detail variou[illegible] and animals. In this same section is an account of the maturation of the human ovum, fertilisation, and subsequent segmentation and the formation of the germinal layers.

Section 2 deals with Heredity with Variation. The examples and illustrations given are extremely clear and cannot fail to bring home to the reader exactly what is meant by these terms. A brief account of the Bach family is given as an illustration of mental heredity, and to illustrate the inheritance of moral character the well known work of Mr. Dugdale, "The Jukes," is made use of. The theories relating to the transmission or non-transmission of [illegible]ers are very clearly stated. Sections 3 [illegible] geological; the former treats of Unstable [illegible] illustrated by the development of the [illegible] North America, and the latter gives an account of the Transmutations of Living Forms, exemplified by a brief history of organic life as recorded by the rocks of bygone ages.

Space forbids us to consider the remaining sections in detail; suffice it to state that they enter into the consideration of natural selection and the evolution of man. A synopsis of the animal and vegetable kingdoms occupies Section 7. The classification of animals has been well done, but that of plants is, in our opinion, too scanty and the characteristics of each group are too briefly given; in fact, in some cases the sub divisions are not characterised at all—for instance, sub-dividing the phanerogams into gymnospermæ and angiospermæ is of very little value unless the characters of each group are described; this has not been done and although this work, taken as a whole, is very good, the botanical portions leave much to be desired. A few examples will suffice to show this. On page 138 the sporogonium of a moss is described as a seed capsule. The use of the word capsule is not objected to, but the spores should not be termed seeds. Then again on page 160 we read, "The stamens are the male elements," and on the page following "The ovary of a pistil has a number of cells in it called ovules (female germ cells)." An improvement is needed here.

The illustrations are both excellent and numerous, there being 12 plates, 10 of which are coloured, and 27 figures in the text; in brief, the get-up of the book leaves nothing to be desired.

LIBRARY TABLE.

Midwifery Notes for the Use of Students. By T. A. GLOVER, M.D. Edin. Crown 8vo, with Illustrations. Edinburgh: E. and S. Livingstone. 1900. Pp. 95. Price 2*s.* 6*d.* net.—If any adequate reason is to be brought forward for the production of such a book as this short sketch entitled "Midwifery Notes for the Use of Students" it must be the fact that the work presents the elements of midwifery practice in a clear, condensed, and accurate form. Examined by this standard the book under consideration can hardly be said to justify its existence. The first chapter treats of the diagnosis of pregnancy. Not a word is said about the changes that occur in the uterus and the cervix, and after reading the chapter the student would be quite unable to attempt the diagnosis of a case of pregnancy of three and a half months duration. The book is short, sketchy, in many respects incomplete, and there are several statements to which we must take exception. Amongst these are the implied condemnation of a midwifery bag with a moveable lining which can be boiled, the advice to students to carry a pair of forceps, the assertion that the chin becomes flexed on the sternum at the commencement of labour, and that the poison of scarlet fever produces septicæmia. In the chapter upon

hæmorrhage before delivery not a word is said about accidental hæmorrhage. In considering the treatment of cases of rigidity of the cervix the author omits all mention of the use of hydrostatic bags, a much safer and better method of dilatation than the one recommended by him of making incisions. We do not at all agree with the use by students of such books in preparing for examination, and we are strongly of opinion that the custom mentioned by the author of students being allowed to attend midwifery cases before they have reached the practical part of their studies should never be permitted.

Burdett's Official Nursing Directory for 1900. London: The Scientific Press, Limited. Pp. 685. Price 5s.—This useful book does not pretend to be official in the same sense as that in which the Medical Register may claim to be, but it "states the facts as nearly as they can be ascertained" and is edited by an editorial committee. Besides being a directory of nursing compiled on the lines of the admirable Medical Directory it gives an outline of the principal laws affecting nurses, a list of general and special hospitals together with Poor-law infirmaries which train nurses, a list of nursing institutions, both managed by a committee and otherwise, and lists of Government departments, hospitals, and institutions which employ but do not train nurses. There are also given details of colonial, American, and foreign hospitals and nursing institutions, a list of training schools for attendants on the insane in the United Kingdom and in America, and an account of provident funds, examining bodies, and the like which have to do with nurses. We are so often asked questions upon the matters with which this book deals that we welcome its third appearance in an enlarged form.

Home Nursing. By EVELYN HARRISON. New York and London: Macmillan and Co. Pp. 229 and index. Price 4s. 6d.—This is an admirable little book, with one exception, to which we shall refer later. It is written for the use of those who cannot afford a trained nurse and the directions which it gives are put down in plain and simple language. Of course, reading instructions upon how to make a bed is a very different thing from carrying them out, but still any person with an ordinary amount of common sense should be able after a few trials to act as an extempore nurse after reading Miss Harrison's book. The passage to which we take exception occurs upon pages 176 and 177 in the chapter on Poisoning: "When anyone is poisoned and you are not sure of the antidote do not hesitate a moment, but give an emetic of some kind while awaiting the arrival of the doctor." Various simple emetics are then mentioned quite harmless in themselves. The writer then goes on: "The antidote for acid poisons, such as *carbolic acid, nitric acid, oxalic acid*, is as follows: after vomiting has stopped give two or three glasses of milk and lime water. . . For alkaline poisons, such as *ammonia, lime, saltpetre*, after vomiting give lemon juice or vinegar . . ." This to our minds is a plain direction that an emetic should be given in cases of poisoning by either corrosive acids or alkalies and such a mode of treatment is, as every medical man knows, absolutely wrong. We might also mention that in this country, at any rate, the term "saltpetre" means nitrate of potassium, which is not an alkali; but possibly the word in America means pearl ash or some caustic alkali of a similar kind. On page 61 Miss Harrison recommends trional. Proprietary remedies should not be recommended in even popular medical books. The recipes at the end of the book are good for the most part, but we must confess that the following one puzzles us (page 222). "Thick Milk.—Put a quart of milk away in a cool place in a wide basin until it becomes thick and smooth like jelly." Directions then follow for serving the milk as jelly is served. Clearly Miss Harrison has omitted the mention of rennet or some ferment of a similar kind. Milk put away by itself will certainly turn sour and coagulate, but not in the smooth clot. These points are but faults, but the poison question is very serious.

The Medical Annual and Practitioner's Index; a Work of Reference for Medical Practitioners. 1900. Eighteenth year. Bristol: John Wright and Co. Pp. 729. Price 7s. 6d. net.—We welcome the appearance of this useful annual. Though smaller than some of its more ambitious competitors, it is also more manageable and certainly contains as much as the busy practitioner will find time to read and all that he wants to know of the progress of medicine and surgery during the past year. We have so many times spoken favourably of this work that it is not necessary to say more than that this year's volume is equal, if not superior, to those that have gone before. The list of contributors is sufficient to prove to anyone the trustworthy nature of the information furnished. As in previous issues, numerous illustrations, coloured and plain, accompany the text. It is somewhat invidious to mention particularly any special article where all are so good, but we would like to draw attention to the account of Mycetoma ("Madura foot"), by Lieutenant-Colonel W. K. Hatch, I.M.S. The first 60 pages are devoted to a description of new remedies which are arranged in alphabetical order so that reference is easy. In this section there is a very good account of toxins and antitoxins and the nature of "immunity," acquired and congenital, is clearly described. The main portion of the book is occupied by a description of the advances during 1899 in our knowledge of the various diseases. These are arranged alphabetically. Progress in pathology is noted, but most attention is paid to advances in therapeutics. Then follow sections on (1) legal decisions affecting medical men; (2) sanitary science during the year; (3) new inventions and pharmaceutical and dietetic articles; (4) medical and surgical books of the year; (5) a list of lunatic asylums and homes for inebriates; and (6) nursing institutions. A few pages at the end are left blank for notes.

JOURNALS AND REVIEWS.

The Journal of Physiology. Edited by Sir MICHAEL FOSTER, K.C.B., M.D. Cantab., F.R.S., and J. N. LANGLEY, Sc.D., F.R.S. Vol. XXV. No. 4. London: C. J. Clay and Sons, April 24th, 1900. Price 6s.—In addition to the Proceedings of the Physiological Society for the last four meetings this part contains six articles—viz.: 1. J. A. MacWilliam, M.D. Aberd., Professor of Physiology in the University of Aberdeen, Further Researches on the Physiology of the Mammalian Heart, in which the author discusses and gives graphic tracings of the influence of chloroform upon the rate of the heart-beat, with some observations on the effects of acid gas. 2. Joseph Barcroft, M.A., B.Sc., Fellow of King's College, Cambridge, The Gaseous Metabolism of the Salivary Gland. This preliminary article deals with methods of conducting the inquiry and a description of an apparatus for gas analysis, some modifications of the usual methods being required on account of the small quantity of blood obtainable in experiments on this gland. 3. W. A. Osborne, Assistant in Physiology, Cambridge; and Sydney Vincent, Assistant Professor of Physiology, University College, London. On the Physiological Effects of Extracts of Nervous Tissue. The authors find that extracts of nervous tissue when previously injected produce a marked fall in arterial blood pressure, the fall occurring after an interval of [illegible] and after the administration of all parts and nerves [illegible] the extracts of nervous tissue [illegible] first affected. The depressor substance [illegible] 4. [illegible] Physiology, University College, London. On the Physiological Action of Extracts of Nervous Tissue. [illegible] 5. [illegible] Physiology, University College, London. [illegible] 6. [illegible] John Harrison, M.D. [illegible]

the fact that the combined oxygen is liberated rapidly and completely on addition of solution of potassium ferricyanide to laked blood and may be easily measured. 5. Ivor Ll. Tuckett, Fellow of Trinity College, Cambridge: Note on the Regeneration of the Vagus Nerve. The author finds that after section of the vagus all the fibres will in time recover their function. 6. F. Gowland Hopkins, M.A., M.B., B.Sc. Lond., University Lecturer in Chemical Physiology. On the Separation of a Pure Albumin from Egg-white. This article contains the result of a long and careful research.

The Medical Examiner.—In the April number of this new monthly journal, which deals almost exclusively with questions of life assurance, the principal article is on the Selection of Lives for Assurance. It is based on a paper read before the Newcastle Insurance Company by Mr. William Hughes, F.I.A., of the Prudential Assurance Company, and contains some useful practical hints. The *Medical Examiner* is published by Messrs. Walbrook and Co., Limited, 14, Whitefriars street, E.C.

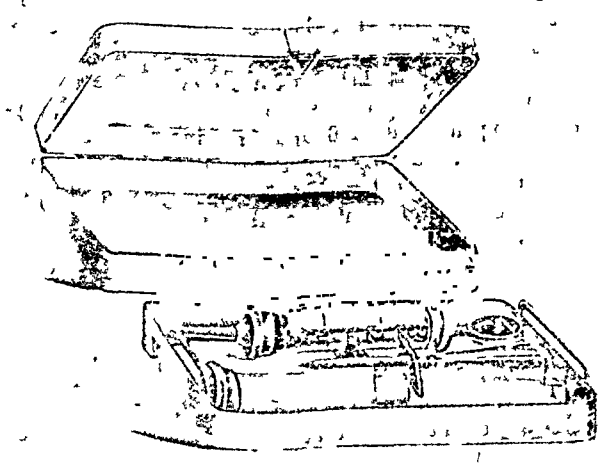
The Journal of the Sanitary Institute, which is published quarterly, contains in the number dated April, 1900, a continuation of the report of the congress held at Southampton last year. Among other papers of interest are those upon Smoke Abatement contributed respectively by Mr. Brailey Hodgetts, a municipal representative, and Dr. Joseph Priestley, a medical officer of health. Dr. C. L. Birmingham of Sheffield read a remarkable paper upon Gannister Disease. This is a form of diffuse fibrosis of the lungs which prevails among those employed in working a specially hard form of rock known as gannister. The mortality rate amongst gannister grinders is appalling—namely, 179·8 per 1000 per annum. In the section alloted to medical officers of schools Dr. J. F. L. Whittingdale, the medical officer to Sherborne School, read a paper upon the question of the Advisability of Allowing Junior Boys to Compete in Long-Distance Races. He quoted instances of two boys running in the junior steeplechase over a course of two and a half miles who afterwards developed marked symptoms of heart strain. The entries were limited to boys under 15 years of age. He had examined at an interval of three months afterwards all the boys who ran in the last race, which took place previously to the reading of his paper. Two boys complained of palpitation and faintness coming on without apparent cause, three others complained of the same sensations after running, and in eight cases there were signs of slight hypertrophy of the heart.

The Quarterly Journal of Microscopical Science. Edited by E. RAY LANKESTER, F.R.S., ADAM SEDGWICK, F.R.S., W. F. R. WELDON, F.R.S., and SYDNEY J. HICKSON, F.R.S. London: J. & A. Churchill. 1900. New Series, No. 170. Vol. XLIII., Part II. Price 10s.—The articles contained in this number of the Quarterly Journal of Microscopical Science are:—1. On the Reaction of Daphnia Magna, Straus, to Certain Changes in its Environment, by Ernest Warren, D.Sc. 2. A Revision of the Genus Steganoporella, by Sidney F. Harmer, Sc.D., F.R.S. In making this revision Dr. Harmer has availed himself of the collection of polyzoa brought home recently from Torres Straits by Professor A. C. Haddon and both describes and figures many new species of the genus. 3. On a New Histriobdellid, by William A. Haswell, F.R.S. This minute animal was found in large numbers by the author in the branchial chambers of the fresh-water crayfish, astacopsis tasmanicus, in Tasmania, and he has named it "histriodrilus tasmanicus." The anatomy of the animal is illustrated by numerous drawings. Its affinities are not very certainly made out, but it exhibits various points of resemblance to rotifers, turbellaria, and to chætopods. 4. On Spongiophaeophyrin: the Pigment of Suberites Wilsoni, by C. A. MacMunn, M.D. The spectroscopic bands of the colouring matter dissolved in various solutions are given. 5. Further Remarks on the Development of Amphioxus, by E. W. MacBride, D.Sc. Lond., Professor of Zoology in M'Gill University, Montreal. 6. Quelques Observations sur les Onychophores (Peripatus) de la Collection du Musée Britannique, par M. E. L. Bouvier, Professeur au Muséum d'Histoire Naturelle de Paris. 7. On the Diplochorda, III., The Early Development and Anatomy of Phoronis Buskii, McI., by Arthur T. Masterman, M.A. Cantab., D.Sc. Lond. In the course of this article the author makes the following remarks. The phyletic history of an organ appears to consist of the following steps: (1) the function and structure are co extensive with the organism itself or are very early limited to either the endoderm, esoderm, or mesoderm; (2) the function becomes concentrated in a certain part of the primary layer and the part itself then becomes differentiated structurally from the rest of the layer; and (3) the function is so fully defined as apart from that of the primary layer as a whole that the organ also becomes organically separated from the parent layer. In a natural group it is to be expected that the lower members will exhibit stages 1 and 2 of organs which are in stage 3 in the higher.

New Inventions.

IODISED PHENOL ASEPTIC HYDROCELE OUTFIT.

MESSRS. ARNOLD AND SONS have constructed for me an iodised phenol aseptic hydrocele outfit, consisting of a trocar without shoulder and a cannula without a split and with finger-grips at its upper end; a syringe with a thumb hole in the upper end of the piston rod, easily taken to pieces for cleaning; and a small bottle with metal cap for carrying the iodised phenol. All of these fit into a metal rack which can be removed from the metal case and are then ready for use. The trocar resembles the ordinary trocar in every respect with the exception that the point is conical and not bayonet-shaped and without shoulder. The conical point fits



tightly into a metal cannula tapered slightly at the lower end so as to receive the conical-shaped end of the trocar, and thus a continuous conical surface is formed without shoulder and without split in the cannula. A split in the cannula is objectionable, as after a little wear the split does not close completely and so allows a small quantity of the solution injected to escape into the surrounding tissues which is apt to produce an extensive sloughing of the scrotum. The finger-grips on the cannula serve to fix it tightly on the trocar or syringe when in use. The amount of iodised phenol injected into a hydrocele of the tunica vaginalis of an ordinary size is one drachm, but the amount required depends upon the size, and the experience of the surgeon soon enables him to judge correctly of the proper amount. Before using the trocar and cannula the point should be lubricated with a little carbolised oil or vaseline. FREDERICK DEANE

Barbados.

THE LANCET.

LONDON: SATURDAY, MAY 12, 1900.

THE address of Dr. W. THOMAS, President of the New Zealand Branch of the British Medical Association, to the annual meeting of the Branch held at Christchurch, and published by us last week, will be read by many practitioners at home with a full sense that "Distance lends enchantment to the view." As we are apt to become enamoured of far-off days and their chivalrous and unselfish deeds, placing them far above the level of those of our own prosaic times, so there is a tendency in our colonial brethren to compare their own lot with ours and to conclude that the advantage is not on their side. Apart from the justice of this comparison and the conclusion reached the address is worthy of study by all medical practitioners. It goes to the root of many questions arising out of the relation of medical practitioners to the public, and deals with them in a spirit of much thoughtfulness and on the strength of an experience extending over 30 years. The mere enumeration of these questions will show how thoroughly the subject has been analysed and how impartially Dr. THOMAS has apportioned the blame for any defects and faults in our relations with the public, between the public on the one hand personified in "The Layman" and "The Medical Practitioner" on the other. Under the head of "The Layman" he deals with "instinctive antagonism of the layman to us as a class," "the objection made to our fees as too high, driving patients to the chemists," "lessened sentiment and ingratitude," "inability to understand medical ethics," and "craving for specifics and encouragement of quackery." Under the head of "The Medical Practitioner" he treats of "our jealousy of each other," of "popularity-hunting," of "pandering to the wishes of the patient," of "the contract to cure," and of "the acceptance of easily dispensed proprietary preparations."

The most suggestive of Dr. THOMAS's themes is the first, in the title of which he alleges on the part of the layman "an instinctive antagonism" to our profession. We confess to extreme doubt on this point, and, at any rate, to an extreme reluctance to believe in any such deep prejudice against men of our calling. Dr. THOMAS labours with ingenuity to explain the existence of this feeling in the layman against the medical man and attributes it to a sort of grudge in men against their physician for finding out their weaknesses and for prescribing medical and physiological limits to their freedom of action. There is something in these points, but they do not justify the sweeping charge of an "instinctive antagonism." In what community should we look for the manifestation of such a feeling? Not in barbarous communities, for their disposition is rather to magnify, and even worship, "the medicine man." Again, in over-cultivated Greece ÆSCULAPIUS was worshipped everywhere and the cult was introduced into Rome. Modern society, if not so flattering to physicians, is not unconscious of the debt which it owes to medical science and its representatives. The "man in the street" to whom all questions are now referred has no intrinsic or instinctive disrespect to the medical man. We are persuaded that as compared with the reverence entertained for other professions that felt towards the medical profession is deep and general. In crowded cities and in remote hamlets this is equally the case. We agree with Dr. THOMAS that the profession itself is sometimes unmindful of its own dignity. It makes itself too cheap; it is tempted to adopt the ways of the world and of trade and to vaunt itself in advertisements; it is unfaithful to itself and often to its best members who vindicate its claims. These are reasons enough for defective respect on the part of the community. There are others, as he suggests. Our art is still very imperfect. In respect of many diseases it is still comparatively powerless. Epidemics and plagues and cancer still rage among the nations, imperfectly controlled by the medical profession. We can only detect certain diseases, and in doing so pronounce a kind of verdict on the unhappy patient, who finds in the ignorant quack no such limitations of function, but rather an unfailing power of diagnosing a disease and an equally unfailing ability to prescribe. But in spite of the limitations of legitimate medicine men of all nations and classes respect the medical art and, often in spite of himself and his defects, respect the medical practitioner.

Dr. THOMAS's address will indicate to every member of the medical profession the errors into which he is apt to fall in a somewhat noisy age, and the discredit that he may bring on his profession by any failure in personal character or in professional methods. Those who are least likely to err will be most grateful to him. His remarks on the mutual jealousy of medical men, on popularity-hunting, on pandering to the wishes of patients, and on contracts to cure cannot be too deeply pondered by our readers. He attributes some of these faults to the absence from the curricula of medical schools of all teaching on the ethical aspects and traditions of the profession. There is some truth in this view and Dr. THOMAS is not the first critic who has pointed out the defect. We commend his complaint to the consideration of those engaged in medical education. Lastly, Dr. THOMAS brings a charge against the public of an inadequate sense of the value of medical service is founded upon fact. The feeling towards sometimes to positive rudeness and is by no means confined to the poor. Dr. THOMAS attributes it largely to the demoralisation of the public by the professional fraud through his charges, which is helped and [illegible] attendance, and club and contract practice. The poor [illegible] and when an ethical element is brought into the transaction of [illegible] will perhaps begin by explaining how it is that the [illegible] as a class with some honor [illegible] the [illegible] path and his to fight almost alone for the [illegible] hospital alone and for the [illegible] of better [illegible] the [illegible] and [illegible]

saying that the evils which he depicts are greater in the Colonies than at home. But they certainly exist here in great force.

THE Conference which was convened by the Manchester Medical Guild to ascertain the opinions of the medical profession on certain questions of medical reform and organisation came to an end on May 3rd, having commenced to sit on May 1st. An account, though necessarily not an absolutely verbatim report of the proceedings, will be found in another column, as well as in our issue of May 5th, while we would point out to our readers that the addresses of the three Direct Representatives of the profession upon the General Medical Council—namely, Mr. VICTOR HORSLEY, Mr. GEORGE BROWN, and Dr. JAMES GREY GLOVER—are printed in full. These addresses respectively dealt with matters very important to the profession. Mr. HORSLEY considered the Medical Acts; Mr. GEORGE BROWN treated the question of Medical Charities in their Relation to the Public and the Profession; and Dr. GLOVER, though calling his paper "Some Debated Points in Medical Politics," descended from the general to the particular and delivered himself of a sober and reasonably argued apologia as to his position with regard to the Midwives Bill. Mr. HORSLEY and Mr. BROWN said much that was true and nothing that was new, although this statement in no way means that we think their words unimportant. It is only by constant reiteration that any reforms have ever been obtained and the more constantly the need for them is brought before the medical profession the more likely is it that the profession will obtain its desires. Only there must be a clear and definite understanding as to what is wanted.

Now with regard to the Midwives Bill the discussion upon Dr. GLOVER'S paper to our minds at least showed that many members of the Conference did not know what they wanted. Dr. GLOVER pointed out that, firstly, midwives exist; secondly, that the untrained among them are a danger to lying-in women; and thirdly, that those who object to the legal regulation of the practice of midwives altogether are bound to find some other measures to prevent the tragedies that now happen. With respect to present legislation Dr. GLOVER considered that there were two alternatives before the profession. Either it might accept the legislation on the present lines with the safeguards which would be drawn up by the Midwives Board, or, on the other hand, the profession might possibly defeat the Bill. In the latter case the Government might say practically, "We will have nothing more to do with the medical profession and will create a perfectly independent class of midwives who shall lay down their own rules and carry out their own discipline." And we agree with Dr GLOVER that under such an innovation the position of the medical profession would be worse than under any Midwives Bill as yet put forward. In the discussion which followed upon Dr. GLOVER'S address it was evident that certain delegates disapproved *in toto* of the present Bill, and, indeed, of all legislation on the matter, except such as should give effect to their views of rendering all midwifery practice by unqualified women absolutely illegal. How this result was to be brought about they did not explain. Other speakers, though not approving of the present Bill, agreed on the necessity for legislation of some kind on the matter. We have said that Dr. GLOVER'S defence of his position was sober and reasonably argued; but we hold no brief for Dr. GLOVER nor do we, as a reference to our former remarks upon the question of the registration of midwives in general and Mr. TATTON EGERTON'S Bill in particular will show, agree with his views. He is of opinion that all the difficulties which will arise in the course of events, supposing that the Bill passes unchanged by the Standing Committee on Law, may safely be left to the judgment of the Midwives Board. This hope is, we think, too sanguine. The all-important question of the point at which the functions of the midwife end and those of the medical man begin requires settlement, and upon this point depend other matters of no slight importance, such as the obligation of the midwife to send for a medical man and the obligation of the sanitary authority to make such arrangements as shall ensure that the help of a medical man shall be forthcoming when required. We are of opinion that Dr. GLOVER will find the Midwives Board unable to settle such large matters as these with satisfaction to the medical profession.

Our Special Commissioner in another column draws attention to the constitution of the Conference in an article which contains many valuable suggestions. We would beg the impetuous school of reformers to read this communication and to ask themselves whether the undisciplined abuse of all that they do not like really tends to bring about any changes. A conference on medical organisation should not be, to use our Commissioner's words, a "mere meeting to air grievances," and this is what the Manchester Conference, in many of the debates, degenerated into. At the same time we wish to bear evidence to the sincerity of purpose of many of the speakers and to their real belief that opposition to the Midwives Bill is the right course to pursue not only from a professional point of view but for the good of the public.

THE auxiliary scientific investigations undertaken by the Local Government Board during the past years have yielded results of extreme interest. These investigations are described at some length with experimental details in the supplementary report for 1898–1899 recently issued above the signature of the late medical officer, Sir RICHARD THORNE. The first contribution is by Dr. KLEIN, who has been very busy in attempting to throw fresh light on the fate of pathogenic and other infective microbes in the dead animal body. The experiments were undertaken with the view of setting at rest the important question as to whether graveyards and cemeteries could become a source of risk to health by the contamination of the water-supply with pathogenic organisms from persons dead from specific disease and buried in these areas. The tests were made with the bacillus prodigiosus, the staphylococcus pyogenes aureus, the cholera vibrio, the typhoid bacillus, the diphtheria, tubercle, and plague bacillus, and the bacillus enteritidis sporogenes. The results tend to show that the popular belief that the microbes of infectious disease retain their vitality and power of mischief within dead and buried bodies for indefinite periods is unfounded. Indeed, in the case of the guinea-pig, buried at from 18 inches to 24 inches beneath the surface

[illegible] microbes pass away in a comparatively short time. A month is sufficient for this result, which, therefore, is a period long before the coffins containing the buried bodies have shown any indication of leakage. The same result appears in the case of bodies buried directly in earth or in sand, and Dr. KLEIN suggests that, in this instance the vitality and infectiveness of the pathogenic organisms contained in the viscera have passed away long before the outer skin has become permeable by them. Again, it is conceivable that the destructive action of the putrefactive microbes from without wou[illegible] the exit of pathogenic microbes [illegible] to what may be the essential cause or causes of this process of rapid destruction of the vitality and infectiveness of pathogenic microbes in the interior of a dead body Dr. KLEIN hazards the answer that perhaps in the struggle the more favoured bacillus cadaveris soon becomes ubiquitous and ousts the others, or that possibly some chemical metabolic products, elaborated by other more favoured microbes in the course of their growth and multiplication, operate as a poison on the pathogenic microbes. We have in these suggestions a striking example of the keen competition that appears to be ever raging around us on the part of specific non pathogenic bacteria to obtain the upper hand over pathogenic bacteria [illegible]

More or less related to these interesting results are those contributed by Dr. SIDNEY MARTIN on the growth of the typhoid bacillus in soil. In nearly all his experiments very definite evidence was obtained that the soil contains normally specific organisms which are destructive to the typhoid bacillus. On the other hand, the typhoid bacillus was shown to flourish for over a year in soil which had previously been sterilised. Subsequent experiments showed when pure cultivations of a number of soil organisms were prepared that these rapidly cause the typhoid bacillus to die out, or at least prevent its increase when the two species are mixed together. The next chapter in this interesting story of the habits of micro-organisms is contributed by Dr. A. C. HOUSTON who inoculated soil with certain microbes in order to ascertain whether the effect of the soil was detrimental to their growth. The indigenous bacillus prodigiosus proved as a result of a single sowing able to maintain its existence, though in diminishing numbers, in the soil during a period covered by months, whereas the exotic Koch's vibrio, though repeatedly sown in large numbers over several square feet of surface, could with difficulty be recovered from the soil after the lapse of a few days. The results, though not conclusive pending a greater variety of experiments being made, are of great interest in connexion with cholera epidemics and their relation to the soil.

Dr. HOUSTON further communicates a very valuable paper on the chemistry and bacteriology of the washings of soils in relation to the question of water-borne pollution. Dealing with artificial flood waters his results would seem to indicate that chemical tests are hence [illegible] to doubt as to whether they may be relied upon to [illegible] the invariable presence of the bacillus [illegible] soil waters brings bacteriological methods again to the front as a means of detecting impurity. Further, pure potable waters, whether filtered or unaltered, either do not contain this organism at all or contain it only in small numbers. Therefore the presence of bacillus mycoides, though a non pathogenic organism, implies the presence of surface washings of soil and not improbably the washings of cultivated soil, and in the case of a filtered water the presence of this microbe, adds Dr. HOUSTON, points strongly to the overtaxing of the filters with flood water. To sum up this portion of the inquiry, the results obtained clearly show that chemistry cannot always be relied on to detect in a water supply the presence of flood water, much less of flood water of an objectionable or dangerous sort, whereas the bacteriological method yielded at all events results of an encouraging nature.

Finally, Dr. HOUSTON adds a note on the bacterioscopic examination of drinking waters in which he refers to the impetus quite recently given to the bacterioscopic analysis of water by the discovery by Dr. KLEIN of the anaerobic pathogenic spore-forming organism, termed by him the bacillus enteritidis sporogenes. Dr. HOUSTON says it is safe to anticipate that this discovery is destined largely to enhance the value of bacteriological testing applied to potable waters. He, however, lays great emphasis upon the presence of streptococci which, he urges, is positive evidence of a sort which goes far to justify the bacteriologist in condemning a sample of water as unfit for domestic use.

It is difficult to over estimate the value and importance of these ably conducted researches. Their relationship to the elucidation of great public health questions is obvious, and it is gratifying to find that the Local Government Board have determined to approach these subjects in the masterly and scientific spirit shown in the last reports issued by their regretted [illegible] Officer, Sir RICHARD THORNE [illegible]

Annotations.

"Ne quid nimis."

THE CONSTRUCTION OF UNDERGROUND RAILWAYS CONSIDERED FROM A SANITARY STANDPOINT.

The [illegible] of [illegible] the [illegible] means of transit to [illegible] the congestion [illegible] and to a [illegible] of [illegible] travel from point to point is, comparatively speaking, of modern [illegible] are, however, [illegible] both in [illegible] [illegible]

the construction of underground channels such as those referred to may be likely in however small degree to lead to danger to the public health. We are led to these reflections by an article which we publish in another part of the present issue and which has for its subject matter "The Central London Railway and the Level of the Subsoil Water." As the writer points out, he deals with possibilities alone; he steers clear of dogmatic statements and hence his suggestions are the more worthy of consideration. It is, however, clear that the writer's reflections are by no means so overdrawn as perhaps some may at first sight conclude. Briefly stated, question is raised as to whether in London the construction of an underground channel, of which the Central London Railway may be taken as a type, may lead at any rate in parts to certain changes in the level and nature of the subsoil water. Generally speaking the subsoil water is held up as it were by the great bed of London Clay which is found so extensively in the "London Basin," and the writer of the article under consideration wonders in passing whether possibly there may, at points where the London Clay is thin, have been brought about by the operations necessary to construct the railway some communications between the subsoil water overlaying the London Clay and the Woolwich and Reading beds which are found so extensively beneath this formation. It is perhaps open to doubt if any great danger might be expected from an occurrence such as this, inasmuch as the chances of the polluted subsoil water reaching that great underground reservoir of water in the chalk formation are, having regard to the nature of the Woolwich and Reading beds, sufficiently remote, and under any circumstances extensive filtration would probably have taken place even were the passage of water through the beds physically likely. But apart from this, question may arise as to whether the settlements which are alleged to have taken place at certain points along the line of the railway may not have led to some lowering of the level of the subsoil water thereabouts or *vice versâ*. It would, however, be difficult to determine the effect upon health of such lowering even if the medical practitioners whose patients reside along the line of the railway had their attention drawn to the possibility. There is another direction in which the construction of underground channels, even when all modern precautions against settlement are supposed to have been taken, may be theoretically expected to exercise some influences upon health. In the present instance we read of cracked pavements and of cracked walls, some such disturbances taking place shortly after the excavations were made, others at a more remote period. A legitimate inference from these statements seems to be that the integrity of the sewers, drains, and gas and water mains in the vicinity of these settlements may have been severely tried, and by these means, if in any instance fracture has occurred, a polluted subsoil or subsoil water as an inevitable result. In these aspects the article to which we refer is full of interest to Londoners and to those concerned with public health problems, and as such we may commend it to their consideration. Moreover, the sad accidents which have recently taken place in connexion with the Paris Exhibition, and which are alleged by some to be related to underground operations, would seem to engender reflections in this direction.

CHANGES IN THE MEDICAL STAFF AT UNIVERSITY COLLEGE, LONDON.

SEVERAL changes have recently taken place in the medical staff of University College. Dr. Sydney Ringer has retired from the Holme Professorship of Clinical Medicine and has been succeeded by Dr. F. T. Roberts. Mr. Christopher Heath has resigned the Holme Professorship of Clinical Surgery and is succeeded by Mr. Rickman J. Godlee. Dr. Ringer and Mr. Heath have been appointed consulting physician [illegible] to University College Hospital. Dr. Roberts on taking up the Holme Professorship has resigned the Professorship of the Principles and Practice of Medicine and the council have selected Dr. G. Vivian Poore to succeed him on the ground of "his eminence as a physician and his acknowledged excellence as a lecturer both as regards the selection and arrangement of material and his power of exposition." Dr. Poore will enter on his duties as Professor of Medicine at the beginning of next session. Lastly, Dr. H. Batty Shaw has been appointed an assistant physician to University College Hospital.

MR. TREVES AT THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

THERE was, as might have been expected, a great gathering of Fellows and visitors at the above society on Tuesday evening last when Mr. Treves read a paper (the main points of which will be found at p. 1359) embodying the results of his recent experience at the seat of war in South Africa. When we say "read a paper" we should qualify this by adding that Mr. Treves occasionally referred to his MS., as he turned over its leaves simply to remind him of the more prominent points which he desired to bring before the meeting. What he had to say was most interesting and instructive and had the merit of being largely novel and of being admirably delivered and well illustrated throughout. There is no need, even were it possible within reasonable limits, to take up all the points brought forward seeing that the paper bristled with fresh and suggestive matter and will be read with interest. We must confine ourselves to a few brief and [illegible] Mr. Treves described the various [illegible] the war, the nature and character of the wounds which they caused, and the theories and conclusions regarding the injuries inflicted by the rifled arms used in modern warfare set forth in text-books on the subject, and in effect went on to say that the result of his observations was that the war in South Africa had revolutionised all our previous knowledge; that much of what had been laid down for our guidance was either altogether wrong or, at any rate, required to be much modified, according to the experience obtained in the present war; and that, in fact, an altogether new treatise on gunshot wounds required to be written in the light of our present experience. Notwithstanding that the recognised factors in a formula for calculating the effects of modern rifle missiles on animal structures may be theoretically correctly stated the conditions actually present at the time and where living tissues are concerned may be such as to vitiate or materially modify the results. We do not know whether we understood Mr. Treves aright, but we think that most authorities hold that the main object desired to be accomplished in modern warfare by rifled weapons, such as the Mauser or Lee-Metford, is to place as many soldiers as possible *hors de combat* and render them ineffective for the rest of the campaign and that the fatality or severity of the wounds inflicted within given ranges is of quite secondary importance. A vast amount, by the way, of misapprehension exists as to the amount of primary hæmorrhage attending ordinary gunshot wounds; it was never, perhaps, an important or frequent occurrence in the past and is generally quite insignificant with the weapons used in modern warfare. Still, among the killed and fatal cases of wounds hæmorrhage is, we suspect, often the immediate cause of death. As we have already said, the ideal for the wounded on the battlefield is that the hospital should be taken to the wounded instead of the wounded to the hospital, but unhappily this is impracticable and the application of the first-aid antiseptic dressing with the least possible interference with the wound or the

individual, is, the best that can meanwhile be accomplished. As regards what Mr. Treves had to say about wounds of the abdomen it struck us as being sound, well-reasoned out, and practical. That the results of battle-field laparotomy are most disappointing is not to be wondered at under the circumstances. We have from the first declared that operative interference in such cases must have a very limited application indeed under the conditions that obtain in war. The fact that so many recoveries have taken place in such wounds when caused by the Mauser bullet in Mr. Treves's experience is a new and important point. We are glad to have his corroborative testimony as to the favourable effect of previous abstinence from food and enforced rest on the battle-field whilst the wounded are waiting to be removed from it, in such cases, in other words, absence of all movements together with physiological rest. The Mauser is, on the whole, a more merciful missile than that of the Lee-Metford, but both inflict far less serious injury than did the weapons of the past. In mitigation of the sufferings of the wounded who had to remain unaided on the battle fields of the past there is this to be said, that they were spared the meddlesome interference of the incompetent whilst Nature had the chance of doing her best. It is needless to add that we have only cursorily touched the fringe, as it were, of the subject on which Mr. Treves dilated so well and instructively at the Royal Medical and Chirurgical Society's meeting.

THE TENURE OF OFFICE OF MEDICAL OFFICERS OF HEALTH.

It has always seemed an anomaly that while the principal Poor-law officials, among whom are medical officers, hold office permanently, or if dismissed from office can appeal for reinstatement to the Local Government Board, those officers of local authorities who are appointed under the Public Health Act may be elected for a term of years varying from one year upwards, and at the end of this period the electing authority without appearing to dismiss their official may actually do so by appointing some other person in his place. However conscientious an officer may be he is not likely to do his work any better if he feels that he must "keep the right side of" certain members of his authority and the feeling of irritation engendered thereby only lessens his usefulness to the community which he serves. These remarks apply more especially to health officers and if security of tenure of their offices should be granted to any public officials it should certainly be to these, as from the very nature of their work they are more likely than any of their colleagues to provoke the hostility of prominent ratepayers or of members of the body by whom they are elected. Instances of the capricious removal from office of medical officers of health have been frequently recorded. The latest example reaches us from South Wales where in the thriving [illegible] town of Maesteg, which has a population of some 14,000 persons, the urban district council decided last week by six votes to four to dispense with the services of Mr. Wyndham Randall who for five years has acted as their medical officer of health and to appoint another gentleman in his place. This dismissal could hardly have been due to lack of experience in public health matters, for Mr. Randall has been medical officer of health to a neighbouring district for 15 years and for a long period to the town of [illegible]. It cannot be said, too, that the Local Government Board was dissatisfied with the work [illegible], for [illegible] was [illegible] by the [illegible] Council three years ago the Board stated that it was prepared to sanction his [illegible] [illegible] permanently. [illegible] approving the [illegible] [illegible] the Board will [illegible] the [illegible] [illegible] to be placed [illegible] that the [illegible] necessary and desirable. The true reason for the dismissal of Mr. Randall is probably to be found in the fact that he has been courageous enough to point out to his council what steps should be taken to improve the sanitary condition of the town, in which we may note incidentally the death rate from typhoid fever last year was three times as high as in the rest of the country. His suggestions have been reiterated year after year and some of the members of the council may possibly think they can shirk their duty to their constituents by closing his mouth. It is the conduct of such gentlemen as form the majority of the Maesteg District Council which has rendered necessary Clause 2 of the Medical Officers of Health and Sanitary Inspectors' Bill which has been introduced into Parliament by Dr. Farquharson and which is down for second reading on May 10th. This clause provides that officers of health (including in this term medical officers of health and sanitary inspectors) shall hold office until they die, resign, or become insane, or are removed by, or with the consent of, the Local Government Board. The Board is practically committed to the principle of this clause, for of late years not only has sanction been given to the permanent appointment of medical officers of health, but many local authorities who have fixed definite periods have been advised to appoint permanently.

UNFIT HOUSES.

In THE LANCET of Jan. [illegible]th, 1899, p. [illegible], we commented in an article headed as above upon the Gilbertian situation which had arisen in the parish of St. George the-Martyr, Southwark, with reference to the street known as Red Cow-alley. So far back as November, 1895, some cottages in this street were closed and dismantled by a magistrate's order but were not pulled down. In November, 1893, the Vestry of St. George's made an order on the representation of Dr. F. J. Waldo, the medical officer of health, that the houses should be pulled down. This order was made in conformity with the provisions of the Housing of the Working Classes Act, 1890. The owners of the property appealed against this order to the Court of Quarter Sessions and the appeal was heard on Jan. 13th 1899. Mr. Frank [illegible], who appeared for the owners argued with an ingenuity which did him infinite credit as follows. The word "dwelling-house" in the Act under which these houses are ordered to be demolished means an inhabited house. Now by order these houses, ergo they are not dwelling houses, ergo they cannot be pulled down under this Act. The court was struck by this [illegible] and [illegible] [illegible] case and the houses remained as they were [illegible] November, 1898 [illegible] Justice Darling sent the case back again to the Quarter Sessions to determine [illegible] [illegible] [illegible] public health. [illegible] In January, 1899 [illegible] [illegible] until February [illegible] [illegible] that they were [illegible] [illegible] [illegible] [illegible]

Government adhered to its policy of isolating "contacts," and directed warehouses and factories to be quarantined as soon as more than one case had occurred among the employés. These steps were not advised by the medical department; but sometimes governments were obliged to act on grounds which were not logical. Seven cases occurred in inoculated persons, the attack being on the first, second, third, third, fourth, fifth, and seventh days after inoculation. In one of them the attack (occurring on the fifth day) happened to be extremely mild although unmistakeable. There was here some evidence that the inoculations reached a considerable proportion of the persons whom it was especially desired to protect. The maritime quarantine station was in imminent danger of being overtaxed, and no other resource had been provided, the Government having declined the board's proposition made about a month previously to empty the Coast Hospital (280 beds).

MARK AKENSIDE.

IT is pleasant to be reminded of the children of genius in our profession. It was of Mark Akenside and of his modest medical reputation in London—"the proper place for a man of accomplishments like his"—that Dr. Johnson wrote his well-known lines: "A physician in a great city seems to be the mere plaything of fortune; his degree of reputation is for the most part totally casual; they that employ him know not his excellence, they that reject him know not his deficience." The *Newcastle Weekly Chronicle* of May 5th contains the report of an interesting paper on Akenside read by Mr. John Wenge before the Hampstead Historical Society, illustrated with pictures of Akenside's Newcastle home, as well as of the house at Hampstead of his faithful and valued friend, Jeremiah Dyson, better known to the present generation in its reconstructed form as the house of the late Sir Spencer Wells. Here Akenside lived for a time; and to this house he repaired in later years for refreshment and convalescence.

> "Thy verdant scenes, O Goulder's Hill,
> Once more I seek, a languid guest,
> With throbbing temples and with burden'd breast,
> Once more I climb the steep aerial way."

It is pleasant to know that these "verdant scenes," which for all time are secured as a refreshment for weary Londoners, will for an equal period be associated with the names and with the genius of men of our own profession.

DIAGNOSIS OF IMBECILITY AND WEAK-MINDEDNESS IN YOUNG CHILDREN.

THIS is a subject of considerable importance as it is one of difficulty. In a recent number of the *Deutsche Medicinische Wochenschrift* Dr. Martin Thiemich calls attention to the methods of testing for pain (cutaneous sensation) and for the sense of taste, both points of great diagnostic value in determining whether any marked degree of idiocy or imbecility is present. The sense of pain can be tested by pricking with a pin, and if delicate shades of analgesia are to be determined the pressure can be graduated either by hand or by the use of a special algesiometer. Various grades of analgesia may thus be found. The sense of taste should be tested by the use of ½ per cent. solution of saccharin, 2 per cent. solution of sulphate of quinine, 2 per cent. solution of hydrochloric acid, and 3 per cent. solution of common salt to determine the respective sensations for sweetness, bitterness, acidity, and saltness. The reactions of the child both as regards facial and oro-lingual expression and as regards general reactions to these tastes should be noted. It is needful to be certain that no intercurrent ailments, such as rickets, a caseous condition, or gastro-intestinal irritation, are present, as these may considerably modify the reactions to both painful and gustatory stimuli. If visual and auditory stimuli call forth varied appropriate reactions only a minor degree of imbecility can be present or the mental condition may be normal. Any serious defects in these respects would point to corresponding degrees of imbecility, while the absence or deficiency of the gustatory and cutaneous (pain) sensations would point rather to the more profound degrees of idiocy or of imbecility. As regards bodily condition, it must be remembered that some idiots and many imbeciles are well developed and may be quite free from paralysis or other gross defects or deformities. Further, it is important to note the relative amount of attention which the child gives to various objects or stimuli, and the length of time during which attention persists. In many idiots and in most of the lower grade imbeciles attention cannot be fixed except momentarily. The times at which the child has learned to attend to, and control, its habits of defecation and micturition are to be inquired into, due regard being had to its social environment and its upbringing. Thus some children may not be well trained and brought up in these habits for the first three or four years of life, yet may be otherwise of ordinary intellectual grade. In this connexion it will be necessary to exclude the part which polio-myelitis or cerebro-spinal disease may play when present by paralysing the sphincters. The facial aspect, whether stupid or intelligent, whether apathetic or observant, whether vacant and stuporose, with lax jaws and dribbling of saliva or free from such manifestations, must also be noted. Such unfavourable symptoms as slobbering and stupidity of expression should always rouse suspicion. It is well also if the general bodily nutrition is feeble to wait until it improves under treatment before a diagnosis or prognosis of the mental conditions is attempted.

THE INTERPRETATION OF THE SALE OF FOOD AND DRUGS ACT, 1899.

So far it would appear that there has been no very striking feature in connexion with proceedings taken under the Sale of Food and Drugs Act since the important addition to the statute law came into operation this year. This is somewhat surprising, for, as we have pointed out, some considerable alterations in, and additions to, the law relating to the sale of food and drugs were thus made. The real effect of the additional legislative power which the new clauses have given will only be seen when the annual report of the Local Government Board containing the reports of the public analysts and their work for the present year is issued, and for this we must wait for some time. In the meantime it would be well if public analysts and others concerned in the administration of the Act would turn their attention to the legal aspect of the new clauses. In this connexion we should like to point out that an excellent little book has been published giving, not only a history of interesting cases in the past, involving such subjects as the question of standards and points of procedure and other matters bearing upon the working of the Act, but also a summary of the important changes made by the Act of 1899. It thus affords a very handy legal guide to the public analyst and others who are engaged in carrying out the Sale of Food and Drugs Act. It should be of particular service to them when proceedings are undertaken and when they may be expected to give evidence. The book is edited by Sir William J. Bell, LL.D., barrister-at-law, of the Inner Temple, and H. S. Scrivener, M.A. Oxon., barrister, of the Middle Temple, and is published by Messrs. Shaw and Sons of Fetter-lane. The compilation of cases dealing with definitions and terms will be of special interest and value to the public analyst, while not less so will be the sections on offences and defences, prosecutions and proceedings. We should have

liked to have seen added the recent declaration of the Local Government Board [illegible] Fellowship of the Institute [illegible] as sufficient evidence of [illegible] he has passed in the [illegible] detection of the adulteration of drugs which have recently been added to the Fellowship examination.

AN UNFOUNDED RUMOUR.

WITH reference to a statement in the "Money" article of a contemporary on Wednesday that "bubonic plague was rumoured to have appeared in Glasgow we are glad to be able to announce on the authority of the medical officer of health of Glasgow that there is absolutely no truth in this rumour; indeed, there has been nothing even to suggest the presence of plague in that city. It is regrettable that the sensitiveness of the money market should give rise to such rumours which might be productive of much harm.

SMALL-POX AND VACCINATION IN EGYPT

In a recently published work[1] Dr. Engel Bey, the chief statistical officer of the Egyptian Sanitary Department, writes to the following effect: "The deaths of foreigners from small-pox are comparatively very numerous. . In December, 1891, vaccination was made obligatory on foreigners, but it is impossible to control the operation effectually, as the parents of children are under no obligation to report births." During the five years 1886–90, out of a total population in certain towns of Lower Egypt amounting to 1,125,475 natives and 101,253 foreigners, there were among the first 791, and among the latter 220, fatal cases of small-pox. The figures do not represent a very high rate of mortality, but as they are due to an entirely preventable cause they are nevertheless excessive. The effects of vaccination in Egypt, where it was introduced in 1827 by Mahomed Ali the Great, are very noteworthy in comparison with the state of affairs in Algeria where vaccination is not obligatory. During four years (1887–90) the annual death-rate from small-pox in Algeria was no less than 16·65 per 10,000 inhabitants, whereas in Lower Egypt it was only 1·71. It would be well, however, Dr. Engel says, if revaccination were to be introduced into Egypt, the benefits therefrom being very observable in Sweden and Germany. In the former country, indeed, the terrible disorder may be regarded as exterminated.

THE RELATIONS OF THE GANGLIA ON THE POSTERIOR ROOTS OF THE SPINAL NERVES.

Comptes Rendus for April 9th, 1900, contains an article by M. Nicolas Alberto Barbieri on the connexions of the ganglia on the posterior roots of the spinal nerves. He states that in cats, dogs, rabbits, and guinea-pigs the unipolar or bipolar cells of the spinal ganglia do not form any connexion with the nerve tubes of the posterior roots. These cells can be dissolved by chemical means without in any way altering the form, contour, or even the continuity of the nerve fibres of the posterior roots. Each spinal ganglion contains from 200 to 500 cells, whilst the number of the nerve fibres that traverse the same ganglion is from 1000 to 3000. This number is about double that of the nerve fibres found in the anterior roots which vary from 500 to 1500. All the nerves of spinal origin contain a far larger number of fibres derived from the posterior than from the anterior root. If the nerve fibres of the posterior roots be counted it will be a matter of surprise to find, as the ordinary nerves, fibres of smaller diameter corresponding to a thinner sheath of nervous tissue, with less granular, more transparent, and almost limpid contents. On carefully detaching the anterior and posterior roots from a segment of the spinal cord with the ganglia and the ramus communicans of the sympathetic chain it may be seen that the 200 or 500 small fibres of the sympathetic constituting the ramus communicans divide into two branches almost at the lower border of the spinal ganglion. These branches penetrate the ganglion. The small fibres of the sympathetic, after having contracted an intimate connexion with the ganglionic cells, form connexions amongst themselves which are neither constant nor precise, interpose themselves at various points between the nerve tubes of the posterior roots, and terminate in the nerve cell by entering the posterior collateral fissure or groove. These small fibres of the sympathetic are also to be found amongst the roots of each spinal nerve. The medullary and encephalic origin of the sympathetic is thus satisfactorily established. The cells of the spinal ganglia are the cells of the sympathetic from which proceed the rami communicantes. The total number of the nerve fibres of all the roots of spinal nerves is in the rabbit about 70,000. This number is too small for the supply of all the tissues of the animal, whilst, on the other hand, it is too large to come into relation with the surface of each one of the *cellet du bulbe*. The posterior roots spring from the posterior collateral fissure by small fasciculi. Each fasciculus contains a certain number of nerve fibres and several fasciculi form a root; several roots form a radicular root. On the superior surface of each spinal ganglion are two or three radicular nerves which are separated from each other by the spinal dura mater. The posterior roots penetrate the ganglion in the condition of a nerve—that is to say, largely provided with connective tissue. The anterior roots which arise from the ventral collateral grooves have an analogous origin. They unite externally and below the ganglion with the posterior radicular nerves to form the mixed peripheral nerve or proto-nerve. The mixed peripheral nerve of each pair of spinal nerves, after having given origin to the small meningeal branch, divides into two branches, the one anterior and large, the other posterior and small.

MEDICAL CONFERENCE AT MANCHESTER

AT a dinner given by 55 of the delegates attending the Medical Conference on May 2nd at the Albion Hotel, Manchester, a graceful compliment was paid to Dr. J. G. Glover, who passed by Mr. Webster-holme in preparing a vote of thanks to Dr. Glover for his services to the profession. This was commented on by Dr. J. Hatch-Gayland in a short speech supporting the vote. Dr. Glover, in reply, [illegible] referred to the General Medical Council as a very proper subject for criticism. No doubt, he said, was rather [illegible] the hope that one of the leading questions affecting the profession than members of the Council [illegible] to the midwives question be [illegible] [illegible] three of some of his friends, but they lived in a [illegible] and were members of a liberal profession [illegible] in [illegible] should not impair their [illegible] respect. It was [illegible] be obvious to the [illegible] that it was difficult to [illegible] the real interests of the profession by [illegible] and that [illegible] an easy matter to [illegible] the profession [illegible] really saved. As far as they could they [illegible] the profession [illegible] of the public and [illegible] [illegible] the General Medical Council was [illegible] and [illegible] [illegible] there was [illegible]

Schleswig-Holstein have accepted copies of Mr. F. J. Gant's new book, entitled, "Mock Nurses."

H.R.H. the Duke of Cambridge will [illegible] stone of the new wing of the Victoria [illegible] on Saturday, May 26th.

CONFERENCE ON MEDICAL ORGANISATION AT MANCHESTER.

(BY OUR SPECIAL COMMISSIONER.)

THE Conference on Medical Organisation which was held last week at Manchester will have served at least this purpose—it will have conclusively demonstrated how much the medical profession is in need of organisation. The Conference was convoked by the Manchester Medical Guild and therefore it was natural to expect that the speakers would have dealt extensively with the methods and means of organising guilds and with the policy and action of such guilds. But the greater part of the debates might have been held by any other assembly of medical men whether belonging to a guild or not. Several resolutions were passed which certainly had no reference to medical organisation and will be approved by practitioners who belong to no organisation. These resolutions may be interesting or otherwise; they may be satisfactory as indicating a solution to certain vexed questions, but their adoption by an assembly of 50 medical men is of very little importance unless the representative character of these voters can be fully demonstrated. Now, the very first step in organisation is to organise the vote. It was said that the medical associations and societies represented had some 4000 members. This, for a beginning, is a very large figure, for the Manchester Medical Guild itself barely possesses more than 200 members. The fact is that some of the delegates represented branches of the British Medical Association, which is not a guild at all, and even the Hospital Reform Association only deals with a section, one item in the programme of the medical guilds and unions.

The Conference was a meeting of medical reformers who did not all represent organisations pledged to the same programme. Most of the time was spent in discussing grievances affecting the medical profession generally and but little was done in the way of organisation. The difference between discussion and organisation is that in the first case resolutions are passed declaring that this and that should be done, while in the second case resolutions are adopted showing how a wished-for result is to be obtained. Dr. S. Crawshaw did succeed in getting a resolution passed that was to the point. This demanded that medical unions or guilds should be formed in every district and should appoint delegates to attend an annual conference. Dr. E. Jepson of Durham, when he proposed that the medical unions or guilds should have provincial councils on the same lines as the National Union of Teachers and that efforts should be made to secure the election of two representatives of the medical profession to the House of Commons, was also speaking as a delegate to a union conference might be expected to speak. In France, as has been pointed out in THE LANCET, there is the medical group in the Chamber of Deputies and the Senate, supported by the French Medical Union, and good results have been obtained; but these results only ensue as the reward of long and patient organising. The mere meeting together to air grievances, deliver speeches, and pass resolutions will not do much. A secret sitting would have been more to the point; then the hardness of the land could have been investigated and exact statistics obtained as to the number of members who had signed pledges to observe the rules and who had paid subscriptions. The organisation would then have known of what it was composed; after that it would have been time to discuss what could be done and what was the best policy to pursue. That is what a conference of delegates means. A conference is not a congress. Only those who are invited attend a conference, and they are supposed to be pretty well agreed as to the object in view; otherwise why should they be invited?

The principle of forming unions throughout the country was approved by the Manchester Conference and proclaimed by the adoption of Dr. Crawshaw's motion. As the Conference was convoked by a union it would have been natural for the business to be opened by the adoption of such a [illegible]ation as a matter of form, and then the Conference could have discussed the very practical important questions arising from the difficulties that beset those who seek to form medical unions. To repeat myself, a great deal should have been said about medical organisation instead of about medical grievances. The latter are discussed on all sides; it is only those who have had actual experience in the management and work of medical unions who can discuss the question of medical organisation. However, this was the first large meeting of [illegible] has been held is in itself a [illegible] greater care should be ta[illegible]ure, [illegible] do not degenerate into genera[illegible] [illegible]legate meeting of medical unions should discuss the policy and organisation of the existing unions and the advisability or possibility of adding to their numbers. It is not its mission to hold a debate on general grievances, but rather to plan some specific action such as the unions can exercise on the line of least resistance in respect to one or more of such grievances.

THE WAR IN SOUTH AFRICA.

AT the moment of writing last week we said that there was little or nothing to be chronicled, but such is far from being the case now, for the advance of the British has begun in earnest and has already made important progress. Our readers have only to glance at the headlines summarising the war news from South Africa in their daily papers to note the change that has already taken place. The overwhelming strength of the British forces, their concerted movement in furtherance of a common object, and their increased mobility must inevitably have the effect of driving the Boers in front until the latter reach those defensive positions where they have determined to make a stand. Their limited numbers, the nature of their tactics, and their method of warfare will no doubt lead the Boers to adhere even more strongly and persistently than they have hitherto done to their plan of avoiding any engagement in the open and on a big scale. The war is not by any means over yet, but the end has from the first been certain, and it is distinctly nearer than it was, the only thing uncertain about it being the time it will take to bring it about. That will manifestly depend upon the number of places that have to be taken, the obstinacy with which they are held, the strength of Pretoria and the preparations which the Boers have made against its siege, and whether or not they have determined in any case to retreat to the mountains of the Lydenberg district and to maintain a guerilla system of warfare. On the other hand, it is quite possible—and there are many things pointing in that direction—that there may be a sudden and unexpected collapse of the Federal fighting power. Be all this as it may, time will soon show. The Boers have begun to appreciate the fact that their offensive power, as far as the southern portion of the Orange Free State is concerned, is at an end. There is still, however, a considerable body of Boers moving in the districts of Ladybrand, Ficksburg, and up to Thaba 'Nchu menacing our communications which will have to be disposed of. The advice and support which the Federal States have received on the part of the continental press to continue the war must turn out in the end to have been cruel kindness. We are extremely glad to believe that the prospect of the relief of Mafeking has distinctly improved. If happily it be soon accomplished the siege of Mafeking will have proved one of the most memorable on record. Sir Redvers Buller's large force is still inactive at Ladysmith, and we should imagine on hygienic grounds that the sooner it gets away from that neighbourhood the better, for there is stated to be, as might fairly have been anticipated in a sedentary force encamped there, a good deal of enteric fever and other diseases prevalent among the men.

Whilst on this subject we cannot forbear remarking that when the history of this campaign comes to be written a more appreciative and juster view will probably be taken of the value of the arduous work performed by the British forces

in South Africa at the beginning of the war than apparently exists at present in the minds of some people. Lord Roberts and Lord Kitchener have done much brilliant work, as everybody recognises; but it is scarcely fair to put it in comparison with what the Generals had to undertake previously with the very limited forces at their disposal and under most disadvantageous conditions. Lord Roberts, it must always be borne in mind, has had a very large and thoroughly equipped force at his command and every element of success in his favour, whereas Sir Redvers Buller and Sir George White had, as we know, little or nothing of the kind. Nevertheless, Ladysmith was successfully held and relieved, a general rising in Natal was averted, and the real strategical plan of the Boers to march a large force towards Pietermaritzburg and Durban was delayed and in the end thwarted. The conditions present at the beginning of the war and the effect of these operations, as it seems to us, have never yet been properly estimated and taken into account by newspaper critics. Reinforcements are still proceeding to the Cape and they will be all needed, for the loss and ineffectiveness entailed in men and animals and munitions of war where the area of its theatre is as large as in that we are now prosecuting, are enormous. The grand total in the last published official return of our casualties amounts to over 19,000. In addition 29 officers and 3101 men have been sent home sick (as distinct from wounded), which brings the aggregate losses of the army to over 22,000. On the other hand, a further number of officers and men have returned to duty from the hospitals. The mortality from disease shows an increase. It now stands at 42·1 per cent. of the total deaths.

Considering the enormous amount of work which this war has thrown upon the medical service in the field, the strain that it must inevitably have imposed upon the best medical organisation and hospital administration in the world, and the remarkably successful way in which the regular army medical service have met it, it is much to be regretted that a leading article which appeared in the *Times* of April 30th, *apropos* of the dinner given to Sir William MacCormac and Mr. Treves, should have been founded on an entire misconception as to the object and nature of the duties which they were sent out to the scene of war to undertake. It formed no part of the duty of these distinguished surgeons, it is needless to say, to provide for the organisation of the base hospitals and the supervision of the field hospitals or anything of the sort. To give them any credit in this respect would, we may be sure, [illegible] others of what [illegible] little calculated [illegible] ful relationship which mutually existed between the military and civil medical elements in South Africa. Sir William MacCormac and Mr. Treves, as a matter of course, in their brief but emphatic letter to the *Times* of May 2nd disclaimed all credit in the matter. Their duties, they pointed out, were not in any way concerned with organising the medical arrangements of the campaign but were solely directed to affording professional advice and assistance as consultants to the army medical officers. They were (as everybody knows) able to testify to the admirable and effective organisation of the medical department of the army for which the officers of the medical service alone are responsible.

There was a very large gathering at the meeting of the Royal Medical and Chirurgical Society last Tuesday evening to hear what Mr. Treves had to say about his recent surgical experiences in South Africa and we are simply expressing the general feeling in saying that his audience had every reason to be satisfied. Mr. Treves gave a most interesting and instructive address which was, as it deserved to be, well received.

IMPERIAL YEOMANRY HOSPITAL

BY ALFRED D. FRIPP, M.S., F.R.C.S.

EVERYTHING is going on very well indeed with us. We have taken in 220 more patients, half of them from the recent reverse near Bloemfontein and the other half from Naauwpoort, where the largest detachment of Yeomanry is stationed at the present time. There is another large detachment at Kimberley under Lord Chesham, now made a Brigadier General, and there are still about 3000 at Cape Town—or there were a few days ago. All these latter will be pushed up country as quickly as the exigencies of horse-supply and transport permit, and it will not be long before the Yeomanry base camp there is reduced to some 300 or 400 occupants, for I know it is Lord Roberts's intention to utilise all the Yeomanry at the front at once. By the time this letter reaches you any allusion to the news of the moment will be very stale, but of course the reverse which has resulted during the last few days in the re-occupation of the Bloemfontein waterworks by the Boers very materially affects the position of this hospital, for it will influence the immediate future of the campaign very much. Thus, in the first place, it will delay Lord Roberts's onward movement from Bloemfontein and in the next place it will make it so difficult to get forward the seven miles of trucks loaded with stores now congregated at Norvals Pont, that all the material and *personnel* of the various hospitals which are being held ready to be sent into Bloemfontein at the earliest possible moment will be unable to get through for some time yet, and will be unable to establish themselves in time to relieve the present state of congestion in the hospitals north of us. These hospitals which it had been intended thus to send up are, of course, already packed and loaded on trucks and therefore they are useless for the present, and we find ourselves obliged to struggle to our utmost to battle with the numerous cases coming down (both from the Western border and from the Bloemfontein line) for which there is no room in the already over-filled hospitals at De Aar and Naauwpoort.

I found Cape Town last week fuller than ever. Not only has there been a steady influx of men who have come out in the hope of finding work "in any capacity" (most of them seem to think their best chance of getting up-country is to acquire the title of correspondent to some paper however obscure), and of ladies who have come out with their husbands or to await the return of their husbands from the front, but also many officers have dashed down from the front to Cape Town for a few days' change and well earned rest. From these many most interesting anecdotes and stories of the pluck displayed by our men are to be heard. My chief object in going to Cape Town was to establish a small hospital at the Yeomanry base camp near Cape Town for the treatment of those cases which were not sufficiently bad to be sent 500 miles up country for treatment in this hospital. It is calculated that over 1 per cent. of all soldiers require treatment in hospital directly they arrive in South Africa. We have accordingly started a small "detention hospital," and so as to avoid delays which always arise in carrying any such a new departure through official departments we have provided some of the necessary money for its erection and equipment, but in view of the fact that it is impossible for us, 500 miles away, to take any responsibility for the way in which this hospital is conducted we have stipulated that it shall bear no connexion with the Imperial Yeomanry Hospital. Surgeon-General Wilson, Principal Medical Officer of the forces in South Africa, has accordingly named it the Mackenzie's Farm Hospital (for Mackenzie's Farm, Maitland, is the site of the Yeomanry base near Cape Town), and he has undertaken to provide the doctor, the equipment, the orderlies, and all the necessary supplies, and to be responsible for the [illegible] of the work done in it. By this means I hope that the wants of the Yeomanry while situated at their base camp will be more than adequately met. It is really rather amusing, and at the same time encouraging, how each regiment of the [illegible], wherever they may be sent, are just a little hurt if they do not find our hospital [illegible] to them. [illegible] we are a very large and a very [illegible] and we had to go where we were sent by the military authorities. [illegible] the report of the [illegible] South Africa [illegible] wishes we were nearer them. [illegible] wish that we were there, [illegible] wish that we were there. [illegible] at Cape Town [illegible] that we were there, and when they move up [illegible] that we were there. [illegible] that we [illegible] and the fact that [illegible] of Yeomanry [illegible] arrive in our wards from various parts [illegible] all stations [illegible] in South Africa [illegible] matter [illegible] there [illegible]

Recent [illegible]

the laundry and the filtering plant. Hitherto we have had to boil all the drinking water to be on the safe side. The cemetery, too, owing to the typhoid fever, is, I am sorry to say, already needed. Each funeral is carried out with military honours, including the "Last Post," but not including the firing of the salute, for that would be heard and understood by the other sick ones who are hovering between life and death. Poor fellows, their arduous and prolonged efforts on short rations at the front tell heavily against them when subject to a long and exhausting illness, and failure of power is apt to cut short a case which in ordinary civil conditions would in all probability have pulled through. We a [illegible] rig up telephones, for the distances are [illegible] the orderlies are wanted in the huts and [illegible] running messages.

Deelfontein, April 8th.

The small town which has sprung up here in the middle of the Karroo desert is attaining quite large proportions and slowly yet surely we are reaching a stage of full development. Everything is working out well. The huts are a great success and most comfortable, but of course they render it quite impossible for the hospital to be anything but a stationary one. How I wish that a few hundred of the people who so generously gave their money or their work for this hospital could come and see what great good it is doing and how delighted the patients are, officers and men alike. We brought out 40 nursing sisters; now I wish we had brought out 80 or 100. We should not have found that number one too many for one hospital when quite complete. I am very pleased that the Imperial Yeomanry Hospital has been one of the first to employ nurses on a large scale. This I think is a great advance in the medical attendance of our sick and wounded soldiers. It has been rendered possible by rapid steamship and railway travelling, good transport of supplies, the Geneva conventions which neutralise in civilised warfare all non-combatants, and further by the fact that the modern highly skilled nurse has grown up since the last large British war. I am sure that apart from their skill and help to the doctor they confer comfort and happiness on the patients, and I think that in the future it will be recognised that there will be plenty of scope for the nursing sister in war. Our two superintendents, Miss Fisher and Miss Brereton, are getting on admirably. Miss Brereton has charge of the operating theatre and of surgical instruments, dressings, splints, &c.

The most interesting time in our hospital is when No. 2 and No. 3 hospital trains run into our private railway siding and discharge their patients. The siding runs right into the hospital grounds, so that the difficulty of transferring cases from the carriages to the wards is as far as possible minimised. No. 1 hospital train and Princess Christian's train are at work in Natal. No. 2 brought us a load last week and to-day No. 3 brought us 96 cases straight from the recent actions around Bloemfontein. Many of them are very badly injured. One young officer has no less than seven wounds, four made by bullets and three by bits of shell. He will, I think, recover completely and be as good a man again as ever he was. It was, indeed, good luck that none of his wounds were serious, but it is not surprising to find his nerve considerably shaken by such an experience. Lying in the next bed to him is another officer (for we have officers' wards separated from the general wards, and as soon as the patients in them are completely convalescent we put each into a small private tent where he can be attended by the private servant who always accompanies each officer) who has been almost as lucky, for he has been shot through both thighs just below the hip and would almost certainly have lost both his legs if the wound had been inflicted by the old-fashioned soft leaden bullet. The cases that we got from Paardeberg were not so fortunate, for they, poor fellows, all had a three days' journey in ox-wagons before they reached the hospital at the Modder river. Singular cases abound in every train-load. For instance, an officer received to-day had a bullet go through his arm and after shattering the bone it escaped from the opposite side with such diminished force that it did not even pierce his sleeve but fell down into his hand. We have also two cases where bullets pierced the skin exactly over the heart, not having sufficient force left in them to do more than just bury themselves under the skin, whence they have been easily removed.

We have always made it a rule to keep 30 beds vacant on the chance of unexpected arrivals of Yeomanry, to whose wounds it is, of course, our primary duty to minister. To-day showed how fortunate it was that we made this rule, for after taking in the 96 patients from the ambulance train, thereby filling all our beds but five, we put up extra stretchers to [illegible] cent of our older cases so [illegible] I no sooner done so than a [illegible] ived and we were able at o[illegible]

Many of the [illegible] probably hardly realise [illegible] ble to put up as many pa[illegible] any day. If an[illegible] how many patients that [illegible] a by looking over Guy's [illegible] nts take a week each to [illegible] and makes an excellent ward. There are more to be put up and next week I hope to send you a plan of the hospital grounds. All the equipment for the wards is excellent with the exception of the wooden furniture, such as tables, cupboards, and chairs. These articles have stood the journey very badly, consequently we have a large number of breakages and we are rather short of wooden tables, &c.

We are sending our second trainload of convalescents down to Cape Town this week for shipment home to England. We have to keep [illegible] up a whole train, [illegible] the front are sent [illegible] are forwarded to their respective regiments.

An odd meeting took place here the other day between two brothers who had not met for months. Each thought the other was in Bloemfontein, so they were not a little surprised.

The staff of the Portland Hospital on their way to Naauwport got off the train that was conveying them and their hospital and paid us a visit.

We are just getting a laundry to work, and as it is to wash [illegible] 750 [illegible] have to be a large one. At [illegible] for [illegible] off or [illegible] When, if ever, we have such luxuries [illegible] through the laundry 2000 sheets, a w[illegible] blankets, pillow-cases, and smaller linen.

The engine that heats the water for the laundry provides the steam by which all our articles of infected clothing and bedding are sterilised. The same engine also pumps the water used for drinking purposes through the big filter-tanks.

So many people pass through by train that we often have [illegible] and we are generally able [illegible]

[illegible] I think that good cannot fail to result from the participation in this war of so many civilians. It will quicken the interest of many people in the management of the army and the well-being of that service, while the discussion on the Army Estimates, instead of being to most people very dull, will be a matter of great interest.

We had a most successful parade service on Easter Sunday and every member of our staff had a present of tobacco to celebrate Easter day. The orderlies all were very delighted, for they have great difficulty in obtaining tobacco. They have been working very hard since they came.

Deelfontein, April 16th.

ARMY MEDICAL REPORT FOR 1898.[1]

FIRST NOTICE.

TURNING over the pages of this Blue-book—the volume with the appendix, by the way, has really a cover of the prevailing khaki colour, but that is a trifling detail—we have come to the conclusion that it is one of more than usual interest. As it is for 1898 the South African war finds, of course, no place in it, but much of a medico-military kind had been taking place before the advent of the present war, which, it is needless to say, almost exclusively absorbs the public interest at the present time. In

[1] Army Medical Department. Report for the Year 1898, with Appendix. Vol. xl. London: Printed for Her Majesty's Stationery Office by Harrison and Sons, St. Martin's-lane, Printers to Her Majesty. 1900. Price 2s. 6d.

addition to the usual reports and statistical tables connected with the health and hygiene of our European troops at all stations at home and abroad the titles of the papers published as appendices to the report are upon subjects of a varied and promising character. To take these first we may briefly give their titles. They are as follows—the usual report on the progress of hygiene for 1899 by the Professor of Military Hygiene at the Army Medical School, Netley; reports from the surgical and medical divisions of the Royal Victoria Hospital by the Professor of Military Surgery and the Professor of Medicine respectively; a report on the Nile expedition of 1898 by the Surgeon-General who was principal medical officer of the expedition; various [illegible] the West [illegible] eric fever in [illegible] gether with [illegible] aration and [illegible] on the treat- [illegible] method of [illegible] on an out- [illegible] break of cerebro-spinal meningitis occurring at Omdurman and in the Soudan.

The report opens with the usual excellent summary statement of the health of the troops at home and abroad, which we cannot do better than follow closely seeing that the results of the facts and figures for 1898 are analysed, collated, and published in a succinct *précis* form.

The average strength of European troops serving at home and abroad in 1898 was 202,166 warrant officers, non-commissioned officers, and men. The total number of admissions to hospital was 198,513, and the total deaths 2203. The admissions represent a ratio of 981·9 per 1000 of strength as above, the deaths one of 10·82 per 1000, on a strength of 203,900, which includes detached men not shown in the returns received.

[illegible] el diseases, which com- [illegible] car under review, but [illegible] at individual stations. [illegible] were 61 cases of heat- [illegible]

There is little calling for special notice as regards Gibraltar and Malta. There was more sickness from enteric fever at the former [illegible], due to the return of troops from [illegible], while at the latter station (Malt [illegible] Crete) the statistics were much complicated by the events connected with the Moslem outbreak at Crete in September, 1898, and by the sudden reinforcement of the garrison of that island with regiments returning from active service "up Nile," circumstances which gave rise to a large amount of the enteric fever, malarial fever, and other sickness tabulated in the returns of the Malta command. Passing over Canada, Bermuda (where the number of cases of enteric fever had been much reduced in 1898), and the West Indies, we come to the remarks on South Africa where the ratios of sickness and mortality differed but little from those for 1897 and the average rate. Enteric fever was, however, very prevalent, assuming epidemic proportions in Natal, where there was also much sickness from dysentery. In Mauritius the health of the troops was somewhat above the average. Malarial fevers caused almost one third of the admissions, but were not so prevalent as in 1897. In Ceylon there was a considerable improvement in the general health, principally on account of the lessened prevalence of malarial fevers. In China the general health of the troops was much better than in 1897, the principal decline being in malarial fevers. Plague, which was epidemic among the civil population, caused eight admissions and one death among the troops. In the Straits Settlements there was a large increase in the amount of sickness from malarial fevers, which is attributed to the arrival of the 1st Battalion West Yorkshire Regiment from Hong Kong. In India the chief causes of sickness were, as usual, malarial fevers and venereal diseases, which together caused 55·4 per cent of the admissions for all causes. Malarial fevers and enteric fevers were more prevalent, but the admission rates of cholera, dysentery, and venereal diseases were less than in 1897, the decline in venereal disease being equal to more than one-fourth of the ratio for the previous year. There were again a few cases of plague in the Bombay command. The health statistics of the troops in Egypt are complicated by the fact that numerous regiments came from other stations for service in the Khartoum expedition and that many cases of enteric fever, dysentery, &c., occurred in Lower Egypt amongst men who had returned from the Soudan. There was a considerable increase in the amount of venereal disease.

THE CENTRAL LONDON RAILWAY AND THE LEVEL OF THE SUBSOIL WATER.

(FROM A COMMISSIONER.)

IMPROBABLE though it may appear at first sight there exists a possibility that the construction of an underground railway may affect indirectly for good or for evil the health of the inhabitants in its immediate neighbourhood. This would depend upon any considerable alteration in the level of the subsoil water that might arise from the execution of the work and also upon the composition of the water, much of that in the London subsoil being associated with leaking sewers and gas mains. It would be interesting to learn from medical men practising in the vicinity of such new lines whether they have noticed any increase or otherwise of cases of illness owing their origin to conditions of humidity or to a polluted subsoil.

[illegible] ough any consideration of the subject at the present [illegible] ent must be speculative to some extent yet such an [illegible] ry, taking the Central London Railway as an example, [illegible] not be devoid of interest. A brief conversation [illegible] the eminent engineer who planned the line or with any [illegible] o other able men interested in its construction would [illegible] ssless convince anyone of the utter impossibility of such [illegible] ent as the one under discussion taking place. On the other hand, a walk over its course from the Bank of England to Shepherd's Bush might lead the inquirer to other conclusions. A careful observer would notice many houses which were showing signs of "settlement" together with cracked and broken pavements. More particularly is this the case in the immediate neighbourhood of the stations and at certain points at which the line has intersected the beds of several ancient streams, such as the Walbrook by the Mansion House, the Tybourne river by Davies-street, the Tybourne brook by the Marble Arch, or the Westbourne by the head of the Serpentine. The owners of these houses would be found to hold opinions upon the subject altogether at variance with those which are held by the eminent experts already alluded to. At all events, it is common knowledge that their views in many instances have so impressed those responsible for the construction of the line that considerable sums have been paid by the railway company in compensation for damage done. This being so it may be well to inquire how these settlements have arisen and what other effects may be expected to result from the same cause. To do this it will be well, first, to consider the nature of the soil through which the line passes, and secondly, the construction of the railway so far as the stations at Shepherd's Bush permit.

THE NATURE OF THE SOIL.

Taking the Marble Arch as a central point, the Ordnance datum level of which is 93 feet 4 inches, the general lay of general surface fall eastwards [illegible] highly undulating to the Tottenham Court road. It falls there to 67 feet 1 inch. At Holborn circus it is 55 feet 7 inches, and is 1 inch. At Holborn circus it is 55 feet 7 inches, and is Holborn valley 50 feet, and, rising again at Bangor-street it is 65 feet 3 inches, whereas it falls at the back of England to 39 feet. From the Marble Arch westwards it falls to 65 feet 3 inches at the head of the Serpentine (Westbourne stand of and thence falls at Notting Hill gate station to 50 feet 3 inches, it at [illegible] Bush to 27 feet 3 inches.

[illegible] below the [illegible] Clay [illegible] "Oldhaven [illegible] have [illegible] Lond[illegible] Clay [illegible] is found [illegible] material [illegible]

the laundry and the filtering plant. Hitherto we have had to boil all the drinking water to be on the safe side. The cemetery, too, owing to the typhoid fever, is, I am sorry to say, already needed. Each funeral is carried out with military honours, including the "Last Post," but not including the firing of the salute, for that would be heard and understood by the other sick ones who are [illegible] death. Poor fellows, their ardu[illegible] on short rations at the front tell heavily against them when subject to a long and exhausting illness, and failure of power is apt to cut short a case which in ordinary civil conditions would in all probability have pulled through. We are also beginning to rig up telephones, for the distances are considerable, and all the orderlies are wanted in the huts and can be ill-spared for running messages.

Deelfontein, April 9th.

The small town which has sprung up here in the middle of the Karroo desert is attaining quite large proportions and slowly yet surely we are reaching a stage of full development. Everything is working out well. The huts are a great success and most comfortable, but of course they render it quite impossible for the hospital to be anything but a stationary one. How I wish that a few hundred of the people who so generously gave their money or their work for this hospital could come and see what great good it is doing and how delighted the patients are, officers and men alike. We brought out 40 nursing sisters; now I wish we had brought out 80 or 100. We should not have found that number one too many for one hospital when quite complete. I am very pleased that the Imperial Yeomanry Hospital has been one of the first to employ nurses on a large scale. This I think is a great advance in the medical attendance of our sick and wounded soldiers. It has been rendered possible by rapid steamship and railway travelling, good transport of supplies, the Geneva conventions which neutralise in civilised warfare all non-combatants, and further by the fact that the modern highly skilled nurse has grown up since the last large British war. I am sure that apart from their skill and help to the doctor they confer comfort and happiness on the patients, and I think that in the future it will be recognised that there will be plenty of scope for the nursing sister in war. Our two superintendents, Miss Fisher and Miss Brereton, are getting on admirably. Miss Brereton has charge of the operating theatre and of surgical instruments, dressings, splints, &c.

The most interesting time in our hospital is when No. 2 and No. 3 hospital trains run into our private railway siding and discharge their patients. The siding runs right into the hospital grounds, so that the difficulty of transferring cases from the carriages to the wards is as far as possible minimised. No. 1 hospital train and Princess Christian's train are at work in Natal. No. 2 brought us a load last week and to-day No. 3 brought us 96 cases straight from the recent actions around Bloemfontein. Many of them are very badly injured. One young officer has no less than seven wounds, four made by bullets and three by bits of shell. He will, I think, recover completely and be as good a man again as ever he was. It was, indeed, good luck that none of his wounds were serious, but it is not surprising to find his nerve considerably shaken by such an experience. Lying in the next bed to him is another officer (for we have officers' wards separated from the general wards, and as soon as the patients in them are completely convalescent we put each into a small private tent where he can be attended by the private servant who always accompanies each officer) who has been almost as lucky, for he has been shot through both thighs just below the hip and would almost certainly have lost both his legs if the wound had been inflicted by the old-fashioned soft leaden bullet. The cases that we got from Paardeberg were not so fortunate, for they, poor fellows, all had a three days' journey in ox-wagons before they reached the hospital at the Modder river. Singular cases abound in every train-load. For instance, an officer received to-day had a bullet go through his arm and after shattering the bone it escaped from the opposite side with such diminished force that it did not even pierce his sleeve but fell down into his hand. We have also two cases where bullets pierced the skin exactly over the heart, not having sufficient force left in them to do more than just bury themselves under the skin, whence they have been easily removed.

We have always made it a rule to keep 30 beds vacant on the chance of unexpected arrivals of Yeomanry, to whose wounds it is, of course, our primary duty [illegible] day showed how fortunate it was [illegible] after taking in the 96 patients [illegible] thereby filling all our beds [illegible] stretchers to accommodate some [illegible] older cases so as not to infringe o[illegible] done so than a party of 14 woun[illegible] and we were able at once to put them to bed.

Many of those [illegible] hospital probably hardly realise its [illegible] be able to put up as many patients as may be found in Guy's Hospital on any day. If any of our subscribers want to realise how many patients that means they [illegible] idea by looking over Guy's Hospital [illegible] huts take a week each to put up. O[illegible] and makes an excellent ward. There are more to be put up and next week I hope to send you a plan of the hospital grounds. All the equipment for the wards is excellent with the exception of the wooden furniture, such as tables, cupboards, and chairs. These articles have stood the journey very badly, consequently we have a large number of breakages and we are rather short of wooden tables, &c.

We are sending our second trainload of convalescents down to Cape Town this week for shipment home to England. We have to keep them here until we [illegible] but parties of men who are fit to ret[illegible] almost every day to De Aar, whence [illegible] their respective regiments.

An odd meeting took place here the other day between two brothers who had not met for months. Each thought the other was in Bloemfontein, so they were not a little surprised.

[illegible] Portland Hospital on their way to [illegible] he train that was conveying them and [illegible] paid us a visit.

We are just getting a laundry to work, and as it is to wash for 750 people a week it will have to be a large one. At present we cannot afford sheets for our convalescents, nor, indeed, do any of the medical staff or orderlies possess them. When, if ever, we have such luxuries, it will mean putting through the laundry 2000 sheets a week, to say nothing of blankets, pillow-cases, and smaller linen.

The engine that heats the water for the laundry provides the steam by which all our articles of infected clothing and bedding are sterilised. The same engine also pumps the water used for drinking purposes through the big filter-tanks.

So many people pass through by train that we often have unexpected visits from our friends and we are generally able [illegible] or tea.

[illegible] think that good cannot fail to result from [illegible] in this war of so many civilians. It will [illegible] the interest of many people in the management of the army and the well-being of that service, while the discussion on the Army Estimates, instead of being to most people very dull, will be a matter of great interest.

We had a most successful parade service on Easter Sunday and every member of our staff had a present of tobacco to celebrate Easter day. The orderlies all were very delighted, for they have great difficulty in obtaining tobacco. They have been working very hard since they came.

Deelfontein, April 16th.

ARMY MEDICAL REPORT FOR 1898.[1]

FIRST NOTICE.

TURNING over the pages of this Blue-book—the volume with the appendix, by the way, has really a cover of the prevailing khaki colour, but that is a trifling detail—we have come to the conclusion that it is one of more than usual interest. As it is for 1898 the South African war finds, of course, no place in it, but much of a medico-military kind had been taking place before the advent of the present war, which, it is needless to say, almost exclusively absorbs the public interest at the present time. In

[1] Army Medical Department. Report for the Year 1898, with Appendix. Vol. xl. London: Printed for Her Majesty's Stationery Office by Harrison and Sons, St. Martin's-lane, Printers to Her Majesty. 1900. Price 2s. 6d.

addition to the usual reports and statistical tables connected with the health and hygiene of our European troops at all stations at home and abroad the titles of the papers published as appendices to the report are upon subjects of a varied and promising character. To take these first we may briefly give their titles. They are as follows—the usual report on the progress of hygiene for 1899 by the Professor of Military Hygiene at the Army Medical School, Netley; reports from the surgical [illegible] Royal Victoria Hospital [illegible] Surgery and the Professor [illegible] report on the Nile expedition [illegible] who was principal medical officer of the expedition; various reports connected with the field operations in the West African Hinterland; an elaborate report on enteric fever in Pietermaritzburg with tables and diagrams; together with contributed articles on the method of preparation and [illegible] (venene), on the treatment [illegible] Pasteur's method of [illegible] and notes on an outbreak occurring at Omdurman and in the Soudan.

The report opens with the usual excellent summary statement of the health of the troops at home and abroad, which we cannot do better than follow closely seeing that the results of the facts and figures for 1898 are analysed, collated, and published in a succinct *precis* form.

[illegible] per 1000 of strength as above, the deaths one of 10·32 per 1000, on a strength of 204,950, which includes detached men not shown in the returns received [illegible] Amongst the troops [illegible] and mortality rates were [illegible] favourably with the [illegible] no special prevalence [illegible] more sickness than in the previous year, the incidence of the disease being largely influenced by the return of troops from the Khartoum Expedition, among whom there were 60 cases and 19 deaths after their arrival home. Excluding these the prevalence of enteric fever was [illegible]

During the manœuvres on Salisbury Plain there were 61 cases of heat-stroke and sunstroke among the troops engaged.

There is little calling for special notice as regards Gibraltar and Malta. There was more sickness from enteric fever at the former [illegible], due to the return of troops from [illegible] while at the latter station (Malta [illegible] Crete) the statistics were much [illegible] connected with the Moslem out [illegible], 1898, and by the sudden reinforcement of the garrison of that island with regiments returning from active service "up Nile," circumstances which gave rise to a large amount of the enteric fever, malarial fever, and other sickness tabulated in the returns of the Malta command. Passing over Canada, Bermuda (where the number of cases of enteric fever had been much reduced in 1898), and the West Indies, we come to the remarks on South Africa where the ratios of sickness and mortality differed but little from those for 1897 and the average rate. Enteric fever was, however, very prevalent, assuming epidemic proportions in Natal, where there was also much sickness from dysentery. In Mauritius the health of the troops was somewhat above the average. Malarial fevers caused almost one-third of the admissions, but were not so prevalent as in 1897. In Ceylon there was a considerable improvement in the general health, principally on account of the lessened prevalence of malarial fevers. In China the general health of the troops was much better than in 1897, the principal decline being in malarial fevers. Plague, which was epidemic among the civil population, caused eight admissions and one death among the troops. In the Straits Settlements there was a large increase in the amount of sickness from malarial fevers, which is attributed to the arrival of the 1st Battalion West Yorkshire Regiment from Hong Kong. In India the chief causes of sickness were, as usual, malarial fevers and venereal diseases, which together caused 55·4 per cent of the admissions for all causes. Malarial fevers and enteric fevers were more prevalent, but the admission rates of cholera, dysentery, and venereal diseases were less than in 1897, the decline in venereal disease being [illegible] the previous year. There were again a few cases of plague in the Bombay command. The health statistics of the troops in Egypt are complicated by the fact that numerous regiments came from other stations for service in the Khartoum expedition and that many cases of enteric fever, dysentery, &c., occurred in Lower Egypt amongst men who had returned from the Soudan. There was a considerable increase in the amount of venereal disease.

THE CENTRAL LONDON RAILWAY AND THE LEVEL OF THE SUBSOIL WATER.

(FROM A CORRESPONDENT.)

IMPROBABLE though it may appear at first sight there exists a possibility that the construction of an underground railway may affect indirectly for good or for evil the health of the inhabitants in its immediate neighbourhood. This would depend upon any considerable alteration in the level of the subsoil water that might arise from the execution of the work and also upon the composition of the water, much of that in the London subsoil being associated with leaking sewers and gas mains. It would be interesting to learn from medical men practising in the vicinity of such new lines whether they have noticed any increase or otherwise of cases of illness owing their origin to conditions of humidity or to a polluted subsoil.

Though any consideration of the subject at the present moment must be speculative to some extent yet such an inquiry, taking the Central London Railway as an example, may not be devoid of interest. A brief conversation with the eminent engineer who planned the line or with any of the other able men interested in its construction would doubtless convince anyone of the utter impossibility of such an event as the one under discussion taking place. On the other hand, a walk over its course from the Bank of England to Shepherd's Bush might lead the inquirer to other conclusions. A careful observer would notice many houses which were showing signs of "settlement" together with cracked and broken pavements. More particularly is this the case in the immediate neighbourhood of the stations and at certain points at which the line has intersected the beds of several ancient streams, such as the Walbrook by the Mansion House, the Tyburnia river by Davies-street, the Tyburne brook by the Marble Arch, or the Westbourne by the head of the Serpentine. The owners of these houses would be found to hold opinions upon the subject altogether at variance with those which are held by the eminent experts already alluded to. At all events, it is common knowledge that their views in many instances have so influenced those responsible for the construction of the line that considerable sums have been paid by the railway company in compensation for damage done. This being so it may be well to inquire how these settlements have arisen and what other effects may be expected to result from the same cause. To do this it will be well, first, to consider the nature of the soil through which the line passes, and secondly, the construction of the railway so far as the cases at Chancery will permit.

THE NATURE OF THE SOIL.

Taking the Marble Arch as a central point, the Ordnance datum level of which is 93 feet 4 inches, the ground has a general surface fall eastwards, [illegible] Tottenham Court road. It falls there to 87 feet 1 inch. At Holborn Cross it is 85 feet 7 inches, and at Holborn valley 35 feet, [illegible] it is 65 feet 3 inches, whereas it falls at the Bank of Legend to 59 feet. From the Marble Arch westwards [illegible] (Westbourne station) and [illegible] Bush to 87 feet 3 inches.

[illegible] Ordnance [illegible] London Clay [illegible] is found [illegible] London Clay [illegible] of gravel [illegible] material [illegible]

consist of plastic clay, loam, sand, and pebble-beds and are for the most part impervious to water, though not always entirely so. This fact of possible permeability should not be lost sight of, as in the event of the London Clay being pierced by the tunnel immediately above a porous strata any water gaining access to such a point would escape through it and possibly into the Thanet Sands that rest upon the chalk below. The London Clay, which in the City is about 110 feet thick, is in Oxford-street, in the neighbourhood of t[illegible] Tottenham Court-road station, not more than 64 feet [illegible] depth. Towards the Marble Arch it thickens out co[illegible]siderably, and in the neighbourhood of Notting Hill [illegible] approaches a depth of 200 feet. The upper surface of t[illegible] clay is a gentle undulation at right angles to the river, towards which, of course, it slopes.

The Bagshot Beds, which come next in order, are so sparingly present in this district that they need not be here discussed.

The River Drift, composed chiefly of sand and gravel, but interspersed with beds of loam, clay, or brick-earth, rests here upon the London Clay. As might be expected this varies much in thickness, attaining its maximum of from 25 feet to 30 feet in the vicinity of the old Kensington gravel-pits at Notting Hill, as also at the Marble Arch. It is lost for a short distance between the west slope of Notting Hill and Shepherd's Bush, at which latter place the sand and gravel reappear in conjunction with the brick-earth. Eastwards from the Marble Arch the gravel thins down considerably to some two feet or less, whilst in the older City east of Holborn it has almost disappeared, being replaced by the made ground. The made ground at the commencement of the line in the City in places exists to a depth of 20 feet or 30 feet or even more. It represents the accumulated rubbish from the destruction of old buildings for generations, dating from the time of the Roman occupation. This made ground, after passing the Tottenham Court-road station, where it has a depth of some 10 feet, thins away rapidly westward.

In addition to the character of the strata the original physical features of the district must be borne in mind. The marshy nature of the land on either side of the river is notorious. The tunnel passes under Oxford-street and the Bayswater-road, and these roads stand upon the site of the old Roman road—the Via Trinovantica of Stukeley. This old military road, which entered the City through [illegible] (Eald-street), was raised above the surrounding marsh, and it crossed, going west, first the Wallbrook and next the Fleet river, and then for some distance it ran beside the Oldbourne. The Tybourne river was next crossed. Upon the site of this old stream the west side of [illegible] is built. After crossing the old Watling-[illegible] Edgware-road) the Tybourne brook was [illegible] rising a short distance at the back of C[illegible] ran through Hyde Park and joined the [illegible] above Knightsbridge. It was beside th[illegible] the back of Connaught-place, that "Tyburn tree" for generations yielded its awful crop to enrich the surrounding ground. Descending the slope westward the [illegible] crossed the Westbourne river, which higher up received [illegible] waters of the Kilbourne brook. The Westbourne, long since covered over excepting where it passes through the centre of the Serpentine, which takes its name from the sinuosity of the former stream, occasionally overflows at this point into its old bed at the head of the Serpentine. The Serpentine, however, draws its chief supply from a well sunk in the chalk. All these streams formerly drained the marsh lands from the foot of the northern heights into the Thames. There is abundant evidence as to the saturated character of much of the subsoil; for instance, Hertford House, Manchester-square, is or was built upon wooden piles, as was also the Bank of England, which last has been underpinned since the advent of the railway, but this may have been a coincidence. In the middle of the eighteenth century woodcocks were shot in Conduit Meads, now Conduit-street, while Bayswater, as its name implies, was noted for its conduits.[1]

It will be seen from the foregoing statement that the ground through which the railway passes consists of four distinct layers: (1) made ground, (2) sand and gravel with clay, (3) the London Clay, and (4) the Woolwich Beds. The sand, gravel, and clay are more or less saturated with water retained in hollows formed by the London Clay at greatly differing levels. At the end of this article is given a short outline of the leading features of the stratigraphical geology of the London Basin. The facts mentioned therein are gleaned from Professor Geikie's "Text-book of Geology," and from the excellent "Guide to the Geology of London," by William Whitaker, B.A., F.R.S.

THE CONSTRUCTION OF THE RAILWAY.

[illegible] partially water-log[illegible] districts [illegible] in construction would convert [illegible] drain having some 13 branches, [illegible] shafts and cross tunnels to the [illegible]

The tunnels fall ea[illegible] they do not appear to [illegible] drop of some 20 feet [illegible] fact, resemble a "swi[illegible] tunnels in contact with [illegible] water-tight is enormo[illegible] circumference of over [illegible] each probably double this size and 350 feet long, while the access shafts that pass [illegible] strata must be from 100 feet to 120 [illegible] order to minimise the difficulty of p[illegible] bearing strata and to avoid the sewers [illegible] kept at a considerable depth and as much as possible within the area of the London Clay. The thickness of the clay would seem generally to have been sufficient to have obviated any descent into the Lower London Tertiaries; at all events, there is only one publicly known instance to the contrary—viz., at a point between the Tottenham Court-road and Oxford-circus. Here, at a depth of 80 feet, the clay was pierced, a specimen of calcareous sandstone with fossils having been removed and presented to the Geological Museum in London.

Details of construction.—The tunnels are made by means of a steel cylinder or boring tool which is some eight feet or ten feet long, of the exact diameter of the tunnel, and furnished with a slightly wedge-shaped cutter bolted on one end of the tool. This cylinder, or "shield" as it is termed, is pushed onwards with a slight rotatory motion by hydraulic pressure. The core of earth is next [illegible] and removed from the cylinder. The excavation [illegible] is then lined with iron [illegible] forming theoretically a circular tu[illegible] the cavity made by [illegible] small holes in this iron lining lime or [illegible] forced in by com[illegible] ny existing cavity [illegible] soil. [illegible] ings it is known [illegible] either loose ground or [illegible] strata an iron division is fixed across a [illegible] of the completed tunnel a short distance behind the [illegible] forming an air-tight chamber. This division is fitted with a door through which the workmen can pass in and out, also [illegible] small plate-glass window, through [illegible] the chamber can be seen. The air-[illegible] connected by tubes passing through the division to an air-pump which forces in the air at a pressure of several atmospheres, sufficient to uphold the water and loose soil while the work is proceeding.

The vertical shafts.—These present great difficulties in preventing the subsoil water from gaining access to the exterior of the tunnel below, inasmuch as they pass down through varying strata, the River Drift composed, as has been seen, of layers of sand, loam, clay, or gravel—the thin layers of impervious clay sometimes holding up and dividing local beds of water from the underlying porous beds of sand and gravel. It would seem that the operation of sinking these shafts is accomplished in the same way as that in which lined wells are sunk. A shallow excavation, perhaps three feet deep, and of the size of the shaft, say 40 feet over, is first sunk. The iron segments forming the first ring are then placed in position and bolted together and afterwards the space between them and the soil is filled in. A second sinking is then made at the bottom of the first and is lined, but with each succeeding section the difficulty of making good the sides of the loose water-soaked soil would seem to increase. This course is followed until the iron cylinders are several feet below the surface of the clay; or by underpinning. In this case brickwork would take the place of the iron cylinders below the clay level, and the difficulty of making good the outside of the shaft would certainly be greater. The means adopted for preventing the water from

[1] Bayswater Conduit, the site of which is marked by the site of the Carron Company's [illegible] in Upper Thames-street, was supplied by means of a conduit from Hamlet Hayward's watering, situated in Bayswater.

rising in the bottom of the shaft when passing down through a saturated soil are not evident, as the railway company [illegible] pumping operations by their [illegible] forms a series of pools resting on the top of the clay at greatly varying levels, each having its individual outlet but each cut off from its neighbour by intervening beds of clay. Not infrequently the height of this subsoil water is regulated by the levels of the main sewers. At a considerably lower level than that of the sewers now run the two enormous cylinders forming the railway, communication with the different levels having been completed by the several still larger vertical shafts that pass down to the tunnel through the pools or beds of water above referred to. It must be evident, therefore, that if any accidental connexion is made between detached groups of water-bearing strata at present divided by beds of impermeable clay, the water in the higher level will be lowered and that in the lower will be raised. Any defect in the sewers that permitted the entrance of the subsoil water would, under certain conditions, now permit the escape of water from the sewers to the lower drainage level. During the progress of the works water bearing strata may have been connected together, for a time at least, by the many bore holes sunk to ascertain the nature of the soil. The tunnel has in one known instance, and possibly in others, pierced the bottom of the London Clay. In such an event should the underlying beds at any such points be of a porous nature a ready escape for water would exist. The great difficulty at all times of excluding water from a pit or basement when the same is sunk in a water-bearing stratum is well known, even when the depth is but slight. In the case of the railway the difficulty is tenfold and such work has to be conducted at considerable disadvantage, while the opportunity for ascertaining that the water has been ultimately excluded from contact with the tunnel externally would not appear to exist. That a space is present round the cylinders is admitted by the endeavours made to fill them up with the cement grouting. In theory this may be accomplished, but in practice that unknown quantity due to all human agency [illegible] The unexpected, the sudden [illegible] variation in the nature of the soil [illegible] of the machinery or the carelessness of those employed, are all factors leading to failure in this respect and of which failure there exist many proofs. It would seem to be possible that the enormous pressure put upon the clay by the insertion of the cylinders might, by expelling the moisture, cause the clay afterwards to shrink for a time.

CONCLUSIONS.

The damage to the houses caused by subsidence at various points along the line of railway is without doubt in a large [illegible] the founda- [illegible] occurred in [illegible] diately upon [illegible] section. At others very many months have elapsed before the damage to the property became pronounced. This difference may be accounted for in the following manner. Any failure in consolidating the soil round the tunnels or shafts must sooner or later cause a subsidence owing to the great pressure from the surrounding buildings. The first settlement would be attributable directly to this cause. If, however, such subsidence was delayed water would unquestionably gain access to the cavity and in time a connexion would be formed along the course of the tunnel between water-bearing strata at different levels. Months, or even years, might be required to complete this, but as time passed the channels would increase in size by the action of the water. The first effect in this case would be to lower the level of the water at the higher point, when settlements would ensue from shrinkage. Afterwards when the channels had increased in size a further general settlement might probably ensue along the track of the flowing water. To this cause may probably be attributed the damage to the house property in Birkenhead in the case of the well-known subsidence of the ground following upon the making of the Mersey tunnel. The vibrations caused by the passage of the trains would be likely to accentuate any such secondary settlements. It would be quite possible at this juncture for the channels to become blocked by the falling earth, when the water for a time might regain its former level until a fresh outlet was found, but [illegible] of level would be extremely detrimental alike to health and to property. Enough has been said to show that the alteration in the levels of the subsoil water in the neighbourhood of any such underground railway is not only possible, but, indeed, judging from the effect upon house property, extremely probable.

In discussing this subject in the interest of the public health there is no wish to decry the good work which underground railways are likely to accomplish in the future by relieving the congestion of our main thoroughfares. It is rather hoped that by discussion the fears expressed may be fully considered from the point of view here suggested before the system of underground tunnelling is greatly extended. The work itself is a monument to human ingenuity, the tunnels themselves forming by no means the most wonderful part of the undertaking.

GEOLOGICAL NOTES ON THE LONDON BASIN.

The Cretaceous system.—For the present purpose the older beds, below the great mass of chalk that forms the basement of the London Basin, may be left out of consideration. The chalk under London has been denuded and forms a hollow. It varies in thickness from 700 feet to less than half that depth and acts as a huge reservoir from which quantities of water are drawn by many of the water companies and other large consumers. The water level, which at one time rose to a considerable height above the chalk, has been much reduced and now stands at some 120 feet below the Ordnance datum.

The Eocene Tertiaries.—These follow next in order and, as their name implies, consist of three distinct groups, the first and last of which are again subdivided. They are: the Lower London Tertiaries, the London Clay, and the Bagshot Sands, which last consist of a varying group of pebbles, sand, and loam. The lower tertiary group is thus divided: the Thanet Sands which when present lie next upon the chalk, the Woolwich and Reading Beds, and the Oldhaven and Blackheath Beds. Some of these beds yielded at one time a good supply of water, but they have long since been drained.

The Thanet Sands, like the chalk, are considered to be a marine deposit and they vary greatly in thickness from 60 feet or they may be altogether absent. This stratum is frequently clayey and mixed with unworn flints, the carbonated water having dissolved the chalk into hollows and pipes. The sand, which is free from pebbles, thins out to the west and north of London.

The Woolwich and Reading Beds are always constant between the chalk and the London Clay, excepting in one or two instances where the Oldhaven Beds have carved their way through them. They vary greatly in composition, as they do also in thickness, which, however, at their greatest depth never exceeds 90 feet. At their base they are invariably composed of a clayey green sand with pebbles when resting on the Thanet Sand, but when the Thanet Sand is absent and they rest upon the chalk the pebbles are replaced by unworn flints. These flints [illegible] from the chalk having been dissolved, as just described in the case of the Thanet Sands. From the fossils present it is judged that these beds were laid down near the mouths of rivers and streams.

The Oldhaven and Blackheath Beds are of [illegible] depth, their greatest thickness being 50 feet. [illegible] they consist of well-rounded pebbles almost entirely derived from flints eroded from the chalk, and they indicate the great extent of the denudation [illegible] the chalk has been subjected and the [illegible] action by which all angularities have been removed from the flints. At [illegible] with clay [illegible] This deposit [illegible] shallow sea [illegible] following [illegible] gradual [illegible] [illegible]

both animal and vegetable carried down from the land by the great rivers. It was, indeed, the action of these rivers that did so much to fill, with the Tertiary deposits, the two great basins of London and Hampshire hollowed in the denuded chalk. The fossil remains indicate a moist warm climate almost sub-tropical in character.

The Oligocene system, the Miocene system, and the Pliocene system.—A great gap now intervenes in the geological record of the London Basin, and it would be difficult, if not impossible, to give briefly and in proper sequence the events that produced the formations immediately following on the Tertiary deposits. Some attempt, however, may be made to give an outline of the Pliocene system. The great Ice Age converted northern Europe into one vast sheet of ice, hundreds, even thousands, of feet in thickness, the remains of which are still present in the Alps and the Pyrenees. The glaciers partially denuded and cut down the preceding formations, leaving upon their newly exposed surfaces materials derived from other, and often distant, sources, together with the moraine stuff, that mixed mass of clay, pieces of rock, and stones, called "boulder clay," pushed onward by the glaciers in their course. Not once only, but many times, was the land thus enveloped in this icy covering, while during the long but warm intervals that ensued the land in places again subsided beneath the water. It was then that vast icebergs, detached from colder regions, passed over and grounded upon the more elevated points of the land beneath the shallow seas thus formed. Many of the more yielding rocks were thus crushed or crumpled, while the melting icebergs deposited their loads of detritus upon the freshly exposed surfaces.

Post-glacial beds.—These as related to the London Basin may be said to consist of valley gravel, brick-earth, sand, loam, and clay. At the latter part of the preceding age the south-east of Britain was connected with northern Europe. The Thames was then a broad and rushing river, thought by some to have been a tributary of the Rhine. The volume of its water was swelled by melting glaciers or torrential rains, and in its course it carried down and ground or rounded the broken rocks, the flints, and the clay or the chalk torn from the various strata through which it cut its way. The several terraces of gravel, one above another, that line the valley show that the river itself underwent many changes, and as its volume decreased a deeper and narrower channel was cut in the centre of its former bed. The floods deposited upon the higher terraces the alluvium, the sand, and the clay that now cover them. In the London Basin the gravel spreads for miles on either side of the present stream, recording by the several deposits the varying strength and volume of the river. It is in these beds of river gravel, sand, brick-earth, &c., that the first traces of human existence are to be found, as evidenced by the presence of the flint implements and weapons with which men first fished, hunted, or fought. With them are found the bones of animals, some now extinct, though others are still represented. These, with man, spread to Britain from the north of Europe.

THE INTERNATIONAL CONGRESS AT NAPLES AGAINST TUBERCULOSIS.

On April 25th this Congress was inaugurated by the King and Queen of Italy in the historic Opera House of San Carlo. The President, Professor BACCELLI, welcomed the delegates who had been sent from every European country (except England), the Congressists who numbered some 1200, and the members of the "League's" adherents in Neapolitan society. He alluded to the King's efforts during the cholera in 1884 and to his present visit to wage war against the "phylloxera of human life." He explained the objects of the meeting and briefly reviewed the question of tuberculosis from Morgagni to Koch. The recent legislation and the prizes offered for the best-planned sanatorium were mentioned. He insisted that the mortality from tuberculosis in Italy was less and more rapidly decreasing than in any other country in Europe, in spite of the number of cases attracted there by the climate, but trusted that the original example set in England would be eagerly followed by Italy in the provisioning of proper institutions for consumptives. The arrangements for the following days were on the lines of the British Medical Association's meetings. From the mass of communications which covered all the old ground are taken the more original items.

Professor LANNELONGUE explained his attempt to deduce results as to climate. He inoculated 150 guinea-pigs in the pleura with similar doses of tuberculous material. The 150 were divided into three lots of equal weights and put to live under different climatic conditions, one lot being retained in the laboratory at Paris, the second lot being sent to Valmont in the country, and the third lot to the seaside at Grandes Dalles. The conditions other than climatic were rendered as similar as possible, the experiment lasting 11 months. The mortality curve of the country lot was the highest from the start, the other two lots keeping level for a long time. Towards December the seaside curve rose and the laboratory curve had the best of it. A second experiment was marred by an accident to one of the lots, but here again the laboratory lot suffered least, and Professor Lannelongue concluded that the equable temperature and the repose of the laboratory were the reasons. The greater thermometric variations of the country and the seaside were followed by rises in the mortality curves. An experiment on these lines if carried out with men instead of guinea-pigs might give definite information regarding the sites of sanatoria.

Professor MENELLA pressed for legislation against the marriage of phthisical persons, since investigations proved the transmission of tuberculous toxin, and even of bacilli, by the placenta and semen.

Dr. SANARELLI read a most suggestive paper on the Dangers of Infection in Railway Carriages, &c. He especially pointed to the wagons-lits and asked that there should be not merely a general disinfection of such vehicles but alterations in the material and arrangement of the upholstery so as to allow of daily cleansing. He asked for special carriages for consumptives: The model railway carriages now on view at Rome were mentioned.

Dr. POSNER gave the result of 1300 necropsies in Virchow's clinics, showing that of the tuberculous cases 30 per cent. had tuberculous disease of the genito-urinary organs.

In the therapeutic section there was little new, iodoform being the favourite remedy, administered in every possible way. Professor Cervello had been expected to demonstrate his method of inhaling formic aldehyde. A proposal to abolish vaccination because of the risks of tuberculous infection received no support.

Dr GERMANO gave an interesting account of the facility with which fish, especially the carp tribe, could be rendered tuberculous by feeding them on the sputum of consumptives.

Professor IRANZO had good reason to point out that the objects of the Congress would be more surely attained by the education of the public than by the passing of resolutions urging the Government to legislate on an infinity of professional whims.

A section was specially devoted to the meeting of the Laryngological Society of Italy, numbering about 80 members. The convenience of visitors was consulted by the Pro Napoli Society—a permanent institution for giving gratis and correct information on every possible matter of interest to strangers.

Professor MARAGLIANO received a tribute from his friends in the profession who presented him with an address and gold medal to mark his connexion with the anti-tuberculosis movement.

During the week the municipality of Naples gave an at-home to congressists and the mayoralty provided a special evening at the opera. Many banquets took place. The arrangements for a trip in the bay to Capri on an ironclad and other steamers were as satisfactory as was the great day at the excavations at Pompeii, when over 1000 sat down to lunch in marquees erected on the site of the gladiatorial buildings.

Summer weather favoured the Congress and has advanced the buildings of the Exposition d'Hygiène.

A volume of transactions of the Congress will be published shortly and may be obtained from the untiring honorary secretary, Professor A. Rubino, Naples.

ST. JOHN AMBULANCE ASSOCIATION.—Mr. Charles William Seccombe, L.R.C.P. Lond., M.R.C.S. Eng., of St. Austell, Cornwall, has been made an honorary life member of the St. John Ambulance Association in recognition of his services as instructor and lecturer in connexion with the ambulance department of the Cornwall County Council Technical Instruction Committee.

CONFERENCE ON MEDICAL ORGANISATION AT MANCHESTER.

(Continued from p. 1203.)

PUBLIC VACCINATORS'

At the Conference in the afternoon session on May 2nd Dr. Ratcliff-Gaylard's motion (printed in THE LANCET, May 5th, p. 1206)—

That it is desirable that those who have the carrying out of the provisions of the Vaccination Act should perform their duties in such a way as not to trench upon the interests of general practitioners, and that instructions to this effect be issued to public vaccinators—

led to some debate. Dr. Ratcliff-Gaylard said that public vaccinators gave their patients to understand that they used a superior kind of lymph. That had occurred in his practice more than once.

Mr. WOLSTENHOLME, in seconding the motion, said that he knew of two public vaccinators who had used blandishments and almost compulsion to get the opportunity of vaccinating children at public expense. They said that their lymph was Government lymph, that the vaccination would cost the patient nothing, and on one occasion that general practitioners had ceased to vaccinate.

Dr. MAJOR GREENWOOD said that a serious charge had been made against a respectable body of men few of whom could be so mean and dishonest. He saw no necessity for [illegible] Gaylard suggested. Why did not medical men look after the children and vaccinate them before they were four months old? The public [illegible] and vaccinate such children [illegible] submit to him. 50 per cent [illegible] were not vaccinated properly. In a large union that he was acquainted with he had never heard of a complaint of any undue pressure being put on anybody by a public vaccinator. For them in that Conference to pass such a resolution as was proposed would be to assume that it was a common practice for public vaccinators to abuse their position under the Act under which they were obliged to discharge their disagreeable duties. He considered that it would not only be unjust, but it would be ungenerous, for the Conference to pass such a motion.

Dr. F. RILE said that the resolution was inadequate because it did not sufficiently call attention to the grievances of the general practitioner with regard to the Vaccination Act.

Dr. BRASSLY BRILLEY said that it was a reckless charge and that no evidence had been brought forward. The accusation ought to have been supported by the most direct and complete proof.

The motion on being put to the vote was lost by 19 votes to 17.

THE MIDWIVES BILL.

On the third day of the Conference, Thursday, May 3rd, Mr. G. A. WRIGHT (Manchester) took the chair.

Dr. GLOVER read a paper on "Some Debated Points in Medical Politics" which will be found reported *verbatim* in THE LANCET of May 5th, 1900, p. 1206, at which point our report of the proceedings stopped.

Mr. G. H. BROADBENT (the Incorporated Medical Practitioners' Association) said that the title of Dr. Glover's paper was a misnomer. It was useless to talk of a Bill for the control of midwives and for remedying the difficulties which existed, because the Bill was simply for the furtherance and promotion of midwives, and as to their control and supervision it was worth nothing at all and was altogether mythical. The object of the present legislation was to make the midwife an independent medical practitioner. He considered that Dr Glover ought to have given notice that his address was to be for the promotion of the Midwives Bill

Mr. R. H. WOLSTENHOLME (Salford) said that though the midwives existed as a fact they were not recognised as a legal class. The profession would not oppose the creation of midwifery nurses, but the Bill formed a new inferior class of medical practitioners from ignorant women who were one day to be at the washtub and the next were to be acting as legalised medical practitioners

Dr. MAJOR GREENWOOD (the Poor law Medical Officers' Association) said that the great objection to the Bill was that these women would be made legal practitioners of midwifery The Local Government Board did not recognise midwives acting independently of medical men. If the Bill were passed the Local Government Board would be compelled to recognise the midwife to be a practitioner in midwifery. If the Bill were passed would the present happy agreement continue by which medical men saw cases with midwives? It might create a sort of conflict between the medical profession and this new class of practitioner which would result in a deadlock and render the Bill unworkable.

Dr. A. G. C. IRVINE (Birmingham and District General Medical Practitioners' Union) said that many medical men held a view quite different to that expressed by many at that conference. Legislation on the subject of midwives was a certainty and could not be avoided. They were blind and foolish who tried to avert proper legislation, but the medical profession could not approve of the present Bill before Parliament.

Dr F. RILE (Wigan and District Medical Guild) cordially agreed with every word that had fallen from Dr. Glover. It had been stated at that conference by some of the gentlemen present that whilst recognising the serious evils which existed they were not willing to have any legislation on the matter of registration of midwives. How was the Government to get rid of the evils which these gentlemen acknowledge to exist except by some sort of legislation? Some gentlemen said that they would not object to the Bill before Parliament if the midwives were called midwifery nurses, but the Government were simply defining a state of things that was really in existence. The midwives in practice now were women who were engaged to attend confinements and if anything went wrong a medical man was called in to help. There were members of that conference who would be perfectly willing to see all women removed from attendance on midwifery cases (cries of "Certainly") and their places taken by medical men who would strive to make a living, if that were possible, from the low fees paid to midwives. He had a higher opinion of the conduct of the medical profession than to desire such a state of things.

Dr. GLOVER said that Mr. Broadbent considered the title of his (Dr. Glover's) paper to be a misnomer and expressed the opinion that the proposed supervision of the midwives was nothing at all—in fact, merely mythical That was, to say the least, scarcely complimentary to the Midwives Board. It would be to the ultimate advantage of the profession if gentlemen would treat governing bodies with more respect, and he must deny that Mr. Broadbent's remark was either correct or proper, because the supervision of the midwives would be very real. If the midwife disobeyed the orders and regulations of the Midwives Board she would be taken off the list and prevented from following her work, which would be a greater punishment than merely fining her 10s. Mr. Broadbent objected to the definition of midwife and he (the speaker) personally could not understand the definition; he did not know any member of the General Medical Council who was satisfied with it; it was therefore to be the subject of discussion with the Government.

Mr. BROADBENT said it was not a Government measure, and was proceeding to refer to a letter which he had received from the Leader of the House of Commons when the chairman directed Dr. Glover to proceed.

Dr GLOVER, continuing, said that in regard to its being a Government measure it must be remembered that the Lord President of the Council was in communication with the Government on the subject. It had practically been a Government measure either actually or potentially. It certainly was not correct to say that it was not a Government [illegible] the Bill [illegible] was not [illegible] and then [illegible] that on the main points the General Medical Council had been satisfied, and on any points in which the Council should fail to be satisfied the support of the Government would be withdrawn. Mr Broadbent with a sneering style which did not become himself to assume, said that all the religious [illegible] in the Bill were simply [illegible] there was any [illegible] of opinion between them and the Government [illegible] wanted inserted in the Bill thereby that when a midwife [illegible] not to a dirty [illegible] and to that the [illegible] whole matter in your own hands already, you are to make the regulations [illegible] to the Government [illegible] the matter, for he had spent [illegible]

an hour in consultation with the Solicitor-General and was speaking from actual personal experience. The Government said, when told what they wanted in the Bill, that the medical profession were empowered by the Bill to make all the rules in regard to the matter and that it was entirely in the hands of the General Medical Council; therefore Mr. Broadbent and his friends might go on denying the fact till the end of time, but it would not alter matters. Mr. Wolstenholme had said that the midwives did not exist as a legal class, but was there any gentleman present there who would take a midwife into a court of law and say that she was using an illegal title? Was there any gentleman there who would deny that a midwife had been able to recover her fee in a court of law?

Mr. R. B. ANDERSON (the Corporate and Medical Reform Association, Limited) said that he was surprised at the question: a midwife could not recover her fee in a court of law.

Dr. BRASSEY BRIERLEY (Manchester Medico-Ethical Association) said that in that district a midwife had thus recovered her fees.

Dr. GLOVER, continuing, said [illegible] Mr. Anderson to prove the correctness [illegible] He (the speaker) had taken legal advice on the matter and had been informed that the services of [illegible] been recognised in a divisional court as [illegible] surgical. [Dr. GLOVER was here subjected to considerable interruption which did not subside till Mr. R. B. ANDERSON had replied in the affirmative to the question, Did he consider that a midwife was liable to prosecution under Section XL. of the Medical Acts? Dr. GLOVER having been called upon by the audience to "Go on" and "Never mind Mr. Anderson," continued his reply.] What was the use, he said, of the General Medical Council trying to raise the profession if Parliament was to be told that medical men in large numbers were to be found willing to attend midwifery cases at 5*s.* 6*d.*? (A voice: "It was not true.") He agreed with the gentleman, though perhaps the point had been made in a somewhat monosyllabic manner, and he put it to the meeting whether he was not supporting the dignity of the profession in that matter. It was not until the Bill came forward that it became a crime to recognise a midwife. He himself thought that the best term to use was "midwifery nurses," but it was impracticable to urge that; it was not even within the power of Parliament to obliterate the word "midwife" from their language, and that was a common-sense view of the matter. His friend and neighbour (Dr. Major Greenwood) objected to the midwife being raised to the position of a medical practitioner, but the Bill said specifically that she was not to be placed in that position. In answer to Dr. GREENWOOD Dr. GLOVER said that he considered that the Obstetrical Society in labeling their documents as diplomas did very wrong and he voted for that to be stopped. Last year he voted that the General Medical Council should withdraw their recognition of the present document issued by the Obstetrical Society, but he would not be a party to accusing men like Sir John Williams, Dr. C. J. Cullingworth, and Dr. F. H. Champneys of being guilty of infamous conduct in a professional respect. Such a charge would only bring the General Medical Council into ridicule.

Mr. BROADBENT asked if poorer men were wanted.

The CHAIRMAN interposed with the remark that Mr. Broadbent should not have said such a thing and considered that it was an improper remark.

Dr. GLOVER, continuing, said that Dr. Major Greenwood feared that if Parliament passed the Bill the friendly assistance granted to the midwife by medical men would be withheld, but he, Dr. Glover, did not believe that. Perhaps one or two might consider it their duty to act in that manner; he did not think that that would be the general action of the medical profession.

MEDICAL ORGANISATION.

Dr. E. JEPSON (Durham) read a paper on Medical Organisation in which he advocated the organisation of the medical profession into a number of unions or guilds throughout the country from which provincial councils could be chosen on the same lines as the National Union of Teachers. These councils would then work through the Council of the British Medical Association. He suggested that members should attend in force the Ipswich meeting of the British Medical Association and demand a handsome annual grant for three years towards the complete organisation of the profession.

Dr. Jepson concluded by pointing out that a small annual registration free from medical men would produce sufficient to secure that two representatives should be sent to the House of Commons to support the interests of the medical profession.

Dr. S. CRAWSHAW (Ashton-under-Lyne), honorary secretary to the conference, moved the following:—

That in the opinion of this conference no scheme of medical organisation can be considered satisfactory unless it provides the following machinery:—

1. Local or district associations formed wholly or partly for the discussion of medico-ethical or medico-political topics, to which all practitioners in the locality shall have the right to belong, such associations to be formed for this purpose where not already existing.
2. An annual conference of delegates from these associations, at which conference only medico-ethical and medico-political topics shall be discussed.
3. A central executive committee which shall be nominated and elected by the local associations, every member to retire annually, but to be eligible for re-election.

Dr. T. W. HIME (Bradford and West Riding Medical Union) suggested that instead of "all practitioners" the words should read, "all registered medical practitioners of good repute," otherwise the wording was so general that the untidy, dirty, and drunken women of whom they had been speaking would have the right to belong.

Mr. J. S. WHITAKER [illegible] tioners' Association of [illegible] said that every registered practitioner prepared to conform to the rules of an association should have the right to belong, otherwise they drifted into local jealousies and dislikes.

Dr. S. WALKER (North of England Branch of the British Medical Association) said that the object should be to bring the black sheep into the fold. If these small societies were formed in every town and district so that the local intelligence of the practitioners was best able to be brought into force they would have a better organisation of the profession. He considered that the real work would be done by the little local associations.

Mr. R. B. ANDERSON suggested an addition to the resolutions of a paragraph dealing with a well-considered platform of common objects and methods.

Mr. WHITAKER opposed this addition. The mass of the practitioners must say what they want and let the central organisation carry out their dictates.

Dr. A. B. RITCHIE (Lancashire and Cheshire Branch of the British Medical Association) said that the organisation should be grafted on to the British Medical Association.

Dr. MAJOR GREENWOOD said that smallness of size in societies in regard to ethical questions was not satisfactory, because the ethical conduct of members was not a subject for [illegible]

A[illegible] Dr. CRAWSHAW'S motion was carr[illegible] following form:—

That in the opinion of this conference no scheme of medical organisation can be considered satisfactory unless it provides the following machinery:—

1. Local or [illegible] formed wholly or partly for the discussion of [illegible] medico-political topics, to which all registered medical practitioners in the locality who agree to conform to the rules of such associations shall have the right to belong, such associations to be formed for this purpose where not already existing.
2. An annual conference of delegates from these associations, at which conference only medico-ethical and medico-political topics shall be discussed and voted on.
3. A central [illegible] hall be nominated and elected by the [illegible] three years, one-third of such commi[illegible] eligible for re-election for one year,

Dr. ALFRED COX (Gateshead) brought forward the following motion:—

That this conference is of opinion (1) that the pressing need in medical organisation is concentration; (2) that the multiplication of associations other than those purely local is to be deprecated; (3) that the size, position, and wealth of the British Medical Association make it the most suitable national medical organisation; and (4) that the efforts of all medico-ethical and similar associations and of the conference should be directed to the conversion of the British Medical Association into an energetic body really representative of the profession.

He said that the British Medical Association was a played-out body as far as medico eth[illegible] concerned. They felt strongly that in the [illegible] had been dissipated by forming many [illegible] with practically similar objects, and it seemed to him foolish not to use the accumulated funds of the British Medical Association. The British Medical Association had lasted 60 odd years and it had attained a position of importance which enabled it to go to Parliament and the Government with more or less responsibility, chiefly less. Most

practitioners "making a comfortable living" did not care a straw about [illegible] did join his branch of the [illegible] constitution of that body [illegible] secured by [illegible]

[illegible] carried, and [illegible]

The final session [illegible] on the afternoon of May 3rd, [illegible] (Plymouth) occupied the chair [illegible]

Mr. T. [illegible]
British M[illegible]
Point of [illegible]

were then [illegible]

Dr. Major Greenwood discussed the question of the size of the branches of the British Medical Association and declared, that general practitioners were not so systematic[illegible] and there was no attempt [illegible] appointments before practitioners had a tendency to [illegible] in the branches should be [illegible] to propose important [illegible] attended as they were at the present time and they must have proxy voting. Men must be sent to vote in a certain way, and must give an account of their stewardship.

Mr. Whitaker said that as to the size of the branches each part of the country must work out its own salvation. To attempt to reform the whole constitution of the British Medical Association was a business that it was useless to undertake.

Dr. Ritchie said that he could see no fundamental difficulty in transforming the British Medical Association.

Dr. Glover said that he thought the General Medical Council had passed a resolution which had met with the general support and approval of the profession with regard to touting by medical aid associations, and he believed that he spoke the mind of his colleagues when he said that the Council was quite prepared to give practical effect to the resolution they had passed last year as soon as they had an actual case before them. Did Mr. Garrett Horder or any other member present there really expect that the Council should act without an actual and concrete case before them? The law of the land was that if a man committed a murder he was to be hanged; but surely Mr. Horder would agree that the man [illegible] there was no one but [illegible] would promise him the attention of the Council in accordance with its resolution that was passed last year.

Dr. Hime declared that Dr. Glover had made a perfectly charming answer and nobody was disappointed in the least. In the British Medical Association there was a system of election of the same set from generation to generation and from headquarters. [illegible] said that the funds of the [illegible] money and they must use them. It had been decided that the council of the association was bound to carry out the resolutions of the annual general meeting. The association was a limited liability company and the council was an illegally constituted body. If the council it could do [illegible] as [illegible] the time had come for the [illegible] the association. In regard to the General Medical Council it had given warning that it disapproved of touting by medical associations, and it was not reasonable of Dr. Glover to say, "Send up a concrete case," because he (Mr. Horder) was certainly not going to send up the names of medical men in Cardiff who were connected with medical aid associations and render himself liable to action for libel.

Chairman suggested that this might be done by some [illegible] on and the discussion closed.

The Conciliation Board.

Cox said that he asked the conference to approve of [illegible] ral principle of a conciliation board chiefly on the [illegible] that such a board could not do any harm. He had [illegible] reason adduced why they should not have this. They had not been told of any other method by [illegible] they would get better terms from the friendly [illegible] it was [illegible] appoint a [illegible] and if the council of the British Medical Association could not do it he asked who could?

Mr. Broadbent suggested the conference they were attending.

Dr. Cox said that the conference could not do it because it had not enough influence. Dr. Cox concluded with the following motion:—

That this conference approves of the general principle of a conciliation board and on the understanding that the [illegible] that it is not necessarily binding on the profession and requests the council of the British Medical Association to appoint a small committee to confer with the representatives of the friendly societies for the purpose of drawing up a scheme for the formation of such a board.

Mr. Whitaker seconded the motion and, in reply to Mr. Broadbent's suggestion that that conference should appoint the committee, said that the conference represented nobody but a small number of societies scattered throughout the country. He did not consider that they ought to adopt an impracticable and [illegible] attitude on all public questions.

Dr. W. Graham moved as an amendment:—

That this [illegible] practice and furthermore declares that if any personal representation association board or other [illegible] be established [illegible] be accepted [illegible]

Mr. Broadbent seconded the amendment.

Dr. Ratcliff thought [illegible] a conciliation board. No one had a right to ask a medical man to go and try to conciliate the friendly societies. Such societies existed for the good of friendly societies, not for the benefit of the medical men. Medical men [illegible] conference, but they were [illegible] board.

Dr. F. Ross pointed out that the General Medical Council was independent of the practitioners and might not be [illegible] legislate on such matters. They had [illegible] feature between [illegible] the general [illegible]

Mr. Worthington said that the [illegible] tended that it would be [illegible] the question between [illegible] the [illegible] that they [illegible] that conference [illegible]

Dr. A. B. RITCHIE said that the easiest way to find out what the friendly societies proposals were was to ask the British Medical Association to get the information for them. Gentlemen at that conference had spoken in ignorance of the efforts that had been made to get these details, of the long correspondence that had taken place to find out what this conciliation board really meant. The practical outcome was that it had been found that the only way to influence the friendly societies was to go to the men at the head of affairs. These societies must be worked from the top and not from the bottom.

Dr. HIME said that to talk of their going to consult the friendly societies in the vague way proposed was to bring that conference into contempt. He asked what was meant by a conciliation board. Whom were they to conciliate and what or about what was the conciliation to be?

The CHAIRMAN then put Dr. W. Graham's amendment to the meeting and declared it carried.

Dr. A. COX explained to the conference that it was perfectly well understood that any conciliation board or whatever they cared to call it would not have the power to bind the profession.

Mr. WOLSTENHOLME said that he had seen, it stated in the medical papers that the board was to be a quasi-legal conference.

Mr. GARRETT HORDER said that the men to meet the friendly societies were those who had clubs. He considered that the members of the General Medical Council who had met the members of the friendly societies had given the whole case of the profession away. The members of the friendly societies laid it down distinctly and the members of the General Medical Council agreed that a wage-limit should never be discussed at the conciliation board.

Dr. RATCLIFF-GAYLARD proposed the following amendment:—

That whilst in the opinion of this conference the proposed conciliation board is unnecessary it will welcome a conference for the purpose of finding some means of agreement. The members of such conference shall be general medical practitioners in actual practice.

This was put to the meeting by the CHAIRMAN and carried as was also the following addition proposed by Mr. WHITAKER:—

And that it be referred to the Provisional Committee of this conference to consider how this resolution can be carried into effect.

Mr. WOLSTENHOLME made the following propositions which were carried:—

That the conference appoint a Provisional Committee to carry out its decisions.

That this Provisional Committee be instructed as follows:—1. To lay the resolution on medical organisation before the Council of the British Medical Association and request them to organise a permanent medico-political and medico-ethical department on the lines therein described. 2. Failing success, to formulate rules for the formation of an entirely new organisation on the lines described in that resolution and to submit the same next year to a conference similar to the present one for consideration and adoption.

The following were appointed members of the Provisional Committee with power to add to their number: R. H. Wolstenholme, S. Crawshaw, A. Cox, G. H. Broadbent, T. Garrett Horder, A. B. Ritchie, J. S. Whitaker, T. W. Hime, G. A. Wright, G. Jackson, L. Browne, M. Greenwood, J. A. Macdonald, A. G. C. Irvine, H. E. Dixey, W. A. Carline, E. Jepson, F. Rees, R. R. Rentoul, T. M. Dolan, J. Ratcliff-Gaylard, and W. M. Smith.

The proceedings of the conference then terminated.

THE ROYAL SOCIETY'S CONVERSAZIONE.

IF the exhibition held annually in the rooms of the Royal Society at Burlington House may be taken as in a measure an index of a year's scientific work then the record of the past year must be of the dullest possible description. At any rate, it has admitted of no very striking demonstration judging from the very meagre and almost colourless character of the exhibits brought before the visitors on the occasion of the conversazione held on Wednesday last. Most of the subjects illustrated in experiments or otherwise, had indeed been demonstrated on previous occasions, while others were quite familiar.

Mr. SHENSTONE'S demonstration of the "workability" of silica in the oxy-hydrogen blowpipe attracted, perhaps, most interest. He showed several forms of apparatus constructed of vitreous silica, including a long tube for use with a platinum thermometer, a mercury thermometer, bulbs and stems for thermometers, a Geissler tube, a small distilling tube and rods, and tubes of various sizes for various purposes. The fused silica presents exactly the appearance of blown glass, but of course its melting point is infinitely higher. Mr. H. B. HARTLEY, with whom was Mr. H. L. BOWMAN, M.A., gave a very interesting demonstration of the properties of crystals yielding doubly-refracting liquids on fusion. Hence the term "liquid crystals." Certain crystalline organic compounds have been found to give, on melting, liquids possessing the properties of double refraction and dichroism even [illegible] is impossible. When [illegible] heated they chang[illegible] into ordinary isotropic liquids. The intermediate bodies have been called "liquid crystals" because while the evidence of their elasticity, viscosity, and dielectric capacity shows them to be undoubtedly liquids, yet like crystals they possess both double refraction and dichroism. A very successful demonstration was given in which the physical changes indicated as taking place on a microscope slide were projected by means of the electric lantern and microscope upon a screen. In the next room a clock was shown under control a[illegible] wireless telegraphy or Hertzian wav[illegible] invention of Mr. Isaac H. Storey, and it consists of a receiving instrument with a coherer attached to the clock. A transmitting instrument in another part of the room sets up the waves which actuate the movement of the hands of the clock which are under complete control. Of course there are no wires or tubes intervening and [illegible] very instructive in showing how [illegible] could be excited without any visible means of communication. The exhibitor, Mr. RICHARD KERR, F.G.S., suggests a system of synchronising clocks in this way from a central clock keeping standard time and also the guiding of boats or torpedo[illegible] F.R.S., showed a powerful influence [illegible] with 12 plates of vulcanite which is suitable in size, durability, and efficiency for either screen or photographic work in the hospital or on the battle-field.

A beautiful collection of examples of leadless glazed ware was shown by Professor T. E. THORPE. We may point out that more than a year ago we invited the medical profession to inspect in THE LANCET Laboratory similar examples of leadless glazed ware which had been carefully tested by our Commissioners with results which, as regards lead, were quite negative. Despite the hostile criticism which our inquiry provoked we now find all the leading pottery manufacturers sending specimens of leadless glaze to the Royal Society Conversazione as examples of what can be done without the use of lead at all. Amongst the prettiest experiments, though not conducted on a very large or striking scale, were those by Professor MINCHIN in which he showed the flashes induced in a helion tube by Hertzian waves.

Some amusing experiments were shown by Professor SILVANUS P. THOMPSON, in which he reversed the De la Rue's experiment, employing a floating magnet instead of a floating battery. A complete outfit of instruments for the use of travellers desirous of making anthropometric observations on native races or on the inhabitants of any special locality whether at home or abroad formed the interesting exhibit of Dr. J. G. GARSON. By taking impressions of the lines on the thumb the identity of a person could be established and thus an interesting system could be set up by means of which the identification of criminals could be established. Dr. PATRICK MANSON showed an excellent series of microscopical mounts of longitudinal sections of filariated mosquitoes, showing that *filaria nocturna*, like the malaria parasite, leaves its mosquito host *via* the proboscis. The insects were killed about three weeks after feeding on a girl in whose blood embryo filariæ abounded. In insects similarly fed and subsequently killed at serial intervals and "sectioned" the passage of the filaria from the stomach to the thoracic muscles and their development there could readily be followed. The sections under the

microscopes (by Baker, Holborn) showed that when development is completed, in about 16 days, the filaria quits the thorax and becomes lodged in the head of the insect below the cephalic ganglia, whence it passes into the proboscis. It does not enter by the salivary duct, as is the case with the [illegible] through the base of the [illegible] upper surface of the labium between this organ and the hypo-pharynx." It is to be presumed that when the mosquito next attacks man the filaria enters by the wound made by the stilette.

There were several other exhibits of minor interest or of interest [illegible] of view. It should [illegible] NOBLE, [illegible] a modern [illegible] the effects chiefly of erosion in [illegible] periments made with the object [illegible]

ANNUAL MEETING OF THE NEW ZEALAND BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

As mentioned at length in our columns last week[1] the Branch met at Christchurch, New Zealand, on Monday, Feb. 19th, the principal events of which day were the reception of the annual report, the election of officers, and the delivery of the Presidential Address by Dr. WALTER THOMAS.

On Tuesday, Feb. 20th, Dr. MASON and Dr. MARTIN read papers on Cancer.—In the discussion Mr. P. CONNOLLY said that, speaking from memory, he did not think there had been so many cases of cancer within the last five years as before that time, [illegible] had excise[illegible] but it recu[illegible] more extensive operation, and on her death, 13 years afterwards, there was no trace of disease on that side, but the opposite side was a mass of cancerous tissue.—Dr. D. COLQUHOUN said that the death-rate from cancer was considerably higher in the colonies than in England, although the general death-rate was higher in England than in the colonies.—Dr. SCOTT, Dr. H. C. BARCLAY, and Dr. W. THOMAS also took part in the discussion.

In the evening Mr. MORTON ANDERSON read a paper by Mr. MARTINDALE KENDALL on Atropine in Ophthalmology.—Dr. L. S. MANNING, Mr. E. P. S. GANE, Mr. MORTON ANDERSON, and Dr. G. R. SAUNDERS joined in the discussion, the general preference being for homatropine rather than [illegible] on Empyema of the [illegible] Dr. SCOTT said that [illegible] much more common than was generally supposed. For opening the antrum he used Curtis's nasal trephine in connexion with a dental engine.—Dr. MASON said that he had had to wash out the antrum many times; he preferred to enter it by extracting a tooth.—Mr. CONNOLLY, Dr. MANNING, Dr. J. P. FRINGLEY, and Mr. MORTON ANDERSON also made remarks.

On Wednesday morning, Feb. 21st, Dr. COLQUHOUN read a paper on Diseases Requiring Institutional Treatment, including under this he[illegible] and phthisis. Inebriety, he said, [illegible] with epilepsy and other obscure d[illegible] centres. In the institutional treatment of it some classification would have to be adopted, and a line should, if possible, be drawn between the criminal and non-criminal sections of the population. To send an habitual drunkard to gaol was unreasonable and tended to increase the evil; it ought to be a magistrate's duty to send such a person to be detained in a properly constituted home for not less than 12 months. In case of relapse there should be a gradually increasing scale of committal. The present public asylums for lunatics might be utilised for the homes to be established, and a suitable staff for nursing and governing purposes would require to be provided. For the moneyed classes separate homes should be provided in each provincial centre and each inmate should regularly do some work and have regular physical and mental exercise. The question of cost perhaps stood in the way of the adoption of such a system, and perhaps a vague fear prevailed that the liberty of the subject would be imperilled. The chief obstacle was the inertia of the public and their representatives. Dealing with epilepsy Dr. Colquhoun said that it was a form of suffering in many respects analogous to inebriety, and in New Zealand there were probably a thousand epileptics. In Holland the State had undertaken the duty of looking after these unfortunates, and in England and America private benevolence had provided for some of them and wherever homes had been founded they had been remarkably successful. Homes for epileptics should differ from inebriate establishments as being wholly places of voluntary retreat, and as farm and garden work had been found most suitable for epileptics the site for such homes would naturally be chosen in the country. Ordinary hospital treatment had been tried in connexion with consumptives and had not proved satisfactory, therefore special institutions were advocated. In the chronic stages of established disease and in its earlier stages they wanted for the patients conditions the opposite of those to be found in ordinary hospitals. The rule for many years—"live in the open air"—had resulted in many brilliant successes and as many lamentable failures. What was wanted for patients was pure air night and day, good food regularly administered, and careful personal supervision of each case. In [illegible] from the large towns to secure pure air and quietness with sufficient ground for exercise, planted with trees to secure [illegible] medical officer [illegible] be devoted to [illegible] The patients should be subject to ordinary hospital rules and should be of the class of people to whom the State grants hospital aid. No doubt there were localities in the colony more favourable than others for consumptives, and it had been asserted that the future sanatoria should be in these favourable places. His own experience was that at first, at least, they should make use to the utmost of the climate at their doors. He did not think there was any part of New Zealand unsuited for the treatment of consumption. The greater number of cases occurred in towns, and institutions could be established and kept up at less cost in the vicinity of the cities.—Dr. SCOTT, Dr SAUNDERS, Dr. THEIRY KING, Dr. BARCLAY, Dr. A. F. J. MICKLE, and Dr. THOMAS took part in the subsequent discussion.

In the afternoon Dr J. IRVING read a paper on Tuberculosis.—Dr. MICKLE moved and Dr. MASON seconded the following motion:—

That the Association take immediate steps to form a branch or to have a New Zealand Branch of the National Association for the Prevention of Consumption and other Tuberculous Diseases established in the colony.

Dr. COLQUHOUN, Dr MARTIN, Mr. CONNOLLY, Dr. THEIRY KING, and Mr. GANE, also took part in the discussion.—Dr. MASON read a paper on Direct Medication of the Lungs in Tuberculosis.—Mr. MORTON ANDERSON said that he was quite against the use of inhalers. He thought that patients took creosote most readily in a pill formed of fresh bread, and in many cases after the administration of this drug he had known the appetite to increase.—Dr. MICKLE, Dr. COLQUHOUN, and Dr. J. IRVING also joined in the discussion.

The annual dinner was held in the evening.

On Thursday, Feb. 23rd, the Canterbury Jockey Club's summer meeting took place. In the evening Mr. W. H. [illegible] gave a Demonstration of the X Rays.

On Friday, Feb. 23rd, in the morning a report was presented by the sub-committee on tuberculosis and other diseases recommending (1) that each member of the Branch should try to get its local authorities to take in hand the matter of checking tuberculosis on the lines adopted by such municipalities as Glasgow, Leipsic, etc.; (2) that this Branch of the Association agree to use and bring in its power to more fully help in the treatment of inebriety, epilepsy, and [illegible] by the establishment of suitable homes; (3) that there should be [illegible] in the public [illegible] of [illegible] in the district and one central report [illegible] of the Branch; (4) that a [illegible] be appointed to work with the Premier to bring the opinions of the Branch before [illegible] (5) that the report by Dr. J. Irving and Dr. [illegible] be published. The report was adopted and a [illegible]

[1] THE LANCET, May 6th, p. 1064.

[illegible]

[illegible] tion, which was subsequently discussed by Mr. CONNOLLY, Dr. MICKLE, Dr. MASON, and Dr. GRAHAM CAMPBELL.

In the evening Dr. SCOTT and Dr. MASON each read a paper on Public Health. They considered that the time had come for a consolidation of all the various Acts that had been passed since the adoption of the Public Health Act of 1876. It was suggested that something of the nature of what had been done by Victoria should be adopted in New Zealand. The Public Health Act of Victoria provided a Central Board of Health, consisting of a chairman (permanent head of department), medical inspector, and seven members elected for three years by groups of municipal councils. These [illegible] travelling expenses and one or two guine[illegible] It was provided that they should ap[illegible] inspector, who should be an expert in sanitary science and should receive an annual salary of not less than £1000, an engineering inspector, a secretary, and such other inspectors, health officers, clerks, and officers as might [illegible] The appointment of a medical officer of [illegible] on each local board at a salary of not less than £10 per [illegible] aid that [illegible] health in [illegible] quired un[illegible] in reports [illegible] occurring in their practices, but in the [illegible] which he was acquainted the reports were shelved or destroyed, no records were filed, no action was taken in the matter of inspection, investigation, or attempt at prevention of the spread of diseases, no tabulated annual report was furnished to the central board, the Public Morgues Act of 1886 was a dead letter, and nearly all of the sanitary provisions with which sanitarians were acquainted were in abeyance. A department of public health was required, with permanent officers, including chief medical officer, engineer and surveyor, and one medical officer of health in each of the large centres, who should not be permitted to engage in private practice, but who might be pathologist, general investigator in medico-legal matters, and supervising officer over the rural medical officers. A diploma in sanitary science should be possessed by this officer. No local board should have a district of less ar[illegible] rural local board should be requ[illegible] officer and inspector of nuisance[illegible] and holding office during the plea[illegible] Dr. Mason suggested that the [illegible] motion empowering the Parliam[illegible] the matter before the Government. He felt certain, judging by the attitude which the Government had always shown with regard to matters [illegible] of the general health, that [illegible] presented, backed up, as [illegible] of medical men, some reform would at once take place.—An animated discussion followed which was joined in by Dr. COLQUHOUN, Dr. TRUBY KING, Dr. GRAHAM CAMPBELL, Mr. CONNOLLY, Dr. THOMAS, Dr. SYMES, Mr. MORTON ANDERSON, Dr. MICKLE, and Dr. FRENGLEY.—On the motion of Dr. MASON, seconded by Dr. GRAHAM CAMPBELL, it was resolved:

That this meeting authorises the Parliamentary Secretary to bring the matter of public health before the Government and to forward a copy of the papers of Dr. Scott and Dr. Mason to the Municipal Association.

The proceedings having now terminated, votes of thanks were passed to the city council authorities for the use of the room in which the Conference had met, to the Government, to the Canterbury Jockey Club, to the officers of the Branch, and to the ladies of Christchurch who had shown such hospitality to the visitors.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6595 births and 4362 deaths were registered during the week ending May 5th. The annual rate of mortality in these towns, which had declined from 23·0 to 20·3 per 1000 in the four preceding weeks, further decreased to 19·6 last week. In London the rate [illegible] pro- [illegible] were [illegible] and [illegible] ter, [illegible] and 0·3 in Wolverhampton. The 4362 [illegible] included 429 which were referred [illegible] zotic diseases, against 432 and 472 [illegible] of these 167 resulted from [illegible] whooping-cough, 58 from diphtheria, 32 from scarlet fever, 28 from diarrhœa, and 18 from "fever" (principally enteric). No fatal case of any of these diseases occurred last week in Sunderland; in the other towns they caused the lowest death-rates in Croydon, Birkenhead, Halifax, Hull, and Gateshead; and the highest rates in Plymouth, Cardiff, Wolverhampton, Salford, and Blackburn. The greatest mortality from measles occurred in Plymouth, Bristol, Cardiff, Derby, and Blackburn; from scarlet fever in Oldham and Blackburn; and from whooping-cough in Portsmouth, Wolverhampton, Bolton, Manchester, Salford, and Oldham. The mortality from "fever" showed no marked excess in any of the 33 towns. The 68 deaths from diphtheria included 21 in London, five in Leeds, five in Sheffield, four in West Ham, four in Bristol, and four in Liverpool. No fatal case of small-pox was registered last week either in London or in any of the 32 provincial towns. There were six cases of small-pox under treatment in the Metropolitan Asylums Hospitals on Saturday last, May 5th, against three, four, and six at the end of the three preceding weeks; but no new case was admitted during the week. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 1660, against numbers decreasing from 1713 to 1647 on the four preceding Saturdays; [illegible] during the week, against 189, [illegible] preceding weeks. Influenza was [illegible] of 27 deaths in London. Th[illegible] of the respiratory organs in London, which had been 501, 460, and 411 in the three preceding weeks, rose again to 417 last week, and were 93 above the corrected average. The causes of 52, or 1·2 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Cardiff, Salford, Bradford, Leeds, and in nine other smaller towns; the largest proportions of uncertified deaths were registered in Norwich, Liverpool, Blackburn, Hull, and Sunderland.

[illegible]

The annual [illegible] Scotch towns, which had been 21·0 and 21·7 per 1000 in the two preceding weeks, declined again to 20·5 during the week ending May 5th, but exceeded by 0·9 per 1000 the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 15·9 in Leith and 17·9 in Paisley to 21·9 in Perth and 23·1 in Edinburgh. The 635 deaths in these towns included 24 which were referred to whooping-cough, 15 to measles, 13 to diarrhœa, six to diphtheria, six to "fever," and two to scarlet fever. In all 66 deaths resulted from these principal zymotic diseases, against 65 and 75 in the two preceding weeks. These 66 deaths were equal to an annual rate of 2·1 per 1000, which was 0·2 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of whooping-cough, which had increased from 15 to 23 in the four preceding weeks, further rose last week to 24, of which 14 occurred in Glasgow, five in Aberdeen, and two in Edinburgh. The deaths from measles, which had been 18 and 24 in the two preceding weeks, declined again to 15 last week, and included 11 in Glasgow and two in Edinburgh. The fatal cases of diarrhœa, which had declined from 19 to 13 in the four preceding weeks, were again 13 last week, of which four were registered in Glasgow, four in Aberdeen, and three in Dundee. The deaths from diphtheria, which had been three and five in the two preceding weeks, further rose to six last week, and included two in Edinburgh and two in Aberdeen. The fatal cases of "fever," which had been five and two in the two preceding weeks, further rose last week to six, of which five occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 145 and 141 in the two preceding weeks, further declined last week to 120, but

slightly exceeded the number in the corresponding period of last year. The causes of 38, or nearly 6 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 34 3, 30 4, and 26 9 per 1000 in the three preceding weeks, rose again to 29 7 during the week ending May 5th. During the past four weeks the death-rate in the city has averaged 30 3 per 1000, the rates during the same period being 20 1 in London and 20 7 in Edinburgh. The 199 deaths registered in Dublin during the week under notice were 21 in excess of the number in the preceding week, and included 11 which were referred to the principal zymotic diseases, against 12 and eight in the two preceding weeks; of these, six resulted from "fever," four from whooping-cough, one from diarrhœa, and not one either from small-pox, measles, scarlet fever, or diphtheria. These 11 deaths were equal to an annual rate of 1 6 per 1000, the zymotic death-rate during the same period being 1 8 in London and 1 4 in Edinburgh. The deaths referred to different forms of "fever," which had been three in each of the two preceding weeks, rose to six last week. The fatal cases of whooping-cough, which had been one, two, and two in the three preceding weeks, further rose last week to four. The mortality from diarrhœa showed a decline from that recorded in recent weeks. The 199 deaths in Dublin last week included 33 of infants under one year of age and 44 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons exceeded the numbers registered in the preceding week. 12 inquest cases and six deaths from violence were recorded, and 69, or more than a third, of the deaths occurred in public institutions. The causes of nine, or nearly 5 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING APRIL, 1900.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in each of the 43 sanitary areas of London. With regard to the notified cases of infectious diseases in the metropolis, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 6 2 per 1000 of the population, estimated at 4,589,129 persons in the middle of the year. In the three preceding months the rates had been 8 0, 7 0, and 6 6 per 1000 respectively. The rates were considerably below the average in Paddington, St. George Hanover-square, St. Giles, Strand, Clerkenwell, and St. Olave Southwark; while they showed the largest excess in Whitechapel, St. Saviour Southwark, St George Southwark, Bermondsey, Woolwich, and Plumstead sanitary areas. Eight cases of small-pox were notified during April, of which four belonged to St. Pancras, three to Marylebone, and one to Hackney sanitary areas; nine small-pox patients were admitted into the Metropolitan Asylums Hospitals during April, and six remained under treatment at the end of the month. The prevalence of scarlet fever showed a further slight increase upon that recorded in recent months; among the various sanitary areas this disease was proportionally most prevalent in St James Westminster, Whitechapel, St George Southwark, Wandsworth, Greenwich, and Woolwich. The Metropolitan Asylums Hospitals contained 1619 scarlet fever patients at the end of April, against 2123, 1837, and 1054 at the end of the three preceding months; the weekly admissions averaged 174, against 160 152, and 163 in the three preceding months. The prevalence of diphtheria showed a continued decrease from that recorded in the preceding months of this year; the proportional prevalence of this disease was greatest in Holborn, St. Saviour Southwark, St. George Southwark, Bermondsey, Woolwich, and Plumstead sanitary areas. There were 1131 diphtheria patients in the Metropolitan Asylums Hospitals on Saturday, April 28th, against 1572 1402, and 1263 at the end of the three preceding months; the weekly admissions averaged 135, against 153, 155, and 136 in the three preceding months. The prevalence of enteric fever in London showed a further marked decrease from that recorded in recent months; among the various sanitary areas this disease was proportionally most prevalent in St. Pancras, Stoke Newington, Whitechapel, St. Saviour Southwark, Bermondsey, and Rotherhithe. The Metropolitan Asylums Hospitals contained 208 enteric fever patients at the end of April, against 289, 274, and 263 at the end of the three preceding months; the weekly admissions averaged 47, against 40, 40, and 38 in the three preceding months. Erysipelas was proportionally most prevalent in City of London, Bethnal-green, Whitechapel, Limehouse, Woolwich, and Plumstead sanitary areas. The 21 cases of puerperal fever included two each in Westminster, Shoreditch, Bethnal-green, Poplar, and Bermondsey sanitary areas.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various sanitary areas of the metropolis, the deaths occurring in the public institutions of London having been distributed among the sanitary areas in which the patients had previously resided. During the four weeks ending April 28th the deaths of 7123 persons belonging to London were registered, equal to an annual rate of 20 2 per 1000, against 27 3, 20 4, and 19 1 in the three preceding months. The lowest death-rates last month in the various sanitary areas were 13 6 in Hampstead, 15 0 in Stoke Newington, 15 8 in Hackney, 16 6 in Paddington, 17 3 in Battersea, and 17 6 in Camberwell; the highest rates were 25 5 in Bermondsey, 27 0 in Woolwich, 27 5 in St. Olave Southwark, 30 4 in Holborn, 32 3 in St George Southwark, and 35 6 in Limehouse. During the four weeks of April 632 deaths were referred to the principal zymotic diseases in London; of these, one resulted from small pox, 239 from measles, 31 from scarlet fever, 87 from diphtheria, 190 from whooping-cough, 45 from enteric fever, and 39 from diarrhœa. These 632 deaths were equal to an annual rate of 1 8 per 1000, against 1 9, 1 8, and 1 7 in the three preceding months. No death from any of these diseases was recorded last month in St. Martin-in-the-Fields; in the other sanitary areas they caused the lowest death-rates in Paddington, St. George Hanover Square, Stoke Newington, City of London, Camberwell, and Lee, and the highest rates in St. Pancras, Holborn, St. Luke, Limehouse, Rotherhithe, and Lewisham (excluding Penge). The fatal case of small pox belonged to Marylebone sanitary area. The 239 deaths from measles were 60 below the average number in the corresponding periods of the ten preceding years; this disease was proportionally most fatal in Hammersmith, Westminster, St. Pancras, Strand, Limehouse, and Rotherhithe sanitary areas. The 31 fatal cases of scarlet fever showed a decline of 30 from the corrected average number; the greatest proportional fatality from this disease occurred in Fulham, St George Hanover-square, Shoreditch, Whitechapel, Wandsworth, and Lewisham sanitary areas. The 87 deaths from diphtheria were 55 below the average number in the corresponding periods of the ten preceding years, among the various sanitary areas this disease was proportionally most fatal in Fulham, Chelsea, Shoreditch, St. Saviour Southwark, Bermondsey, and Lewisham. The 190 fatal cases of whooping-cough showed a decline of 34 from the corrected average number; this disease showed the highest proportional fatality in Hackney, St. Luke, Bethnal Green, Limehouse, Greenwich, and Lewisham sanitary areas. The 45 deaths referred to enteric fever were considerably in excess of the corrected average number in the corresponding periods of the ten preceding years; among the various sanitary areas this disease was proportionally most fatal in Fulham, Chelsea, St. Pancras, Bermondsey, and Lambeth. The 39 fatal cases of diarrhœa showed a decline from the corrected average number; the greatest proportional fatality from this disease was recorded in Hammersmith, Marylebone, Poplar, and Bethnal Green sanitary areas. In London as a whole it may be stated that the mortality from these principal zymotic diseases in London during April was [illegible] per cent. below the average.

Infant mortality in London last month [illegible] by the prevalence of [illegible] under one year of age [illegible] registered [illegible] was equal to [illegible] per 1000. The lowest rates of infant mortality were [illegible] in Hampstead, St. James Westminster, [illegible] St. Giles, and Clerkenwell [illegible] the highest rates in [illegible] Fulham, Kensington, [illegible] Bermondsey, and Lewisham.

Correspondence.

"Audi alteram partem."

THE INTERNATIONAL CONGRESS OF GYNÆCOLOGY AND OBSTETRICS.

To the Editors of THE LANCET.

SIRS,—I beg to forward to you a copy of a letter to Professor Simpson of Edinburgh drafted at a meeting of the past and present teachers of gynæcology and obstetrics in the metropolitan medical schools now practising in London which was held at my house on Tuesday last.

You will observe that it is signed by everyone who comes under that description without, I believe, a single exception.

I need only add that our objection to the election of a president is in no way personal to the distinguished obstetrician to whom the enclosed letter is addressed. To many of us—certainly to myself individually, since he is one of my oldest and most valued friends—he would have been a *persona gratissima* for the post.

Our objection is not to the man but to the manner in which he was elected. I am, Sirs, yours faithfully,

Grosvenor-street, W., May 5th, 1900. W. S. PLAYFAIR.

[COPY.]

To Professor A. R. Simpson, M.D., President-elect of the International Congress of Gynæcology and Obstetrics.

38, Grosvenor-street, London, W., May 1st, 1900.

DEAR SIR,—We learn from a circular dated 37, Queen Anne-street, April, 1900, that it has been decided to "hold the Fourth International Congress of Gynæcology and Obstetrics in London, in 1902," under your presidency.

As past and present lecturers and teachers of obstetrics and gynæcology in the London medical schools we wish to explain to you, and especially to such of our foreign colleagues as might contemplate attending such Congress, that those who have issued this invitation have assumed a representative position to which they are, in our opinion, not entitled, and which we fi[illegible]

We cannot, therefore, take any share [illegible] Congress, but trust that you will accep[illegible] has been arrived at with regret, and with no intention of discourtesy to yourself or other visitors, either British or foreign.

We are, dear Sir, very faithfully yours,

(Signed) J. WATT BLACK, AMAND ROUTH, T. W. EDEN, — Charing Cross Hospital.
A. L. GALABIN, P. HORROCKS, J. H. TARGETT, — Guy's Hospital.
W. S. PLAYFAIR, T. C. HAYES, J. PHILLIPS, — King's College Hospital.
G. E. HERMAN, A. H. N. LEWERS, — London Hospital.
W. DUNCAN, R. BOXALL, — Middlesex Hospital.
F. H. CHAMPNEYS, W. S. A. GRIFFITH, — St. Bartholomew's Hospital.
W. R. DAKIN, A. F. STUBB, — St. George's Hospital.
M. HANDFIELD JONES, W. J. GOW, — St. Mary's Hospital.
C. J. CULLINGWORTH, W. W. H. TATE, — St. Thomas's Hospital.
J. WILLIAMS, H. R. SPENCER, G. F. BLACKER, — University College Hospital.
J. B. POTTER, W. R. POLLOCK, — Westminster Hospital.
MARY SCHALLIER, — London School of Medicine for Women.

"THE REPORT OF THE LANCET SPECIAL COMMISSION ON GLYCERINATED CALF VACCINE LYMPHS."

To the Editors of THE LANCET.

SIRS,—Although I have reason to be well satisfied with the report of your Special Commissioner so far as its reference to my own vaccine is concerned I ask to be allowed to offer some critical remarks on the whole subject. And the first criticism I would venture to make is as to the worthlessness of the method of research adopted and the great waste of [illegible] and hard labour expended by the Commission. The ordinary reader might suppose that the report would give him satisfactory information as to the efficacy of the various vaccines reported on. Not a bit of it. There is nothing whatever in the report to show that any one of the vaccines reported on at such length and with such labour ever produced a vaccine vesicle or could afford the least protection against small-pox!

The use of vaccine is to prevent or modify the action of the virus of small-pox. The only true test of the value of vaccine is its power to produce typical vaccine-pocks having a characteristic appeara[illegible] test of its effective antag[illegible] at present there is no me[illegible] of vaccine by microsc[illegible] means before it is used. [illegible] one word as to the speci[illegible] on. Every one of them [illegible] so far as power to vaccin[illegible] evidence that the sample [illegible] position in the report was [illegible] that the sample which is p[illegible] not excellent so far as i[illegible] better in this, the essential [illegible] more favourably. The standard of quality set up by the Commission is *not* the vaccinating or protective power—the essential one—but the number of extraneous organisms present in the sample, though these have no relation to vaccination or protective power against small-pox—a standard which is of no value whatever so far as the utility of the vaccine, *quâ* vaccine, is concerned, and, further, is a fictitious and entirely delusive guide.

The following anecdote well illustrates the worthlessness of the whole procedure. It was related to me by the head of one of the oldest and best Government calf vaccine stations in Germany, a man of world-wide reputation for his scientific researches in certain branches of bacteri[illegible] [illegible] unscientific gentleman who first [illegible] delusive standard for estimating the [illegible] number of extraneous [illegible] no protective power, asked my fi[illegible] vaccine for examination and re[illegible] of the impertinence he sent [illegible] many years old, which had b[illegible] troyed. Some weeks later to his amusement he received a most complimentary report on this worthless vaccine, stating that it was in every way [illegible] it had answered to the absurd standard [illegible] and had not shown one single [illegible] But as vaccine [illegible] less—it contained [illegible] and was incapable of producing a pock [illegible] And yet it was reported as being "perfect" according to this other standard, which does not judge according to protective power. What a terrible awakening there would have been had medical men been induced by this report to rely on the "perfectly sterile" material to check an epidemic of small-pox such as that at Gloucester or Middlesborough.

And I would put it to THE LANCET in all seriousness whether a grave public danger is not created by its suggesting that the protective powers of the several vaccines reported on is in any degree indicated by the report of its Special Commission. Indeed, the report itself contains evidence that the Commission were aware that their labours were futile and might be misunderstood. On p. 1235, in a remarkable paragraph in which it is stated that "it is practicable for almost everyone" to make a satisfactory bacteriological examination of vaccine (though I doubt if more than a very small percentage even of the medical profession would claim the special knowledge required), it is stated that if anyone finds the number of colonies in successive plate cultures diminishes greatly he should not use the vaccine! Not that the vaccine is, to be assumed on that account to be inert or even weak so far as its protective properties are concerned; on the contrary, as your Commissioner himself says, "it may be sound, and probably is." Just so! though bad from the Commission's point of view, "it may be sound, and probably is," as a protective against small-pox.

On p. 1234 there is a statement with which everyone must agree, but its truth shows from another point of view how valueless such a report is. It is there stated that "where the number of organisms in any sample is high it must be assumed, not that they are necessarily so in other samples of the same brand, but that the numbers probably vary in different samples" (!). I submit that if the samples reported on are not to be regarded as average specimens of the

respective brands the reports on them are of no value what-
[illegible] ain [illegible]
[illegible] of [illegible]
[illegible] examined were [illegible]
for all you know they may be very good next time. It is not

the samples examined by your Commissioner is called for.
[illegible] But there are
[illegible] small number of
[illegible] the conclusions
arrived at of no value, and no conclusion whatever worth
[illegible] merit of the
[illegible] that the same
[illegible] case and the
character of the tests varied.

In the case of some brands five experiments were made, with others only two, while with the Local Government Board vaccine only one experiment was made. It is obviously unfair to draw positive conclusions from one sample of one brand when with other brands five times as many experiments were used. Even five observations are far too few. I can give y[illegible]
thousands [illegible]
protective.

[illegible] more serious objection
[illegible] lays which the vaccine
[illegible] samples. The solitary
[illegible] vaccine was kept only

[illegible] ous brands (the report,
[illegible] about the vaccinating
[illegible] brands; they may
be all perfect or all worthless in this the essential property of vaccine, so far as the report goes). As the glycerine has the property of destroying such extraneous organisms, obviously the longer a sample is kept the fewer colonies will appear in the cultures. But the *coup de grace* is given to the report by your Commissioner himself on p. 1231. He is there dealing with a brand which gave an enormous number of colonies in one sample and in
[illegible] none, and he proceeds
[illegible] *tivity* [illegible] the question of
[illegible] samples as one that need no longer trouble the public." The italics are mine, but these remarkable words should be printed in capitals to attract due attention. Your Commissioner here for the first and only time seems to be alive to the fact that the real value of vaccine depends on whether it can vaccinate and not on whether a few extraneous organisms exist in it. "*If* it retains its full activity" when it contains but few extraneous organisms it is good vaccine, but even if it is absolutely devoid of all living organisms and yet cannot vaccinate it is useless vaccine. It is worse; it is a highly dangerous and delusive material the use of which might lead to the wide spread of an epidemic of small pox and no matter whether your Commission reported favourably (as it necessarily would) or not such vaccine should be somehow suppressed. Vaccine reported by your Commission to be perfect from the bacteriological standard may be useless from the protective (the really valuable) standard, and *vice versâ*. Vaccine reported by you to be the worst in bacteriological quality may be the very best of the lot as a protective against small-pox so far as your report goes. A report of such a character is certainly not to be relied on. The presence of extraneous organisms might be a great source of danger if of a virulent kind. But your report says nothing as to the nature of the organisms present.

The standard taken by your Commissioner is, I submit, of no practical value and it is calculated to lead to entirely erroneous conclusions both as to the respective values and the relative values of the various brands of vaccine. It would have been more satisfactory if no samples had been made as to tubes of vaccine received by your Commissioner but not reported on. In one case five tubes were received but only three are reported on. Why is it [illegible]
[illegible] If it used the fact and
[illegible] manner in which
[illegible] general conclusions are drawn from isolated
and inaccurate facts [illegible] instanced in the report,
[illegible] calls for notice. A very
[illegible] I on and subsequently a
[illegible] used. Therefore your
[illegible] this affords evidence
[illegible] preparation and strange
[illegible] such evidence in the fact
[illegible] justifiable. There is not a
[illegible] be very bad tube referred
[illegible] supply of the institution
it came from or that it was not merely one exceptionally and accidentally rich in extraneous organisms, nor does the finding of a single tube without any such organisms at a later date tend to prove that improved methods had been introduced or that filthy and objectionable ones had been abandoned. Indeed, your Commissioner himself, as already noted, has stated that variation in the bacteriological character of the samples of a brand did not imply that the brands varied correspondingly! I do not suggest for one moment that any want of care ever existed in the institution referred to, but I draw attention to the unscientific and illogical methods which characterise and vitiate the report of your Commissioner.

With reference to the manner in which the samples were obtained, I never knew until this morning that any samples of my vaccine had been secretly obtained by THE LANCET for examination. On the whole I think the secret method is objectionable as compared with an open candid request for samples for examination. Had I been asked I would gladly have supplied such samples and I could not have given one better than what I possessed. I do not believe any one of the persons whose vaccine was surreptitiously obtained with the apparent object of using it for vaccination, but with the real object of examining and publishing a report on it without leave asked or given, would have refused or would have sent a false sample. Thousands of articles, chemicals, drugs, &c., will be yearly supplied, examined, and reported on by the various committees of the Paris Exhibition. I doubt whether better results would be got if such samples were secretly purchased, after the manner of THE LANCET, and a surprise report like this on calf vaccine issued. Thousands of test experiments of the most crucial kind are made with my vaccine every week as to its possessing the essential property of cow pox. THE LANCET makes two experiments with it in a year! and gives an opinion founded on them. Even though that opinion is of a very favourable character I think the experiments employed and the standard of quality adopted are so faulty that I have ventured on it a criticism. These experiments are not intended and do not profess to give any information as to the efficacy of the vaccine. On that point medical men can judge for themselves and THE LANCET does not help them. The entirely false standard of purity adopted by THE LANCET, following the example of a foreign body in Germany who is much derided there by those who understand the nature of his pretensions, is calculated to mislead and even to cause dangerous results by allowing worthless vaccine to be regarded as good—by giving no protection against small pox.

The report of THE LANCET has dealt fairly with my own vaccine, but its praise is calculated to do me as much harm as its blame. Indeed, the Special Commissioner has not taken pains to show that samples which he reports as favourably of are not to be taken as characteristic of the general supply from which it was derived and he does not profess to know whether or even to be able to report fairly on the whole lot or all the samples received by him. I do not pose or profess to be an expert. I therefore feel it to be my duty to point out that your readers should not be misled by such a report as this in relation to the quality of the supply of vaccine.

May I add one word as to the serious and alarming [illegible] growing in frequency of [illegible] reports in [illegible] of these [illegible] to the [illegible] that the [illegible] expected [illegible] fail to be [illegible] tubes were [illegible]

Correspondence.

"Audi alteram partem."

THE INTERNATIONAL CONGRESS OF GYNÆCOLOGY AND OBSTETRICS.

To the Editors of THE LANCET.

SIRS,—I beg to forward to you a copy of a letter to Professor Simpson of [illegible] eting of the past and present tea[illegible] etrics in the metropolitan medic[illegible] in London which was held at m[illegible] on Tuesday last.

You will observe that it is signed by everyone who comes under that description without, I believe, a single exception.

I need only add that our objection to the election of a president is in no way personal to the distinguished obstetrician to whom the enclosed letter is addressed. To many of us—certainly to myself individually, since he is one of my oldest and most valued friends—he would have been a *persona gratissima* for the post.

Our objection is not to the man but to the manner in which he was elected.

I am, Sirs, yours faithfully,

Grosvenor-street, W., May 5th, 1900. W. S. PLAYFAIR.

[COPY.]

To Professor A. R. Simpson, M.D., President-elect of the International Congress of Gynæcology and Obstetrics.

38, Grosvenor-street, London, W., May 1st, 1900.

DEAR SIR,—We learn from a circular dated 37, Queen Anne-street, April, 1900, that it has been decided to "hold the Fourth International Congress of Gynæcology and Obstetrics in London, in 1902," under your presidency.

[illegible] of obstetrics and gyne- [illegible] to explain to you, and [illegible] as might contemplate attending such Congress, that those who have issued this invitation have assumed a representative position to which they are, in our opinion, not entitled, a[illegible] We cannot, therefore, [illegible] Congress, but trust that [illegible] has been arrived at wit[illegible] yourself or other visitors, either British or foreign.

We are, dear Sir, very faithfully yours,

(Signed) J. WATT BLACK, AMAND ROUTH, T. W. EDEN, } Charing Cross Hospital.
A. L. GALABIN, P. HORROCKS, J. H. TARGETT, } Guy's Hospital.
W. S. PLAYFAIR, T. C. HAYES, J. PHILLIPS, } King's College Hospital.
G. E. HERMAN, A. H. N. LEWERS, } London Hospital.
W. DUNCAN, R. BOXALL, } Middlesex Hospital.
F. H. CHAMPNEYS, W. S. A. GRIFFITH, } St. Bartholomew's Hospital.
W. R. DAKIN, A. F. STABB, } St. George's Hospital.
M. HANDFIELD-JONES, W. J. GOW, } St. Mary's Hospital.
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"THE REPORT OF THE LANCET SPECIAL COMMISSION ON GLYCERINATED CALF VACCINE LYMPHS."

To the Editors of THE LANCET.

SIRS,—Although I have reason to be well satisfied with the report of your Special Commissioner so far as its reference on my own vaccine is concerned I ask to be allowed to offer some critical remarks on the whole subject. And the first criticism I would venture to make is as to the worthlessness of the method of research adopted and the great waste of good intention and hard labour expended by the Commission. The unwary reader might suppose that the report would give him satisfactory information as to the efficacy of the various vaccines reported on. Not a bit of it. There is nothing whatever in the report to show that any one of the vaccines reported on at such length and with such labour ever produced a vaccine vesicle or could afford the least protection against small-pox!

The use of vaccine is to prevent or modify the action of the virus of small-pox. The only true test of the value of vaccine is its power to produce typical vaccine pocks having a characteristic appearance and history—short of the real test of its [illegible] small-pox. Unfortunately, at present [illegible] of vaccine by microsc[illegible] means before it is used. [illegible] one word as to t[illegible] on. Every one [illegible] so far as power [illegible] evidence that the [illegible] position in the report was [illegible] that the sample which is placed at the bottom of the list was not excellent so far as its power to vaccinate, and much better in this, the essential quality, than samples reported on more favourably. The standard of quality set up by the Commission is *not* the vaccinating or protective power—the essential one—but the number of extraneous organisms present in the sample, though these have no relation to vaccination or protective power against small-pox—a standard which is of no value whatever so far as the utility of the vaccine, *quâ* vaccine, is concerned, and, further, is a fictitious and entirely delusive guide.

The following anecdote well illustrates the worthlessness of the whole procedure. It was related to me by the head of one of the oldest and best Government calf vaccine stations in Germany, a man of world-wide reputation for his scientific researches in certain branches of bacteri- [illegible] extraneous micro-organisms present, which have no protective power, asked [illegible] cine for examination a[illegible] f the impertinence he [illegible] many years old, which had been long rejected but not destroyed. Some weeks later to his amusement he received a most complimentary report on this worthless vaccine, stating that it was in every way [illegible] it had answered to the absurd standard [illegible] y and had not shown [illegible] But as vaccine "this [illegible] less—it contained no protective virus and was incapable of producing a pock when inoculated. And yet it was reported as being "perfect" according to this other standard, which does not judge according to protective power. What a terrible awakening there would have been had medical men been induced by this report to rely on the "perfectly sterile" material to check an epidemic of small-pox such as that at Gloucester or Middlesborough.

And I would put it to THE LANCET in all seriousness whether a grave public danger is not created by its suggesting that the protective powers of the several vaccines reported on is in any degree indicated by the report of its Special Commission. Indeed, the report itself contains evidence that the Commission were aware that their labours were futile and might be misunderstood. On p. 1235, in a remarkable paragraph in which it is stated that "it is practicable for almost everyone" to make a satisfactory bacteriological examination of vaccine (though I doubt if more than a very small percentage even of the medical profession would claim the special knowledge required), it is stated that if anyone finds the number of colonies in successive plate cultures diminishes greatly he should not use the vaccine! Not that the vaccine is to be assumed on that account to be inert or even weak so far as its protective properties are concerned; on the contrary, as your Commissioner himself says, "it may be sound, and probably is." Just so! though bad from the Commission's point of view, "it may be sound, and probably is," as a protective against small-pox.

On p. 1234 there is a statement with which everyone must agree, but its truth shows from another point of view how valueless such a report is. It is there stated that "where the number of organisms in any sample is high it must be assumed, not that they are necessarily so in other samples of the same brand, but that the numbers probably vary in different samples" (!). I submit that if the samples reported on are not to be regarded as average specimens of the

respective brands the reports on them are of no value whatever. To inform your readers that certain brands reported on were good, but that the next sample of that brand may be bad, and that other brands examined were bad but that for [illegible] inst[illegible] into [illegible] you [illegible] info[illegible] orga[illegible] men[illegible] sampl[illegible]

That this warning against drawing any inference as to [illegible] arrived at of no value, and no conclusion whatever worth drawing [illegible] of the various [illegible] same number [illegible] the character of the tests varied.

In the case of some brands five experiments were made, with others only two, while with the Local Government Board vaccine only one experiment was made. It is obviously unfair to draw positive conclusions from one sample of one brand when with other brands five times as many experiments were used. Even five observations are far too few. I can give you the evidence of gentlemen who have made thousands of successful experiments with my vaccine as a protective. Of what value are your two or three observations when compared with them? But a more serious objection lies in the fact that the number of days which the vaccine [illegible] samples. The solitary [illegible] vaccine was kept only [illegible] samples were kept for 10, 21, 33, 71, 12[illegible] ducible from [illegible] from extrane[illegible] as already stated, has nothing to say about the vaccinating and protective value of the various brands; they may be all perfect or all worthless in this the essential property of vaccine, so far as the report goes). As the glycerine has the property of destroying such extraneous organisms, obviously the longer a sample is kept the fewer colonies will appear in the cultures. But the *coup de grâce* is given to the report by your Commissioner himself on p. 1231. He is there dealing with a brand which gave an enormous number of colonies in one sample and in another succeeding sample gave none, and he proceeds "*If such lymph retains its full activity* [illegible] the question of pure lymph is one that need no longer trouble the public." The italics are mine, but these remarkable words should be printed in capitals to attract due attention. Your Commissioner here for the first and only time seems to be alive to the fact that the real value of vaccine depends on whether it can vaccinate and not on whether a few extraneous organisms exist in it. "*If* it retains its full activity" when it contains but few extraneous organisms it is good vaccine; but even if it is absolutely devoid of all living organisms and yet cannot vaccinate it is useless vaccine. It is worse; it is a highly dangerous and delusive material the use of which might lead to the wide spread of an epidemic of small pox and no matter whether your Commission reported favourably (as it necessarily would) or not such vaccine should be somehow suppressed. Vaccine reported by your Commission to be perfect from the bacteriological standard may be useless from the protective (the really valuable) standard, and *vice versâ*. Vaccine reported by you to be the worst in bacteriological quality may be the very best of the lot as a protective against small pox so far as your report goes. A report of such a character is certainly not to be relied on. The presence of extraneous organisms might be a great source of danger if of a virulent kind. But your report says nothing as to the nature of the organisms present.

The standard taken by your Commission is, I repeat, of no practical value, and it is calculated to lead to entirely erroneous conclusions both as to the positive values and the relative values of the various brands and [illegible]. It would have been more satisfactory if a similar test had been made as to tubes of vaccine received by your Commission, but not reported on. In one case five tubes were received, but only three are reported on. Why is there no statement as to the remaining two? If not, and the fact, and the reason for it ought to be mentioned. The manner in which [illegible] unwarranted [illegible] and conclusions

stated and no such conclusion is justifiable. There is not a particle of evidence to show that the very bad tube referred to was characteristic of the general supply of the institution it came from or that it was not merely one exceptionally and accidentally rich in extraneous organisms, nor does the finding of a single tube without any such organisms at a later date tend to prove that improved methods had been introduced or that filthy and objectionable ones had been abandoned. [illegible] himself, as already noted, has [illegible] the bacteriological character of [illegible] not imply that the brands varied correspondingly. I do not suggest for one moment that any want of care ever existed in the institution referred to, but I draw attention to the unscientific and illogical methods which characterise and vitiate the report of your Commissioner.

With reference to the manner in which the samples were obtained, I never knew until this morning that any samples of my vaccine had been secretly obtained by THE LANCET for examination. On the whole I think the secret method is objectionable as compared with an open candid request for samples for examination. Had I been asked I would gladly have supplied such samples and I could not have given one better than what I possessed. I do not believe any one of the persons whose vaccine was surreptitiously obtained with the apparent object of testing it for vaccination, but with the real object of exhibiting and publishing a report on it without leave asked or given, would have refused or would have sent a false sample. Thousands of articles, chemicals, drugs, &c., will be properly supplied, examined, and reported on by the various committees of the Paris Exhibition. I doubt whether better results would be got if such samples were secretly got hold of, after the manner of THE LANCET, and a surprise report like this on calf vaccine issued. Thousands of test experiments of the most crucial kind are made with my vaccine every week as to its possessing the essential property of cow pox. THE LANCET makes two experiments with it in a year and gives an opinion founded on them. Even though that opinion is of a very favourable character I think the experiments employed and the standard of quality adopted are so faulty that I have ventured on this criticism. These experiments are not intended and do not profess to give any information as to the efficacy of the vaccine. On that point medical men can judge for themselves and THE LANCET does not help them. The entirely false standard of merit adopted by THE LANCET, following the example of a foreign body in Germany who is much dead of there by those who understand the nature of the proceedings, is calculated to mislead and even to cause disasters by allowing worthless vaccine to be regarded as good for protection against small pox.

The report of THE LANCET has dealt favourably with my own vaccine, but its praise is calculated to deceive as much as its blame. Indeed the special Commissioner himself has taken pains to show that samples and the reports relating to any of them are not to be taken as characteristic of the general supply from which it was derived and he says he does not know whether even one of the samples reported on by him is the whole lot contained good [illegible] of the kind either pock or protect against smallpox. I therefore venture to hope that your readers should [illegible] report as [illegible] vaccines.

May I add [illegible] growing in frequency of [illegible] reports in [illegible] drug, or three [illegible] writes to the [illegible] that [illegible] [illegible]

Correspondence.

"Audi alteram partem."

THE INTERNATIONAL CONGRESS OF GYNÆCOLOGY AND OBSTETRICS.

To the Editors of THE LANCET.

SIRS,—I beg to forward to you a copy of a letter to Professor Simpson of Edinburgh drafted at a meeting of the past and present teachers of gynæcology and obstetrics in the metropolitan medical schools now practising in London which was held at my house on Tuesday last.

You will observe that it is signed by everyone who comes under that description without, I believe, a single exception.

I need only add that our objection to the election of a president is in no way personal to the distinguished obstetrician to whom the enclosed letter is addressed. To many of us—certainly to myself individually, since he is one of my oldest and most valued friends—he would have been a *persona gratissima* for the post.

Our objection is not to the man but to the manner in which he was elected. I am, Sirs, yours faithfully,

Grosvenor-street, W., May 5th, 1900. W. S. PLAYFAIR.

[COPY.]

To Professor A. R. Simpson, M.D., President-elect of the International Congress of Gynæcology and Obstetrics.

38, Grosvenor-street, London, W., May 1st, 1900.

DEAR SIR,—We learn from a circular dated 37, Queen Anne-street, April, 1900, that it has been decided to "hold the Fourth International Congress of Gynæcology and Obstetrics in London, in 1902," under your presidency.

As past and present lecturers and teachers of obstetrics and gynæcology in the London medical schools we wish to explain to you, and especially to such of our foreign colleagues as might contemplate attending such Congress, that those who have issued this invitation have assumed a representative position to which they are, in our opinion, not entitled, and which we fi[illegible] We cannot, therefore, take any share [illegible] Congress, but trust that you will accep[illegible] has been arrived at with regret, and w[illegible] yourself or other visitors, either British or foreign.

We are, dear Sir, very faithfully yours,

(Signed)	J. WATT BLACK, AMAND ROUTH, T. W. EDEN,	Charing Cross Hospital.
	A. L. GALABIN, P. HORROCKS, J. H. TARGETT,	Guy's Hospital.
	W. S. PLAYFAIR, T. C. HAYES, J. PHILLIPS,	King's College Hospital.
	G. E. HERMAN, A. H. N. LEWERS,	London Hospital.
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	F. H. CHAMPNEYS, W. S. A. GRIFFITH, W. R. DAKIN,	St. Bartholomew's Hospital.
	A. F. STABB,	St. George's Hospital.
	M. HANDFIELD JONES, W. J. GOW,	St. Mary's Hospital.
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SIRS,—Although I have reason to be well satisfied with the report of your Special Commissioner so far as its reference on my own vaccine is concerned I ask to be allowed to offer some critical remarks on the whole subject. And the first criticism I would venture to make is as to the worthlessness of the method of research adopted and the great waste of good intention and hard labour expended by the Commission. The unwary reader might suppose that the report would give him satisfactory information as to the efficacy of the various vaccines reported on. Not a bit of it. There is nothing whatever in the report to show that any one of the vaccines reported on at such length and with such labour ever produced a vaccine vesicle or could afford the least protection against small-pox!

The use of vaccine is to prevent or modify the action of the virus of small-pox. The only true test of the value of vaccine is its power to produce typical vaccine pocks having a characteristic appearance and history—short of the real test of its effective antagonism to [illegible] at present there is no method kno[illegible] of vaccine by microscopic ch[illegible] means before it is used. THE LANCET report says not one word as to the [illegible] on. Every one of [illegible] so far as power to [illegible] evidence that the s[illegible] position in the report was not perfectly inert as vaccine, nor that the sample which is placed at the bottom of the list was not excellent so far as its power to vaccinate, and much better in this, the essential quality, than samples reported on more favourably. The standard of quality set up by the Commission is *not* the vaccinating or protective power—the essential one—but the number of extraneous organisms present in the sample, though these have no relation to vaccination or protective power against small-pox—a standard which is of no value whatever so far as the utility of the vaccine, *quâ* vaccine, is concerned, and, further, is a fictitious and entirely delusive guide.

The following anecdote well illustrates the worthlessness of the whole procedure. It was related to me by the head of one of the oldest and best Government calf vaccine stations in Germany, a man of world-wide reputation for his scientific researches in certain branches of bacteri[illegible] and delusive standard for estimating the [illegible] of protective virus in calf vaccine by the number of extraneous micro-organisms present, which have no protective power, asked my friend to submit a sample of his vaccine for examination and re[illegible] the impertinence he sent [illegible] any [illegible] been long rejected but not destroyed, [illegible] amusement he received a most complimentary report on this worthless vaccine, stating that it was in every way satisfactory because it had answered to the absurd standard of perfection in the most perfect way and had not shown one single extraneous micro-organism. But as vaccine "[illegible] was absolutely useless—it contained [illegible] and was incapable of producing a pock [illegible] And yet it was reported as being "perfect" according to this other standard, which does not judge according to protective power. What a terrible awakening there would have been had medical men been induced [illegible] rely on the "perfectly sterile" mater[illegible] epidemic of small-pox such as that at Gloucester or Middlesborough.

And I would put it to THE LANCET in all seriousness whether a grave public danger is not created by its suggesting that the protective powers of the several vaccines reported on is in any degree indicated by the report of its Special Commission. Indeed, the report itself contains evidence that the Commission were aware that their labours were futile and might be misunderstood. On p. 1235, in a remarkable paragraph in which it is stated that "it is practicable for almost everyone" to make a satisfactory bacteriological examination of vaccine (though I doubt if more than a very small percentage even of the medical profession would claim the special knowledge required), it is stated that if anyone finds the number of colonies in successive plate cultures diminishes greatly he should not use the vaccine! Not that the vaccine is to be assumed on that account to be inert or even weak so far as its protective properties are concerned; on the contrary, as your Commissioner himself says, "it may be sound, and probably is." Just so! though bad from the Commission's point of view, "it may be sound, and probably is," as a protective against small-pox.

On p. 1234 there is a statement with which everyone must agree, but its truth shows from another point of view how valueless such a report is. It is there stated that "where the number of organisms in any sample is high it must be assumed, not that they are necessarily so in other samples of the same brand, but that the numbers probably vary in different samples" (!). I submit that if the samples reported on are not to be regarded as average specimens of the

respective brands the reports on them are of no value whatever. To inform your readers that certain brands reported [illegible] samples" [illegible] as to [illegible] must be abundantly clear from what precede[illegible] The [illegible] renders [illegible] conclusion whatever worth drawing can be [illegible] of the various brands [illegible] same number of exp[illegible] and the character of the tests varied.

In the case of some brands five experiments were made, with others only two, while with the Local Government Board vaccine only one experiment was made. It is obviously unfair to draw positive conclusions from one sample of one brand when with other brands five times as many experiments were used. Even five observations are far too few. I can give you the evidence of gentlemen who have made thousands of successful experiments with my vaccine as a protective. Of what value are your two or three observations when compared with them? But a more serious objection [illegible] ays which the vaccine [illegible] samples. The solitary vaccine was kept only [illegible] ples were kept for 10, [illegible] onclusions are not de[illegible] he comparative purity [illegible] ous brands (the report, as already stated, has nothing to say about the vaccinating and protective value of the various brands; they may be all perfect or all worthless in this the essential property of vaccine, so far as the report goes). As the glycerine has the property of destroying such extraneous organisms, obviously the longer a sample is kept the fewer colonies will appear in the cultures. But the *coup de grâce* is given to the report by your Commissioner himself on p. 1231. He is there dealing with a brand which gave an enormous number of colonies in one sample and in another succeeding sample gave none, and he proceeds: "*If such lymph retains its full activity* .. ... the question of pure lymph is one that need no longer trouble the public." The italics are mine, but these remarkable words should be printed in capitals to attract due attention. Your Commissioner here for the first and only time seems to be alive to the fact that the real value of vaccine depends on whether it can vaccinate and not on whether a few extraneous organisms exist in it. "*If* it retains its full activity" when it contains but few extraneous organisms it is good vaccine; but even if it is absolutely devoid of all living organisms and yet cannot vaccinate it is useless vaccine. It is worse; it is a highly dangerous and delusive material the use of which might lead to the wide spread of an epidemic of small-pox and no matter whether your Commission reported favourably (as it necessarily would) or not such vaccine should be somehow suppressed. Vaccine reported by your Commission to be perfect from the bacteriological standard may be useless from the protective (the really valuable) standard, and *vice versâ*. Vaccine reported by you to be the worst in bacteriological quality may be the very best of the lot as a protective against small-pox so far as your report goes. A report of such a character is certainly not to be relied on. The presence of extraneous organisms might be a great source of danger if of a virulent kind. But your report says nothing as to the nature of the organisms present.

The standard taken by your Commissioner is, I submit, of no practical value and it is calculated to lead to entirely erroneous conclusions both as to the respective values and the relative values of the various brands and specimens. It would have been more satisfactory if a statement had been made as to tubes of vaccine received by your Commission but not reported on. In one case five tubes were received but only three are reported on. Why is there no [illegible] ? If not used the fact and [illegible] . The manner in which [illegible] drawn from isolated facts is frequently instanced in the report, which particularly calls for notice. A very [illegible] brand is reported on and subsequently a [illegible] the same brand was used. Thereupon your [illegible] missioner gravely reports that this "affords evidence [illegible] greater care is now taken in the preparation and storage [illegible] his lymph." But there is no such evidence in the fact stated and no such conclusion is justifiable. There is not a particle of evidence to show that the very bad tube referred [illegible] f the general supply of the institution [illegible] was not merely one exceptionally [illegible] aneous organisms, nor does the fact [illegible] without any such organisms at a later [illegible] improved methods had been introduced or that filthy and objectionable ones had been abandoned. Indeed, your Commissioner himself, as already noted, has stated that variation in the bacteriological character of the samples of a brand did not imply that the brands varied correspondingly! I do not suggest for one moment that any want of care ever existed in the institution [illegible] dentific and [illegible] the report of [illegible]

With reference to the manner in which the samples were obtained, I never knew until this morning that any samples of my vaccine had been secretly obtained by THE LANCET for examination. On the whole I think the secret method is objectionable as compared with an open candid request for samples for examination. Had I been asked I would gladly have supplied such samples and I could not have given one better than what I possessed. I do not believe any one of the persons whose vaccine was surreptitiously obtained with the apparent object of using it for vaccination, but with the real object of examining and publishing a report on it without leave asked or given, would have refused or would have sent a *false sample*. Thousands of articles, chemicals, drugs, &c., will be openly supplied, examined, and reported on by the various committees of the Paris Exhibition. I doubt whether better results would be got if such samples were secretly got hold of, after the manner of THE LANCET, and a surprise report like this on calf vaccine issued. Thousands of test experiments of the most crucial kind are made with my vaccine every week as to its possessing the essential property of cow-pox. THE LANCET takes two experiments with it in a year! and gives an opinion founded on them. Even though that opinion is of a very favourable character I think the experiments employed and the standard of quality adopted are so faulty that I have ventured on this criticism. These experiments are not intended and do not profess to give any information as to the efficacy of the vaccine. On that point medical men can judge for themselves and THE LANCET does not help them. The entirely false standard of merit adopted by THE LANCET, following the example of a busybody in Germany who is much deluded there by those who understand the nature of his proceedings, is calculated to mislead and even to cause dangerous results by allowing worthless vaccine to be regarded as good—i.e., protective against small pox.

The report of THE LANCET has dealt favourably with my own vaccine, but its praise is calculated to deceive as much as its blame. Indeed, the Special Commissioner himself has taken pains to show that samples which he reports as favourably of are not to be taken as characteristic of the general supply from which it was derived and he was at pains to know whether were each of the samples reported on by him or the whole lot examined could be taken as the typical description of pock or protect against small pox. I therefore venture to urge that your readers should decline to [illegible] rep it as [illegible] in reference to the quality of any [illegible] vaccines.

May I add one word as to the need [illegible] growing in frequency of [illegible] reports in letters to the [illegible] drug, or [illegible] series to the [illegible] [illegible] a [illegible] and I be [illegible]

vaccine supplied by one firm (named), while with one tube (!) supplied by another firm (named) he had not had a single success or, as he put it, "every case failed"! Of course, had he used 364 tubes of the latter vaccine instead of only one, all might have succeeded except one; and had he only used one tube of the former kind it might have proved to be one of the inert ones which were found among the 364. Such comparison between the two vaccines is absurd and one experiment is not sufficient to found a theory on, or even two or five, as THE LANCET Commissioner has allowed himself to do. If one tube is insufficient for the formati[illegible], just as one dose of a drug is, it is [illegible] as a foundation for a published attack on a purveyor of vaccine or of medicine. The proceeding is not only devoid of any scientific value but is eminently unfair and should be discouraged unless the columns of the medical papers are equally open to those who are willing to record their successful use of the articles which have been reported as useless by others. I have no personal reason for referring to this last subject, but in defence of scientific method and to prevent unfairness and the misleading of people by entirely insufficient evidence I wish to draw attention to it.

I am, Sirs, your obedient servant,

THOS. WHITESIDE HIME, B.A., M.D.

Bradford, April 28th, 1900.

*** We print Dr. Hime's letter in order that those who are interested in this question may see the point of view from which some of those who are engaged in the preparation of lymph look upon any attempt to insist upon the precautions recommended by the Local Government Board in the collection and preparation of lymph. We distinctly stated in our report that this was a special investigation to determine how far these recommendations were being carried out and with what results. Dr. Hime, with exceedingly artless ingenuity, has occupied himself principally in doing what is known as drawing a red herring across the trail, and secondly, in putting up bogies in order that he may have the opportunity of knocking them down. Most of our readers will probably agree with us that Dr. Hime's criticism is deprived of much of its force from the fact that his interest in this question is scarcely the same as ours, in so far, at any rate, as agreement or disagreement as to the necessity for enforcing the requirements of the Local Government Board is concerned. It is now recognised that good and active vaccine lymph free from "extraneous" micro-organisms can be prepared, and we are entitled to ask those who are at present engaged in the preparation of lymph either to give us this vaccine or to leave the preparation to those who can and will. Dr. Hime entirely misses—or ignores—the point of our argument in connexion with the presence of a large number of organisms in isolated samples. We scarcely think it necessary to insist upon this again, but we may refer our readers to the original article. Everyone who uses vaccine is in a position to judge for himself whether it is active or not. He cannot do many "vaccinations" without finding this out, but unless he makes a special examination he is not in a position to determine how far the lymph is contaminated by extraneous organisms. It was for this reason that we took up this matter and for this reason we shall continue to examine the lymph for this special form of purity. If vesicles are produced by lymph containing no extraneous organisms we may rest assured that the vaccine is active and will do the work required of it. We quite agree with Dr. Hime that further examinations are necessary, but we have sufficient evidence before us to warrant us in making public the fact that there are at present very great differences in the bacteriological purity of lymph.—ED. L.

To the Editors of THE LANCET.

SIRS,—The report of THE LANCET Special Commission on Vaccine Lymph will, it is to be hoped, ensure that all lymph sold to the public shall bear on the label the date of its manufacture. This is a point of the greatest importance, for provided that the glycerine [illegible] made for a sufficiently long period of [illegible] of [illegible]. This is well illustrated by [illegible] two years ago, an account of [illegible] *British Medical Journal* of Sept. 3rd, 1898. The four samples of lymph, tested directly from the hands of the retailer, showed a wide variation with regard to the [illegible] on gelatin plates, but when kept for [illegible] from 74 to 199 days the differences had [illegible] disappeared, no specimen giving rise to more than three colonies per plate, and only a single colony of staphylococcus being found in the whole series. Glycerinated lymph which had been kept for 200 days gave rise to perfectly normal vesicles and had in no way lost its power. In the article referred to the names of the retailers were not furnished, but my [illegible] those of your Commissioners [illegible] purity of vaccine-lymph are [illegible] viz.: storage of lymph tubes for one month from the date of purchase, and systematic bacteriological examination of samples as is done in suspected cases of tuberculosis or diphtheria. I am, Sirs, yours faithfully,

Clifton, May 2nd, 1900. J. ODERY SYMES.

WHAT IS AN EXPLOSIVE BULLET?

To the Editors of THE LANCET.

SIRS,—Sir W. [illegible] stated in an interview with a *Standard* correspondent that "he had no personal knowledge of the use of explosive bullets by the Boers." Is there any such thing as an explosive bullet? I think not. One of my cases had a large wound over the left scapula presenting much the appearance of having been riddled by an ordinary fowling-piece. The man informed me that a small piece of shell had been removed from one of the wounds a few weeks later. I removed (in March) a small portion of what I considered to be the nickel coating of a *soft-nosed* bullet, but I am not a military expert, though during an active practice of many years at a "diggings" I have seen a considerable number of bullet wounds.—I am, Sirs, yours faithfully,

DAVID HARRIS,
Late Surgeon Transport *Umbria*.

Birchington-road, West Hampstead, May 2nd, 1900.

A FORGOTTEN SUGGESTION.

To the Editors of THE LANCET.

SIRS,—The announcement of the interesting experiment to be made by Dr. Sambon and Dr. Low in the Campagna stimulates me to recall attention to another enterprise in connexion with malaria suggest[illegible] ago but, I regret to say, not even yet [illegible] to the subject of making direct experi[illegible] possibility of controlling malaria by the destruction of anopheles. It is, of course, very desirable to make as many theoretical investigations as possible on the mosquito theory, but we must not forget that while we are considering academical details valuable lives are constantly being lost and that we are already in possession of facts solid enough to form a basis for practical action. The mosquito theory scarcely stands in much need of further proof; it was established long ago. We already know that malarial fever is communicated by gnats. The next work of importance is to ascertain by systematic and thorough experiment whether gnats can or cannot be exterminated or reduced within a given selected area and what effect this measure will have on the public health. The experiment must be made sooner or later. Quinine, mosquito-nets, mosquito-proof houses are well enough in their way, but they will never be used by the bulk of those who live in malarious places. The question whether there is not also some other mode of infection is certainly one of importance, but it will find its own answer in the course of time and we have no justification for postponing action against the known cause of the disease because we are not yet quite sure that there is no other cause.

The duty of carrying out the experiments to which I refer is distinctly one which belongs to the Governments of our malarious dependencies. Private individuals possess neither the authority, the means, nor the leisure to undertake the

... proceed. We may perhaps be allowed to express some dis-
arings
fon i
who
urge
necessary experiments

I., M.R.C.S., Eng.

"UNION H ... ET.

... G. Davies, work-
h) ... of the children's
homes of this union, which appeared in THE LANCET of April 28th I am instructed by the guardians of this union to enclose copy of a letter which they directed me to write Dr. Davies and to request you to be kind enough to insert in your ... I ... rs, yours faithfully,

J. J. DALES, Clerk.

(COPY.)

3rd May, 1900.

... this union to state that
lch you have written to
ical Journal containing
gence to the position of
the children's homes of

applicant the guardians will take su
may be advised.

Dr. Davies, The Workhouse, Linthorpe. J. J. DALES, Clerk.

*** It is to be regretted that the guardians have not thought it worth their while to indicate where, in their opinion, Dr. L. G. Davies's letter was misleading.—ED. L.

HOSPITAL REFORM.

To the Editors of THE LANCET.

SIRS,—Will you kindly let me mention that I have some spare copies of the report of the conference on hospitals and dispensaries held last year.

I am, Sirs, yours faithfully,

Cardiff, May 5th, 1900. T. GARRETT HORDER.

GERMAN SURGICAL CONGRESS.

(FROM OUR BERLIN CORRESPONDENT.)

THE Twenty-ninth Congress of the German Surgical Association was opened on April 18th in Langenbeck House at Berlin, Professor VON BERGMANN being in the chair. In his inaugural address the chairman reviewed the history of German surgery in the past century and described the influence of the Surgical Association on its development. He said that the great progress which had been made in surgery must be attributed to the practical application of the results obtained in experimental research and particularly to the knowledge gained by experiments on animals. He then made a feeling allusion to the recently deceased members of the association, especially the late Sir James Paget, an honorary member of the association, whose oil painting in the Assembly Hall had been draped in mourning.

Inoperable Carcinoma.

Professor VON CZERNY (Heidelberg) read the first paper, the subject of which was the Treatment of Inoperable Cases of Carcinoma. He drew attention to the fact that about 40,000 persons died every year in Germany from carcinoma. The number of patients with carcinoma was increasing, whilst other diseases, such as tuberculosis, were decreasing. Unfortunately, a good many of these patients fell into the hands of quacks after the medical profession had exhausted all orthodox methods without success. About 45 per cent. of cancer cases were unsuitable for operation and it must therefore be the aim of the surgeon to relieve the sufferings of the patients. The surgeon must never let his patient see that he has doubts as to a successful issue. There were methods by which the progress of the disease might be hindered—at least for a short time. Professor von Czerny recommended curetting and cauterisation with chloride of zinc; the employment of formalin and of arsenic might also be ... fortunate sufferers would ... as had been prepared by ... cancer. Great advantages ... from the creation of cancer hospitals after the pattern of those already existing in England and America and maintained by the liberality of rich benefactors. Professor von Czerny urged the members of the association to use their influence in favour of such hospitals as much as possible. In these hospitals medical students and practitioners would learn the treatment of inoperable cases and the spread of the disease might be hindered by isolating ... growths.

Professor HELFERICH (Greifswald) related some undesirable experiences which followed cauterisation with chloride of zinc.

Operations for Cancer of the Rectum.

Professor KRÖNLEIN (Zürich) then read a paper on Operations for Cancer of the Rectum. He had collected statistics from eleven surgical clinics of Germany, Austria, and Switzerland, and had found a relatively great mortality after the operation due especially to the fact that the cases operated upon were often in an advanced stage. Sepsis was relatively frequent after operations for rectal cancer. With respect to the curability of the disease Professor Krönlein said that cases which remained free from relapse for more than three years after the operation might be regarded as cured. This good result was obtained in about 15 per cent. of the cases.

Professor KOENIG (Berlin) said that the results might have been better if the patients had been operated on at an earlier date. He had been able to remove the growth completely in 19 out of 51 cases. He showed patients who had been operated on four, and eight and a half, years ago.

Plastic Operations.

Dr. VON MANGOLD (Dresden) showed a woman who had stricture of the trachea after perichondritis and had worn a cannula for 18 years. He took a piece of cartilage from a rib and implanted it under the skin in the neighbourhood of the trachea. He then incised the stricture of the trachea and inserted the cartilage into the opening. A saddle-shaped nose was corrected in a similar way. Dr. von Mangold had used cartilages of the ribs in five cases for plastic operations and recommended this structure as very suitable for the purpose.

Professor VON BERGMANN (Königsberg) showed a patient who had lost his forefinger by an accident. He replaced the missing finger by disarticulating the second toe and uniting its skin and tendons with those of the stump of the finger by a series of sutures. Primary union followed and in the result the substitute for the finger possessed a considerable capacity for movement.

Surgery of the Joints.

Professor KOENIG (Berlin) said that strict asepsis was especially necessary in Operations on the Joints. It had been proved by many researches that endeavour to render the fingers free from germs usually failed. The fingers therefore ought never to be introduced into the cavity of a joint. Skiagraphy of the joints had not given very certain results. Professor Koenig mentioned cases where the results of ossification of the tendons outside the joint had been erroneously attributed to foreign bodies in the joints. In suppurative arthritis he disapproved of the drainage of the joint but recommended free opening of the cavity. By making a transverse incision through the knee joint he had sometimes succeeded in avoiding the necessity for amputation. In conclusion he warned his hearers against the use of apparatus in cases where a complete cure might be obtained by operation.

Operations for Renal Calculi.

Professor ISRAEL (Berlin), speaking on the subject, remarked that operations for renal calculi were ancient and by Hippocrates. Nowadays they could be seen performed everywhere by almost every surgeon and the results were ... than that of nephrotomy. Operations ... were clean cuts ... for the prostate ... operation. Unfavourable ... given by ... by ...

acute pyelonephritis, by retention of urine in the kidney, and by profuse [illegible] s indicated also by [illegible] by the occurrenc[illegible] produced by the [illegible] be no imminent [illegible] that within a sh[illegible] grave that an op[illegible] conditions. An o[illegible] discharged in the [illegible] balneological treatment were [illegible] the technique of the operatio[illegible] incision of the renal tissue in [illegible] the pelvis of the kidney. If the renal tissue was extensively damaged by [illegible]

Dr. KÜMM[illegible] ascertaining the state of the [illegible] catheterisation of t[illegible] could [illegible] without danger, and [illegible] of the [illegible] of urea in the urine. A very useful method [illegible] pose had been devised by Professor Korányi [illegible] who had found that the freezing point of the [illegible] lower in cases of impaired function of a kidney.

Operations for Gall-stones.

Professor KEHR (Halberstadt) said that he had performed operations of this kind in 491 cases during the past 10 years, the mortality being from 2 to 7 per cent. It might have been expected tha[illegible] ter the operation, but [illegible] to complain. According to Professor Kehr these troubles were due to calculi left in the gall-bladder because they were not found during the operation and were never caused by the formation of fresh calculi. Genuine relapses have never been observed and Professor Kehr had therefore given the name of "spurious relapses" to the pains originating in the manner above described. Such spurious relapses may be produced, moreover, by adhesions between the gall-bladder and its surroundings. In order that calculi may not be left behind Professor Kehr recommended total extirpation of the [illegible] better results were obtained than [illegible] As a rule an operation ough[illegible] of a stone was [illegible] cinomatous [illegible]

Professor LONGER (Bochum) approved of total extirpation of the gall-bladder. In his opinion cancer of it was caused by irritation by calculi.

Professor PETERSEN (Heidelberg) said that he had met with relapses only twice in 270 cases. He preferred drainage of the [illegible] tirpation.

Prof[illegible] was of opinion that an operation sh[illegible] only when the pain was very severe and frequent. The operation itself might produce adhesions which were usually very painful.

Myoma of the Uterus.

Professor OLSHAUSEN (Berlin) said that operation was not necessary in every case where a uterine myoma had been detected. Small myomata in young persons ought only to be operated on when they caused trouble, as it often happened that they did not increase in size for many years. He had operated in only about 16 per cent. of his cases. He recommended enucleation. Removal of the ovaries should be avoided as much as possible owing to the undesirable sequelæ of that operation.

(To be continued.)

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Riots at Cawnpore.—Emigration from India.—The Progress of the Plague.—Famine Relief Works.

THE plague riots at Cawnpore have been more than usually serious. It appears that segregation of the sick in hospital was adopted amongst other measures as part of the plague [illegible] not have been a[illegible] t the police sub[illegible] plague hospital t[illegible] fever, demanded [illegible] have been top lar[illegible] sisted. The peop[illegible] and to close the [illegible] selected and made for the hospit[illegible] and segregation camp, while the medical officer w[illegible] threatened and only managed to save himself by fligh[illegible] Mussulmans and Hindus joined together in settin[illegible] fire to the segregation camp. The police and troop[illegible] were called out and the disturbance was so violent tha[illegible] the mob had to be fired on. All sorts of false rumour[illegible] set afloat [illegible] sult of a[illegible] the plague [illegible] isolation o[illegible] patients [illegible] residences [illegible] this is a farce. Ther[illegible] nd private caste hospitals arrange[illegible] ply to the segregation of persons [illegible] no separation of families is to [illegible] eir will. This is practically [illegible] measures, and disinfection alone [illegible] adopted in Calcutta anticipated this nearly two years ago. The Lieutenant-Governor has conferred with the municipality and has stated that the police were to [illegible] do with the decision of suspected ca[illegible] were in no way to be obliged t[illegible] hat in addition to the [illegible] ties of the Health Depa[illegible] regulations. There will now be an opportunity of watching the natural course of an outbreak of plague in Cawnpore.

The annual average number of emigrants from India is about 14[illegible] g the past 12 years. The number [illegible] amounted in the same period to [illegible] yearly, or less than one-half of [illegible] The mortality amongst emigrants is high. Many continue to work in the particular colony to which they went after their term of indenture has expired. In Mauritius, for instance, it is estimated that 69 per cent. of the population (256,000 out of a population of 372,000) are Indian settlers and their descendants. In Natal, Trinidad, and elsewhere the settled Indians are increasing in numbers. There is very little emigration from Bombay, as labour is, on the whole, so well paid, that there is little inducement to go to the coolie-employing colonies. The work of the Uganda railway has drawn considerable numbers (9479) from Karachi. Most of the emigrants go from Calcutta and are drawn fr[illegible] districts of Oudh, Behar, and the N.W. [illegible] 3000 were recruited from the Tamil districts of the Madras Presidency last year, and a few people went to the Seychelles. The various emigrants become widely dispersed, some going to Natal, others to Jamaica, to Trinidad, and to British and Dutch Guiana. These figures are quite independent of those persons who leave India as ordinary passengers and not under emigration laws, and are in addition to the various pilgrimages.

The weekly returns of plague have somewhat improved. There were 4100 deaths returned last week for the whole of India, as against 4546 during the previous week. There has been a great improvement in Bengal, the deaths in Calcutta having fallen from 702 to 465, and in the districts from 2142 to 1390. There has been an improvement also in Bombay city, but in the rest of the Presidency there has been an increase from 566 deaths to 1097, chiefly owing to the increased mortality at Karachi and in Cutch. Aden records 73 deaths. On the Turco-Persian frontier plague seems to be developing, and 195 deaths have been recorded at Javanrood during the last three weeks. The death-rate in Calcutta has declined from 98·7 per 1000 to 72·7, while in Bombay, though less than last week, it is now 135 per 1000 per annum. Plague still continues to affect in a mild manner various villages in the Punjaub.

Relief works in connexion with the famine are being extensively organised. In the Bombay Presidency there were the following works started last week; deepening the Sud Tank, collecting ballast for the Great Indian Peninsular Railway, metal collection for several roads, and the opening of new roads. Works are to be specially undertaken for the relief of the hill tribes in Thana and the sinking of trial-shafts for irrigation wells at Nasik.

April 19th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Miss E. M. Platt will act as the first secretary.

University College, Liverpool; The Medical Faculty; Opening of the Summer Session.

Lectures and practical classes in the schools of medicine, dental surgery, and public health commenced on May 1st. The several entries to date appear to be satisfactory.

The Pathological Dilnholts Society of Liverpool: Report

Workhouse Authorities & Lunatics.

medical point of view by the county coroner on April 25th. A middle-aged woman, a saleswoman in the employ of a large haberdashery establishment in the city, was brought to the Liverpool Workhouse on the morning of April 15th suffering from acute mania, as certified by her medical attendant. She was subsequently removed to Rainhill Asylum, where she died on April 23rd. The

to the coroner that the

workhouse, that she was not

to the asylum, and that her head was filled with vermin. Dr. A. W. Campbell, the pathologist of the asylum, deposed that he had made a post mortem examination of the body and that the deceased died from broncho-pneumonia. The body was also covered with bruises when admitted to the asylum. The workhouse officials denied that there could have been any filth in the room in which the deceased was confined as it had been previously stayed owing to the occurrence of a case of small pox in the section. The bruises could be accounted for from the fact that the deceased was rescued with great difficulty, after the lapse of an hour, from a ledge outside the window of the establishment from which she was brought to the workhouse. They would appear to have been unavoidable and to have been caused by the efforts made to rescue her from a perilous position. Dr. William Alexander deposed that the deceased died from acute mania and that the broncho-pneumonia was but a complication of the disease. The jury found that the deceased died from broncho-pneumonia, and were of opinion that there had been neglect on the part of the workhouse authorities. An exhaustive inquiry was subsequently held by the Select Vestry into the conduct of their officers in the matter with the result "that the charges of neglect made against the officers of the workhouse had not been proved." Mr. Foster, one of the members of the committee of inquiry, made the remark that "their friend the coroner was only too ready to get at sly at Brownlow-hill." In the course of investigation by the committee of the Select Vestry Dr. Alexander said that he regretted, that he was not notified by the asylum authorities of their intention of making a post-mortem examination, to which he considered he was in courtesy entitled. It is only fair to say that Dr. J. Wiglesworth, the respected medical superintendent of the Rainhill Asylum, was absent from home at the time of the whole proceedings. Hitherto the relations between the asylum authorities and the officials of the Liverpool Workhouse had been of a cordial character and it is unfortunate that those friendly relations should have been marred by the present unfortunate occurrence.

The Threatened Epidemic of Small-pox, in Liverpool.

At the last weekly meeting of the Health Committee of the City Council, the medical officer of health (Dr. R. W. Hope) reported that there were 53 cases of small-pox, 173 cases of scarlet fever, 2 cases of typhus fever, 45 of typhoid fever, 33 of diphtheria, and 24 cases of other zymotics, making a total of 330 cases of infectious disease in the city corporate hospitals for the week ending April 28th. There had been four deaths from small pox during the week. No fresh cases of small-pox had occurred at the Liverpool Workhouse, where every precaution has been taken for isolating

Revaccinations have been performed by

ers on a large scale and it is hoped that, so

house is concerned, the disease has been

pled with.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

College of Physicians of Edinburgh.

meeting of the Royal College of Physicians held on May 1st, Dr. James Ardrew, the in the chair.—The President referred in the great loss which the College had h the death of Sir Douglas Maclagan who w of the College for 30 years and President from 1884 to 1887. The President further referred to the loss which the College and the profession had sustained through the death of Sir William Priestley, for 42 years a Fellow of the College.—Dr. Charles Henry Fox, M.R.C.P. Edin (Edinburgh), was admitted by ballot to the Fellowship of the College.—On a ballot the following candidates were admitted to the Membership of the College after examination—viz., Charles Crichton Lauderbank, M.B., C.M. Edin. (Edinburgh), John Cunning, L.R.C.P., L.R.C.S. Edin. (Edinburgh), and Alexander Dingwall Fordyce, M.B., Ch.B. Edin (Edinburgh).—The Registrar reported that since the last quarterly meeting 45 persons had obtained the Licence of the College by examination.—Dr. Charles Peckham Ker, M.R.C.P. Edin. (Edinburgh), was, after examination, recognised as a lecturer on Infectious Diseases, and the President conferred on him the certificate of qualification.—The President announced that the Royal College of Surgeons of Edinburgh had intimated its intention to contribute £500 per annum towards the maintenance of the College Laboratory, and moved that the cordial thanks of the College be given to the Royal College for the very handsome contribution.—Intimation was made that the medical officer of health for the city of Edinburgh was proposing in the City Hospital to combine a pathologist with a view to the bacteriological diagnosis of diphtheria and typhoid fever, the profession, as the College, [illegible] had done in the past. It was [illegible] that the College should cease [illegible] diphtheria and typhoid fever from May 15th excepting for Fellows of the College and of the Royal College of Surgeons and [illegible] Draft bye-laws for the Trust [illegible] for the [illegible] year was adopted.—[illegible] John Wyllie had been appointed [illegible] of the College and [illegible] College [illegible] and Mr. [illegible] meet of the [illegible]

Prevention of Tuberculosis.

On the invitation of the Corporation of Glasgow a conference of local authorities in Scotland was held in Glasgow on April 24th to consider the question of the prevention of tuberculosis in its relation to meat- and milk-supply. Lord Provost Chisholm presided. Baili[illegible] of the Bacteriological Committee of the [illegible] a paper on the proposals under the consideration of the committee, and Councillor James Dick, chairman of the Health Committee, read a paper containing proposals regarding the inspection of meat.—Dr. Leslie Mackenzie, medical officer of health of Leith, read a paper on the Regulation of Meat- and Milk-supply in support of the formal motions which were to be proposed.—Councillor Erskine moved one of the propositions on the agenda to the effect that in the opinion of the conference it was essential in the interests of the milk-consumer that full advantage be taken of the powers contained in the Dairies, Cowsheds, and Milkshops Order of 1899, and that in order to obtain such each authority should provide for the regular inspection of its dairy cattle by the appointment of a veterinary surgeon for the purpose. The motion also proposed that in order to secure uniformity in the exclusion from the meat-supply of the flesh of tuberculous animals advantage should be taken by each local authority of the powers of the Public Health (Scotland) Act for the provision of definite places for the inspection of animals slaughtered for food purposes within its boundary, and that meantime the standard of condemnation to be applied should be that described in the report of the Royal Commission on the subject. This motion was carried as well as an addition to it—viz., that it was essential in the interests of the consumer that he should be protected against the dangers arising from imported meat and milk. Mr. John Speir, Newton Farm, near Glasgow, read a paper on the Best Means of Housing Cows in Country and Urban Districts. A motion was then carried laying down certain conditions to be observed in the construction of byres, with an addition to the effect that local authorities should have power to refuse the registration of a dairy-keeper until satisfied that his premises were in a satisfactory state and that the water-supply was sufficient and free from contamination. A paper entitled the Necessity for the Tuberculin Test, by Principal Dewar, Royal Dick Veterinary College, Edinburgh, was on the programme, but owing to the lateness of the hour Principal Dewar contented himself with making a few observations on the motion about to be submitted. Bailie R. Anderson moved the proposition which asked that local authorities should be empowered by Parliament to apply in all dairies the tuberculin test in order to discover whether the cows suffered from tuberculosis. The motion met with considerable opposition, but was ultimately passed.—Professor Stockman spoke on the Establishment of Public Abattoirs, and the conference afterwards rose.

Proposed Memorial to the late Dr. Jackson.

It is proposed to place in Free South Church, Aberdeen, a handsome stained glass window as a memorial to the late Dr. Henry Jackson, Aberdeen. The subscriptions will probably be confined to members of the church referred to.

New Maternity Hospital, Aberdeen.

The accommodation in the present maternity-hospital in Barnett's Close, in connexion with Aberdeen Dispensary, having been found to be "utterly inadequate," the managers have resolved to purchase the property known as St. Ninian's Chapel in Castle-street and to convert the premises into a new and improved maternity hospital. St. Ninian's "Chapel on the Castle Hill" is a pre-Reformation building with an interesting history.

Hospital Saturday in Aberdeen.

In addition to band competitions, &c., in Duthie Park on June 23rd, the executive committee of the Aberdeen Hospital Saturday Fund have resolved to have horse races elsewhere some time in August. The resolution as to horse races, which was arrived at by a narrow majority, has given rise to considerable controversy in the city.

Chair of Medicine in Edinburgh University.

At a meeting of the curators of patronage for the chair of medicine in the University of Edinburgh, held on May 4th in the University Court-room, Dr. John Wyllie was elected to the chair. All the curators were present. Dr. Wyllie, who is 56 years of age, was a student of Edinburgh University. In 1865 he graduated with honours as a Doctor of Medicine and was awarded a gold medal for his thesis on the Physiology of the Larynx. Subsequently to his graduation Dr. Wyllie held the posts of house surgeon and house physician in the Edinburgh Royal Infirmary, and in the winter of 1865 he was elected senior president for the year of the Edinburgh Royal Medical Society. In the summer of 1866 he studied in Paris. After retur[illegible] the post of house physician to the [illegible] for two years. In 1868 Dr. [illegible] and in 1870 was elected a Fellow of the Royal College of Physicians of Edinburgh. He then became a lecturer on [illegible] Extra-Academical School and lecturer on [illegible] 1878, when he became a lecturer on practice of physic. He was for two years pathologist to the Edinburgh Royal Infirmary and for six years acted as one of the physicians to the new town dispensary. In 1876 he became assistant physician to the Royal Infirmary, which post he held until 1882, when he was appointed physician to that institution. In October, 1896, Dr. Wyllie was appointed consulting physician to the City Hospital for Fevers. In April, 1897, his term of office as physician to the Royal Infirmary expired and he was appointed one of its consulting physicians. Dr. Wyllie acted as honorary secretary to the Royal College of Physicians of Edinburgh from 1878 to 1888. From 1892 to 1896 he held the post of examiner for the University in clinical medicine. He has also held the appointment of examiner in medicine for the University degree in public health and since 1887 he has acted as principal medical officer to the Scottish Equita[illegible] University of Edinbur[illegible] of Doctor of Laws. D[illegible] been large, both in [illegible] and in the teaching [illegible]. Between 1878 and 1897 Dr. Wyllie delivered every winter a course of lectures on Practice of Physic in the extra-mural school, those lectures being recognised by the university as qualifying for graduation, and during the latter half of that period, in addition to this winter course, he gave a supplementary summer course upon the subjects of Medical Ophthalmology, Laryngology, and Medical Electricity. During the 15 years in which he held office as physician to the Royal Infirmary he was continuously engaged [illegible] medicine. As consulting physi[illegible] was his duty to give clinical instruction in fevers to the students of the University and of the extra-mural school. In the winter session of 1898-99 Dr. Wyllie taught clinical medicine for the University in the room of Professor Fraser, who was at that time in India, and at the same time had charge of Professor Fraser's wards. On the illness of Sir Thomas Grainger Stewart Dr. Wyllie was appointed to discharge the duties of the chair. Dr. Wyllie's chief published work is his book, "The Disorders of Speech," which appeared in 1894.

The Representation of Edinburgh and St. Andrews Universities.

On May 3rd Sir John Batty Tuke, M.D., was returned as the Parliamentary representative of the universities of Edinburgh and St. Andrews in room of the late Sir William Priestley. The gathering of electors, which was not large, was presided over by Sir William Muir in his capacity of returning officer. The nomination was made by Professor Annandale and seconded by Profe[illegible]or Scott Lang. Sir John Batty Tuke, in thanking his co[illegible]tituents for his election, referred to the one condition on which he consented to stand as a candidate—viz., that he should have a perfectly free hand in all matters connected with medical, public health, or educational affairs. He took his seat in the House of Commons on May 8th. He was introduced by Sir Michael Foster and Mr. J. A. Campbell.

May 8th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Epidemic Cerebro-Spinal Meningitis in Dublin.

A CONSIDERABLE number of cases of cerebro-spinal meningitis have recently occurred in Dublin, six deaths having been notified during the week ending April 28th. The

disease, accompanied by the characteristic petechial eruption, proved fatal to one of the most promising students of the Mater Misericordiæ Hospital after an illness of only four days. It is proposed to devote the meeting of the medical section of the Royal Academy of Medicine on May 18th to a discussion of the clinical, pathological, and other aspects of the affection. The attention of the Council of the Dublin Sanitary Association, which met on May 3rd, was directed to the wide prevalence of cerebro-spinal meningitis in Dublin and its suburbs.

The Meath Hospital and County Dublin Infirmary.

Mr. William Taylor, assistant surgeon to the Meath Hospital, has been appointed to fill the vacancy on the surgical staff created by the death of Dr. R. Glasgow Patteson.

The Infectious Diseases Hospital, Belfast.

The never ending question of the site of the Belfast Infectious Diseases Hospital came before the city corporation of Belfast at their monthly meeting on May 1st. It would appear that the deputation from the Asylum Board appeared before the Public Health Committee to protest against taking any part of the estate at Purdysburn for the hospital, but that after a discussion it was decided by five to three to recommend that the infectious diseases hospital be built at Purdysburn, but that only 20 acres be taken for the present. The whole matter was debated at the monthly meeting of the corporation on May 1st, the discussion at times being very personal. Ultimately it was decided by 32 to 10 to adopt the report of the Public Health Committee to locate the infectious diseases hospital at Purdysburn.

Health of Belfast.

Between March 26th and April 21st 277 cases of zymotic disease have been notified, 94 of these being typhoid fever, 50 diphtheria, and 47 scarlet fever. There were 42 deaths from zymotic disease, 109 [illegible] diseases of the respiratory organ[illegible] which is much less than that [illegible] last year. The epidemic of scarlet fever, though still prevalent, is mild. The cases of typhoid fever are increasing as well as the deaths therefrom.

Ulster Medical Society.

At the usual monthly meeting of this society held on May 3rd Dr. Tennant read notes on a case of Dyspepsia due to Adhesions treated Surgically; Dr. W. Calwell read a [illegible] which [illegible] part [illegible] a Ad- [illegible] com [illegible] glass Stomach, illustrated by lantern slides and specimen. A communication, Notes on the Chemical Treatment of Sewage, by Dr. Allworthy, was read by the secretary.

Death of Mr. James Smith, L.R.C.P. Irel., F.F.P.S. Glasg.

Mr. James Smith, a well known medical practitioner, died in Belfast on April 25th, at the early age of 52 years, from diabetes, from which he had been suffering for some considerable time. Residing in a densely populated working-class district of Belfast Mr. Smith had a very large practice and was specially skilful in midwifery. He contributed several papers of a practical nature to the medical journals on obstetric subjects. He wrote a thesis, "Reminiscences of 6000 Accouchements, comprising 1303 Operations." His other papers were: "One Thousand Instrumental Deliveries, with Remarks on a New Axis traction forceps," "On a new Cephalotribe, its Utility Illustrated and its Efficiency Proved by Difficulties Encountered in 4000 Labours," "The Early and Forcible Dilatation of the Os Uteri as a Successful Method of Treatment in Placenta Prævia, with Cases." He invented a combined cephalotribe and craniotomy forceps and an improved axis traction forceps. A man of great kindness and geniality, he was much beloved by the poor, to whom he was most attentive. He was buried on April 23rd, his remains being interred in Balmoral Cemetery, Belfast. A very large number of friends were present. He leaves one son, his wife having died some years ago.

May 1st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Academy of Medicine.

AT the meeting of the Academy of Medicine held on April 24th M. Laveran, the well known discoverer of the hæmatozoon of malaria proposed that the Academy should nominate a committee of members who should go to Algeria and study on the spot the part played by mosquitoes in the production of malarial fever. They could then deduce principles for prophylaxis. Professor Blanchard strongly supported the idea, citing the examples of the commissions sent by England and Italy to Africa and Asia for similar purposes. He remarked that the question of the distribution of the hæmatozoon through the agency of mosquitoes of the genus anopheles had revolutionised previous ideas as to the etiology of malarial fever. It was an incontrovertible fact that the geographical distribution of the anopheles coincided with that of malarial fever. The question was one deserving of the most careful study. The Academy unanimously agreed to send a commission to Algeria, and the following gentlemen were selected: M. Laveran, M. Blanchard, M. Kelsch, M. Rallliet, M. Vallin, and M. Vincent.—At the same meeting the Academy, in conformity with the powers given to it by the Government, formally registered its acceptance of the magnificent bequest left by the late Professor Tarnier. That well known and deeply regretted obstetrician has left a sum which will produce some 5000 francs per annum. Of this income 3000 francs are to be allotted as a yearly prize to what shall be, in the opinion of the Academy, the best work, either printed or written, dealing with obstetrics and gynæcology. With reference to Professor Tarnier, a somewhat amusing incident occurred at a meeting of his old pupils who had previously set on foot a subscription to put up a memorial to their old master. It must be mentioned that these old pupils are now divided into two groups, one of which is attached to the person of Professor X—— and the other to that of Professor Z——. The sculptor to whom had been entrusted the execution of the memorial, which was to be paid for by money collected from both these groups, had the idea of modelling besides the statue an important bas relief which was to be placed on the pedestal and which should represent Professor Tarnier giving a demonstration to his pupils upon a pregnant woman. Portraits of the principal pupils of the late master were to be made easily recognisable. This idea was, however, not looked upon with favour by the committee of the memorial, and when the sculptor, M. Peech, for the second time submitted his model for approval prior to its final execution in bronze the quarrel began, as the two groups could not decide among themselves what proportion of portraits should be allotted to each and therefore most likely this part of the scheme will be dropped and no portraits will be introduced. The new buildings which are at present being constructed for the Academy of Medicine in the Rue Lafayette, which it was hoped would be ready at the same time as the Exhibition, will certainly not be ready this year, much to the annoyance of the academicians, who find their quarters in the old chapel belonging to the Hôpital de la Charité much too small. Interminable negotiations preceded the commencement of the building, but with these I have already acquainted your readers. When the site, next to the Ecole des Beaux Arts, had been chosen, it was supposed, and the building commenced, the architects of the Ecole des Beaux Arts absolutely refused to allow a wall to be pierced through which they had placed [illegible] themselves and [illegible] works had to be stopped and [illegible] were only [illegible] after a great deal of discussion [illegible] and [illegible] the wall.

School Teachers as Lecturers on Hygiene.

At the meeting of the Academy of Medicine held on May 3rd M. Hervieux, who is a strenuous [illegible] vaccination and who [illegible] on the efforts made for the [illegible] spoke on the very great [illegible] both sexes can [illegible] It is on these tables [illegible] planed, especially in country towns, to [illegible] lectures and [illegible] of the population. [illegible]

common method of procedure is to constantly press upon parents the need for having their children vaccinated, while they also persuade the children themselves not to object to the performance of the operation. Some give lectures and hold meetings in the villages, some apply to the municipal councils for a grant in aid of vaccination, and some are ready and willing to perform the operation and undergo vaccination themselves as an example for the people to follow when there happens to be an epidemic. For all this, M. Hervieux, at the conclusion of his paper, while giving every credit to the amount of zeal displayed by this band of willing workers, declared that in his opin[illegible] finally freed from the plague of [illegible] ould be made obligatory. A Bill [illegible] passed through the Chamber of D[illegible] waiting many years for discussion in the Senate. At the conclusion of M. Hervieux's paper M. Pinard, while making certain reservations as to the conduc[illegible] in vaccinating themselves, ended by saying [illegible] done was to press for making vaccination [illegible]

May 8th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

PROFESSO[illegible] *Medicinisch*[illegible] him by [illegible] medica[illegible] The fir[illegible] was hi[illegible] majorit[illegible] caused [illegible] parts [illegible] except when the shot [illegible] distance. This seldom [illegible] Boers shot themselves wilfully with their [illegible] to be released from military service. In these cases the wound of entrance [illegible] of soft part[illegible] ge and the n[illegible] ct, not from [illegible] these "a[illegible] was [illegible] small a[illegible] rema[illegible] extremities continued to [illegible] n the [illegible] actio[illegible] poisonous ga[illegible] in the neighbourhood suffered [illegible] Dr. Küttner, another of the Ge[illegible] in a letter addressed to Professor Bruns of [illegible] confirmed the opinion of the latter that the prognosis of the wounds inflicted by modern rifle-bullets was good and that conservative treatment was advisable. Wounds of the skull and the brain were usually very serious and often required operative treatment, whilst wounds of [illegible] healed very well. As to wounds of [illegible] prognosis was better than was supposed. [illegible] them healed under expectant treatment [illegible] an experience in accordance with that of Sir William MacCormac and Mr. Watson Cheyne. The results were not improved by laparotomy. Wounds of the liver were not observed at all because the wounded died on the battle-field; wounds of the kidneys were more frequent and of a better prognosis. The observations of Dr. Küttner on wounds of the extremities were in accordance with those of Dr. Hildebrandt. In a postscript he describes the state of the wounded of General Cronje's laager after his surrender at Paardeberg. Owing to the want of surgical aid the wounded had been ten days without dressings. The wounds were covered with tobacco-leaf and nearly all were septic. Many operations were therefore necessary and there were many deaths from septicæmia and tetanus.

The Courts of Honour.

The Prussian Minister of Educational, Ecclesiastical, and Medical Affairs, in his capacity as head of the medical department, has issued regulations to the newly instituted courts of honour. These regulations require the courts of honour to keep registers in which the name of every medical man under their jurisdiction is to be entered. If a medical man has been convicted of some offence the punishment must be recorded in the register. The presidents of the courts are instructed to send extracts from the registers to the public prosecutors at the courts of criminal law, whilst these officials are instructed to give notice to the medical court when a medical man has been convicted on a criminal charge. These regulations, by which the presidents of the medical courts are reduced to a position of dependence on the Government executive, have caused general disappointment. The medical press unanimously disapproves of these instructions and the president of the Berlin court, Dr. Becker, has declined to be sworn as long as these regulations are in force; and the committee of the medical chambers has addressed an energetic protest to the Government.

Malingering by Military Recruits.

In Germany, as in almost every continental country, military service is obligatory, and the law provides severe penalties for those who try to escape this duty by fraudulent means. Cases of this kind are infrequent, and a great sensation was caused when it was known that the military authorities had discovered that an agency existed in Rhenish Prussia by which young men were systematically enabled to evade the conscription. The army medical officers in that [illegible] nation of the young men [illegible] nd some time ago that a [illegible] had to be rejected because [illegible] m cardiac palpitations, also a certain number of young soldiers showed those symptoms at the commencement of their service in the army so that [illegible] The cause of these remarkable [illegible] elong- [illegible] al for [illegible] pills [illegible] large [illegible] ascer- [illegible] from [illegible] who was thereupon arrested. The police then discovered that this man had been the head of an agency which had enabled numerous [illegible] army. He had been [illegible] Dr. ——, to whom he [illegible] mined them and when [illegible] service he prescribed [illegible] duce cardiac palpita- [illegible] symptoms of icterus. [illegible] gents were therefore prosecuted together with a number of young men before a court at Elberfeld. The agent had died previously to the trial, but Dr. —— was found guilty and condemned to [illegible] imprisonment. Dr. [illegible] had been known to be [illegible] w professional standing, and during the trial there [illegible] indication that other medical men had been con- [illegible] with the case—the "pills case," as it was popularly designated.

May 7th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Lunatic Asylums.

DR. J. WARNOCK'S annual report has [illegible] the one hospital for the insane which [illegible] sufficient for her needs since the thirteenth century when the first was establi[illegible] that fewer and fewer [illegible] ends or families, an[illegible] and more crowded. [illegible] is waning, or is it that there is less wealth, or perhaps as we English would fain believe, the intelligent native now understands that under our control he may send his relative, whom he still calls "struck by the wrath of God," to the asylum which only 15 years ago was justly called an abomination to the human race. The number of resident patients has risen from 300 to 500, not from any increase in lunatics, but from the necessary accumulation of uncured chronic patients. And yet during the year 1899 no fewer than 274 men and women had to be discharged still insane to make room for

asylum 1.
During 1

of 3 per
advanced to 6 per cent. The large towns furnished nearly all, the last class and most of them are known to have had syphilis. The total admissions for the year were 598, including 17 nationalities besides Egyptians. Only one Englishman was admitted.

The Winter Season.

would prefer to remain at home to get as great as possible a supply of war news, but so many Americans have flocked here on their way to Paris that the total number of tourists has been quite up to the average. Unfortunately, the unusually low Nile has spoiled the pleasure of those late comers who insisted on attempting the journey by river when all the boats were sticking on sandbanks.

Infectious Diseases.

to the rule that
r by convalescent
Europe. A patient

tion, and perhaps a third mer
the day after reaching Egypt
health resorts must willingly run.
causes of the spread of the disease
is just as contagious
a disease as is measles,
influenza breaks out
P. and O. steamer is
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employ

after time for innocent or careless new tenants! There are probably many other easy methods of spreading infection, but I mention only those which seem to have caused many new cases this year. Patients here comfort themselves by reflecting that if they must have influenza at all it is better to have it here than in London or New York. Here the disease is milder and seldom advances beyond a bronchial catarrh lasting a fortnight, while the sufferer can usually have his window open by day and can get out of doors during convalescence. For a month Cairo was quite under the influence of the epidemic. At one of the large hotels no dances could be given because so many of the waiters were in hospital, and several of the Government schools had to be closed. Measles too has been rife among the native children and the children's ward at Kasr-el-Aini Hospital had to be closed for a time. Small-pox may always be a danger in Egypt because, although the natives believe implicitly in vaccination, and seldom try to evade it, they have no knowledge of the importance of revaccination. This dates from the time when their ancestors believed, like the Turks, that inoculation in childhood was the only important prevention. Since the beginning of this year there has been an increase in the native cases of small pox, and now every day revaccination is being very zealously carried out by the district medical officers of Cairo. Small pox cases as they occur are sent to the isolation hospital at Abbassieh or to the fever wards of the German Hospital. Two visitors were treated for the disease at Assouan.

The Plague.

Egypt is fortunately still free from plague and it looks as if all the good work at Alexandria will really stamp out the

been for some time at Aden
under the ruling of Bombay
vied their greater energy or
the Indian city
pilgrim east
also. There is
by furnace,
Egypt when the
El Tor, where
Dr. Bonatree
to take charge
of the hospital and Miss Cutler has again gone to inspect women pilgrims.

Cairo, April 24th.

Obituary.

GEORGE VINER ELLIS, F.R.C.S. ENG.

On April 26th there passed away a member of the profession whose name was a household word to many generations of medical students as one who guided them through the difficulties of the study of anatomy. George Viner Ellis was born on Sept. 25th, 1812, being the second son of Mr. W. Viner Ellis, of Dunt House, Minsterworth, near Gloucester, where his family had for many years held property. He was educated at the Crypt Grammar School and afterwards at the Cathedral Grammar School. After completing his studies at these two establishments he was apprenticed to Dr. Buchanan of Gloucester, and afterwards, on the advice of his uncle, Daniel Ellis, F.R.S., E.Jun., sent to the then newly-founded University College. Here he was a most successful student and was demonstrator of anatomy to Professor Richard
ring this period of his career he was strongly
his friend, Dr. Evans of Gloucester, to study in
ourse which he carried out in his vacations.
studying in Paris he also attended lectures and
at anatomy in Berlin. He became a Member of
Royal College of Surgeons of England in 1835, and
on Dec. 11th, 1843, was elected one of the first Fellows
of that body. Of the 300 Members who were then elected
Fellows only three are now left. In 1850 he succeeded
Richard Quain as Professor of Anatomy at University
in years re-
77 resident. The
lon anatomy was
when he was about 28 years of age. Together
illiam Sharpey he was co-editor of the sixth
edition of Quain's "Elements of Anatomy," which was
published in 1850, the description of the nervous system
being in great part written by him. In 1852 he, in
conjunction with Mr. G. H. Ford, published "Illustrations of Dissections." This work consisted of a series of coloured plates of life-size representing dissections of the human body. It was originally published in parts but afterwards appeared in two volumes. The drawings were executed in colours on stone by Mr. Ford entirely from dissections done by Mr. Ellis, following the images of his uncle, Daniel Ellis, who settled in Edinburgh and devoted himself to scientific research. George Viner Ellis did little or no practice, preferring to devote himself to teaching and scientific work. After his resignation of his professorship he retired to his native place, where he built himself a house and passed the remainder of his days with his sister. Here he lived very quietly, occupying his time as one who could never bear to be idle, with gardening and with teaching the older boys of the parish in a night school. At the time of his death he was in his eighty-eighth year.

JOHN WILLIS, F.R.C.S. ENG.

On April 27th there passed away at his residence [illegible] 87 years. Mr. Willis [illegible] and Paris, he was a Member of the Royal College of Surgeons of England [illegible] 1843. Soon after taking Membership he settled in Smithfield, where he was appointed a [illegible] of the Board of

Trade and medical superintendent of quarantine to the Royal Mail and Union River Steamers. He was a most enthusiastic angler, although previously to 1877 he had never had a rod in his hand. Concerning this portion of his career Mr. R. B. Marston gives an amusing account in the *Fishing Gazette* of May 5th. On his first day, with that extraordinary luck which sometimes attends the beginner, he caught three salmon in an Irish river. Mr. Wiblin contributed one or two papers to professional journals and was the author of a little book called the "Medical Students' Guide to the Hospitals of Paris."

Medical News.

UNIVERSITY OF CAMBRIDGE.—At the [illegible] examination for medical and surgical degrees, Easter [illegible] the following candidates were successful:—

[illegible] Bousfield, M.A., Caius; J. Bradford [illegible]y, B.A., and G. W. Bull, B.A., Caius; T. [illegible]; C. J. Coleman, B.A., Trinity; B. J. [illegible] B.A., Caius; W. S. Darby, B.A., and W. M. Fletcher, M.A., Trinity; J. H. P. Fraser, B.A., Jesus; O. F. F. Grünbaum, M.A., Trinity; J. Gutch, M.A., Christ's; D. G. Hall, B.A., Emmanuel; A. C. Hill, M.A., Trinity; T. E. Holmes, B.A., G. F. Lobb, B.A., and J. L. Lock, B.A., Caius; J. W. Malim, B.A., Christ's; H. N. Matthews, B.A., J. C. Matthews, B.A., and F. J. Nicholls, St. John's; L. J. Paton, B.A., Caius; A. C. Pearson, B.A., Sidney Sussex; J. H. Philbrick, B.A., and G. R. Slade, Inc., Trinity; J. G. Taylor, B.A., and T. S. Taylor, B.A., King's; R. A. Walker, B.A., Clare; and A. Whitmore, B.A., and W. M. Willoughby, B.A., Caius.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. L. Jacobsohn and Dr. A. Lazarus have been recognised as *privat-docenten* of Internal Medicine and Dr. Pels-Lensden as *privat-docent* of Surgery.—*Budapest:* Dr. August Hirschler, *privat-docent* of Internal Medicine, has been promoted to an extraordinary professorship.—*Chicago (Rush Medical College):* Dr. L. F. Barker of Baltimore has been appointed to the chair of Anatomy.—*Florence:* Dr. Luigi Guaita of Sienna has been appointed Professor of Ophthalmology in succession to Dr. Cesare Paoli, resigned.—*Giessen:* Dr. Peter Poppert has been appointed Professor of Surgery, with charge of the surgical clinic, in succession to Professor Bose who is retiring; Dr. Friederich Best has been recognised as *privat-docent* of Ophthalmology.—*Göttingen:* Dr. Siemerling of Tübingen having declined the invitation to migrate, Dr. August Cramer, son of the late Professor of Psychiatry in Marburg, has been appointed to the chair of Mental Diseases with charge of the clinic connected therewith.—*Greifswald:* Dr. Paul Strübing has been promoted to an ordinary professorship of Internal Medicine.—*Halle:* Dr. Nebelthau of Marburg has been appointed Director of the Medical Polyclinic in succession to Dr. von Mering; Dr. Franz has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Heidelberg:* Dr. F. Göppert, *privat-docent* of Anatomy, has been promoted to an extraordinary professorship; Dr. Gustav Aschaffenburg has been promoted to an extraordinary professorship of Mental Diseases.—*Marburg:* Dr. Ernst Romberg of Leipsic has been appointed Extraordinary Professor of Internal Medicine; Dr. Hugo Ribbert of Zurich has been appointed to the chair of General Pathology and Pathological Anatomy in succession to Professor Marchand.—*Munich:* Dr. Ludwig Neumayer, Assistant in the Anatomical Institute, has been recognised as *privat-docent*.—*Padua:* Dr. Giacinto Viola has been recognised as *privat-docent* of Medical Pathology, Dr. Ferdinando Gangitano as *privat-docent* of Surgical Pathology, and Dr. Ercole Crespi as *privat-docent* of Surgery.—*Palermo:* Dr. Giuseppe Pollaci and Dr. Girolamo Scagliosi have been recognised as *privat-docenten* of Pathological Anatomy and Dr. Luigi Philippson as *privat-docent* of Dermatology and Syphilography.—*Philadelphia Polyclinic:* Dr. Jay F. Schamberg has been appointed Professor of Dermatology in succession to Dr. M. J. A. Cantrell, resigned.—*Prague (Bohemian University):* Dr. V. Mladejowski has been recognised as *privat-docent* of Balneology and Climatology.—*San Francisco (University of California):* Dr. T. W. Huntington has been appointed Assistant Professor of Surgery.—*St. Petersburg (Military Medico-Chirurgical Academy):* Dr. Voinich-Sianoshenski has been recognised as *privat-docent* of Surgery.—*Vienna:* Dr. Ludwig Braun has been appointed *docent* of Internal Medicine.

[illegible] ACT.—At a meeting of the [illegible] County Council held on May 2[illegible] was decided to contribute £1000 to the Bristol Victoria Homes [illegible] Bristol, which will entitle the council to the concurrent use of seven beds for the year. A further payment of [illegible]d. per day per patient is necessary.

VACCINATION. [illegible] At the meeting of the [illegible] May 2nd it was reported [illegible] and St. Mary's during [illegible] 143 births; 90 success[illegible]; six exemption certificates had been sent to [illegible] notices had been sent to [illegible]

VACCINATION in Leicester is decidedly on the increase. At the meeting of the board of guardians on [illegible] ted that [illegible] ceived, as [illegible] 1899, whilst [illegible] certificates of postponement owing to the health of the child, compared with *nil* last year.

NEWHAVEN (SUSSEX).—At a meeting of [illegible] District Council held on May 1st the medical officer of health (Dr. A. Hardwick) reported that 149 cases of measles had been notified during April. After a considerable discussion the council decided to ask the Local Government Board to consent to measles being excluded from the list of notifiable diseases in Newquay.

FREEMASONRY.—*Rahere Lodge, No. 2546.*—An ordinary meeting of this lodge was held at Frascati's Restaurant on May 8th, W. Bro. R. J. Reece, M.D. Brux., W.M., being in the chair. Bro. H. E. Thompson, M.B. Lond., was admitted to the third degree in Freemasonry. W. Bro. Walter Gripper, M.B. Cantab., was elected W.M. for the ensuing year and W. Bro. Clement [illegible] was re-elected treasurer. The bre[illegible] afterwards dined together.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—At a meeting of the President, Vice-President, and council held on May 1st the following examiners were elected:—Examiners in Anatomy: Ambrose E. I. Birmingham and Alexander Fraser. Examiners in Surgery: H. Gray Croly and William Stoker. Examiners in Physiology and Histology: Charles Coppinger and J. Alfred Scott. Examiner in Biology: John J. Burgess. Examiner in [illegible] Arthur Hamilton White. Exa[illegible] D. M'Feely. Examiner in [illegible] Frederick W. Kidd. Examiners in Ophthalmology: Arthur H. Benson and Louis Werner. Examiner in Sanitary Law and Vital Statistics: James H. Fergusson. Examiner in Engineering and Architecture: J. Charles Wilmot. Examiners in Dental Surgery and Pathology: Arthur W. W. Baker and Daniel Corbett. Examiners in Mechanical Dentistry: George M. P. Murray and William Booth Pearsall. Examiners in Chemistry and Physics: Edwin Lapper and Robert J. Montgomery. Examiner in Languages: L. J. Woodroffe. Examiner in Mathematics, Physics, Dictation, and English Essay: J. W. Tristram.

KING'S COLLEGE HOSPITAL.—The annual festival dinner of King's College Hospital was held in the Whitehall Rooms, Hôtel Métropole, on May 7th, under the presidency of Mr. W. F. D. Smith, M.P., who was supported by Viscount Dillon (chairman of the committee), the Rev. Dr. Wace (ex-principal of King's College), and the medical staff of the hospital. The Chairman, in proposing "Success to the King's College Hospital," mentioned that since the opening of that institution in 1839 over 100,000 in-patients and nearly 1,500,000 out-patients had received the benefits of medical assistance. The assured income now amounted to £2500 per annum, while the expenditure reached £19,000, so that nearly £17,000 were required annually in voluntary subscriptions.—Viscount Dillon pointed out that during the past 20 years the character of the neighbourhood surrounding the hospital had altered and the demands upon the resources of the institution had largely increased. The sum collected during the evening was £2765 5s., including £200 from the Chairman and £500 from Mr. W. H. Bell, £100 from Mr. C. P. Sercold, £50 from the Duke of Bedford, £525 from Messrs. W. H. Smith and Sons, and £105 from Mr. C. P. Johnson.

POOR-LAW MEDICAL OFFICERS AND THEIR DEPUTIES.—At a recent meeting of the Shepton Mallet Board of Guardians Mr. J. F. Fry, medical officer of the [illegible] board to accept Miss [illegible] as his deputy, but the [illegible] votes to four.

AN HONOUR IN [illegible] TREVES.—At a meeting of [illegible] on May 2nd it was unanim[illegible] of the borough to Mr. Frederick Treves, F.R.C.S., Eng. Mr. Treves is a native of Dorchester and received his early education in that town where his family for many years resided.

THE PREVENTION OF [illegible] April 19th, as already announce[illegible] of 204 cows in the Ilfracom[illegible] found to be tuberculous. As [illegible] ication the sanitary committe[illegible] house are considering the ques[illegible] The committee draw attention [illegible] overcrowding which exists in Plymouth, including Devonport and Stonehouse. The proportion of dwellers in single-room tenements per 1000 inhabitants is as follows: England and Wales, 47 per 1000; London, 184 per 1000; Three Towns, 244 per 1000. The report was duly accepted and then Mr. J. Y. Woollcombe moved the following: "That this meeting is in favour of the formation of a committee to promote the provision of a sanatorium for the treatment of consumption among the poorer classes in Devon and Cornwall." The motion was carried unanimously and the Mayor, Archdeacon Wilkinson, Dr. F. G. Bushnell, Mr. W. Hurrell, Mr. J. P. Bickle, Mr. J. Y. Woollcombe, and Mr. H. Cecil Wills were appointed as a committee with power to add to their number.

Parliamentary Intelligence.

HOUSE OF COMMONS.

WEDNESDAY, MAY 2ND.

The Rating of Institutions for Imbeciles.

At this sitting of the House a Bill was brought on for second reading to exempt from poor and other local rates all registered institutions for the care, training, and education of idiots and imbeciles. After the Bill had been recommended to favourable consideration by certain of its supporters Mr. T. W. RUSSELL replied on behalf of the Government. He explained that in the present state of things where-ever there was a beneficial occupation the property was liable to rating and the liability was not affected by considerations of whether or not a profit was made by the occupation or whether or not the property was occupied for charitable purposes. He was [illegible] Bill as well as hospitals. In these circumstances he hoped that the Bill would not be pressed. After this statement the promoters of the Bill withdrew it.

THURSDAY, MAY 3RD.

Inoculation Experiments in India.

Sir CHARLES CAMERON asked the Secretary of State for India whether he would, as promised last session, lay upon the table papers showing [illegible] cholera and typhoid fever [illegible] Lord G. HAMILTON replied: I have no complete details before me, but I perceive reports regarding the results of inoculation against the cholera and typhoid fevers, both of which are specially the enteric typhoid fever, are still in the stage of experiment, but I can lay upon the table of the House extracts from official sanitary and other reports which will show what is being attempted and how in these important matters.

Notification of Deaths in Workhouses.

Mr. TOMKINSON asked the Home Secretary whether in view of many Bills before Parliament he would offer the facility of making provision that all cases of deaths in workhouses and that all such deaths should be notified to the guardians above the respected to the coroner, as was done in all asylums and homes under the care of the guardians. Mr. MATTHEW WHITE RIDLEY, M.P., said: I do not think the suggestion of my honourable friend is a necessary one. I believe it would be a [illegible] to carry it out. In some districts there is already the practice to notify the deaths [illegible] to the coroner, and the Local Government Board have the power, and are I understand, prepared, to issue an order requiring that this should be done in all the institutions.

The Plague Commission in India.

In the course of an answer to Mr. Versturm on the subject of the expenses of the Indian Plague Commission Lord GEORGE HAMILTON said that the labours of the Commission will probably not be concluded before the end of July.

FRIDAY, MAY 4TH.

Medical Certificates in the Postal Service.

Mr. STEADMAN asked the Secretary to the Treasury, as representing the Postmaster-General, whether his attention had been called to the case of Mr. Howson, a probationary telegraphist in the Central Office, London, who was certified as unfit for duty by a medical man, and to the fact that the post-office medical officer disregarded this certificate and compelled the clerk to duty, with the result that Howson was found in a fainting condition in the [illegible] then put off duty and granted sick leave till March 21st. He then [illegible] sick leave till [illegible] to grant his annual [illegible] suffering in an jaundiced [illegible]

MONDAY, MAY 7TH.

Food for the Troops.

Many samples of various foods have been submitted to the War Office for trial, but none has been received complying with all the conditions mentioned in this question.

The Special Rules for Lucifer Match Factories.

Captain NORTON raised a debate on the special rules of the Home Office with regard to the employment of persons in lucifer match factories in which white or yellow phosphorus was used. Both Captain Norton and Sir Charles Dilke considered the rules as [illegible]

TUESDAY, MAY 8TH.

Disease in the Indian Famine Relief Camps.

Mr MACLEAN asked the Secretary of State for India, with reference to the outbreaks of epidemic disease in the Indian famine relief camps, whether official information showed that the allowance of food granted to famine-stricken patients had been found sufficient to restore strength to them against the attacks of disease; and what was the value, stated as nearly as possible in English money, of the daily rations provided by Government for men, women, and children.—Lord G. HAMILTON replied: The local Governments and the relief officers are keeping careful watch as to the sufficiency of the relief wages in the districts, and instructions have been given by the Government that the wage rates should be raised in any case where they are found to be inadequate to maintain the people in health. As was stated in an answer to a similar question by the hon. member for East Mayo last week, "The average daily wage cannot be stated in sterling, being based upon the current prices of food in the various districts and varying accordingly from week to week. The wage for an adult is the equivalent of from one and a half to two and a half pounds of grain per diem."

[illegible]

Sir [illegible] Fowler, M.P., [illegible] Mr. Fowler [illegible] Mr. Fowler [illegible] the course of the [illegible]

[illegible]

[illegible] read a first time [illegible] message and [illegible]

PARLIAMENTARY AND OFFICIAL MATTERS IN BRIEF.

[illegible]

[illegible]

[illegible]

Burlington House. The committee consists of Sir Herbert Maxwell (chairman), Professor Thorpe, Dr. Bulstrode, and Dr. Tunnicliffe, with Mr. Charles J. Huddart as secretary.

The only witness examined on this occasion was Mr. ARTHUR S. LOUGH, member of the Irish Agricultural Organisation Society and Managing Director of the Cavan Creameries, Limited. His evidence had reference almost entirely to the work of Irish creameries which, he said, had brought about a revolution in the Irish butter trade. He explained that the creamery industry began in the south eight or ten years ago and in the north about two and a half years ago, and at the present moment there were between 500 and 600 creameries in the island of which about 260 were coöperative creameries. In Ulster alone there were 108 coöperative creameries working and 30 more in course of [illegible] any complaint heard about its use. But as a matter of fact, they could do very well without any preservative, and the creameries with which he was connected intended to do without it and they expected to get a higher price for their butter. He supposed that the wholesale dealers found that there was not a demand for a large quantity of what might be described as saltless or fresh butter and consequently they wished for butter which would keep a certain time and the creameries made this butter to suit them. He considered pasteurisation to be most valuable, especially in the case of milk from house-fed cows, and he could not believe that it deteriorated the flavour of the butter as had been alleged by some witnesses. The temperature which he used for pasteurisation was from 175° to 185° F. The Irish butter trade suffered greatly from deficient means of transport. They were [illegible] not such a thing as a [illegible] the present moment [illegible] made to the railway com[illegible] was now hoped from the pressu[illegible]oard would be able to bring to bear. [illegible] Mr. Lough said that in Ireland the bu[illegible] colour in summer and in winter, but when artificial colouring was required a little quantity of annatto [illegible]d, most dairies in Ireland kept annatto to [illegible] might occur.

By Professor THORPE: The tendency of his evidence was to deprecate the use of preservatives in butter. He believed that with due attention to cleanliness, and recourse if necessary to pasteurisation, the butter trade in Ireland would with proper organisation be able to do without preservatives in a very short time. [illegible] scientific inquiry to be harmful th[illegible] tion, but he might tell the Co[illegible] Organisation Society had heard n[illegible] of preservatives.

By Dr. BULSTRODE: He felt confident that though at first the prohibition of preservatives would cause a good deal of trouble the trade would soon adapt itself to the necessities of the situation.

MONDAY, MAY 7TH.

The Committee held another meeting to-day in the rooms of the Chemical Socie[illegible]ly members of the Committee present [illegible] Bulstrode.

Dr. ROBERT [illegible]ysician at the London Hospital, exam[illegible] that he had made some experiments as to the effect of boric acid on the acidity of the urine and he had extended these. The net result was pretty well this, that even such a dose of boric acid as 10 grains taken twice a day upon a full stomach by himself for a length of time up to a fortnight continuously had no effect at all. He observed no bad effects; there were no signs of stomach or intestinal irritation; and he might say that he knew of nothing which was calculated to make his experience a departure from the normal. If he had a weak point at all it was his stomach, so that if there were an effect at all he should expect it there. He had also taken small doses of borax. He had taken for some length of time a mixture of two and a half grains each of borax and boric acid twice a day and it had had no effect to his knowledge. The inference he drew from his own experience was that the amount of boric acid or borax which would be sufficient to preserve the quantity of milk likely to be taken by the average man in 24 hours would not in a healthy man produce any bad effects. He had given in cases of epilepsy borax combined with bromide and had had good results, but he could not say whether they were due to the bromide or the borax. It was conceivable that where there was kidney trouble the same good results might not be obtained. If the Committee had been told that as much as 80 grains of boric acid had been found in a pint of milk, then all he would say was that he should not like to take such a quantity in a dose, and with regard to children he could easily understand harm resulting from boric acid in the milk they consumed. He did not see why the use of preservatives generally in milk should tend to veil the effects of partial decomposition.

Do you think that the use of preservatives is in the interests of the public health or not?—I should say yes, because I think the amount of disease produced, especially in children, by allowing milk to go at all bad is probably greater than the amount of disease produced by the use of preservatives.

You would rather have preserved milk than decomposed milk?—Certainly.

Would you advocate the continuation of the present state of affairs in which the use of these things is absolutely unrestricted, one may say, and in which as much as 80 grains of boric acid have been found in a single pint of milk?—That is a state of things which one would like to make impossible, for the 80 grains are not required for the preservation of the milk.

Would you therefore have a maximum fixed?—I think that that would be the best way out of the difficulty.

In further examination by Dr. BULSTRODE witness said it was quite possible that the action of a medical practitioner might be stultified by the presence of a preservative in the food of his patient, and from that point of view the uncontrolled use of preservatives was to be deprecated by the medical profession. Salicylic acid had to be used with care because it was a depressing drug, and benzoic acid he had found to be very irritating. Summarising his position Dr. HUTCHISON said that [illegible] a thing to [illegible]quired to [illegible]ttle harm, [illegible] specially susceptible persons, who were probably not numerous, and that the [illegible] from want of preserva[illegible]m which would result [illegible]e quantities required to [illegible] might be able to carry [illegible]ot think that milk kept [illegible]ound condition without [illegible]

Dr. G. F. STILL, from the Hospital for [illegible] street, was the next witness, and in reply [illegible] his experience of the effects of boric a[illegible] Taking two and a half grains of boric aci[illegible] dose of borax in a pint of milk, he should say, as far as his experience went, that it usually produced no harmful results whatever, though now and then it produced some looseness of the bowels. He was quite sure that in some cases borax and boric acid produced a really good result. He had found that when boracised milk was stopped bad symptoms in the child had supervened and these only disappeared when the taking of the boracised milk was resumed. In the case of older children he had found a very definite improvement in epilepsy from borax. He should say most emphatically [illegible] in milk if they could [illegible] otherwise. At the p[illegible] [illegible] out decomposition. From his [illegible] milk they [illegible]ace on the [illegible]ed. In his [illegible]ated with [illegible]y just as [illegible] a medical [illegible] the drug [illegible]amined by [illegible]f chemical [illegible] milk, sold [illegible]ch of it [illegible]at preser[illegible] observed. [illegible] servatives which would check putrefactive changes [illegible] would also check the processes of digestion. In his experience the use of preservatives in other articles of food, such as butter, bacon, pork, fish, pork-pies, and sausages, was becoming more and more extensive, and though he had not the same objection in regard to such articles, still he did not think it was desirable that they should contain preservatives. He had several instances of injurious results from milk containing boric acid. In one case a lady told him she arranged to give a milk-dealer twice his price on condition that he sent her for her child nothing but pure milk. At her own cost she had the cows examined by a veterinary surgeon to see that they were all right. The child went on very well until one day when it became violently ill. The lady went at once to the milk-dealer and he admitted that he had put some boric acid into the milk. Witness then gave evidence as to salicylic acid in jam and British wines and as to colouring matters in egg powders, sausages, &c. With regard to the latter subject he said that when colouring matters were used the fact should be stated on the label as well as the nature and quality of the article and the date on which it was added.

By Dr. BULSTRODE: It was quite new to him to hear that sterilised milk produced infantile scurvy. This milk was largely used at St. Helen's and the results carefully noted and no bad results had been recorded.

Dr. E. H. STARLING, examined by Professor THORPE, said he had been deputed to attend and give evidence by the Royal College of Surgeons of England. As the result of experiments made by him he had come to the conclusion that formalin should be absolutely prohibited in food. Salicylic acid was certainly less harmful, though in an acid medium it acted as an antiseptic and prevented the action of the digestive juices. It was a fairly potent [illegible] certain individuals—and he did not think [illegible] as a medical remedy. Boric acid was the [illegible] preservatives, and from experiments carried out upon a healthy animal during a few days or weeks one could not see much bad results. On medical grounds he should not object to the use of boric acid from its action, especially in milk. He thought it extremely unlikely that infantile scurvy was caused by the use of sterilised milk, though he knew, of course, that there were medical men who did not agree with him in this opinion. He had never come across a case of infantile scurvy which could be attributed to sterilised milk. In his opinion the milk-supply of large towns could be carried on without recourse to boric acid and he should be disposed to prohibit its use.

By Dr. BULSTRODE: On general principles he objected to the use of antiseptics in food because he thought the human economy must suffer from them just as the micro-organisms suffered.

TUESDAY, MAY 8TH.

The Committee met to-day in full strength and examined four more witnesses.

Mr. CARL W. SORENSEN, Consulting Expert to the Manchester Pure Milk Supply Company and formerly Chief Dairy Expert to the New Zealand Government, was the first witness and in the course of examination by Professor Thorpe said that while a maker and shipper of butter in New Zealand he experimented with preservatives and he found that there was nothing to be gained by their use. The preservatives did not affect the price of the butter in any way and as they

entailed considerable expense he gave them up. When at a later period he became Chief Dairy Expert to the Government he [illegible] very much divided in [illegible]. He observed that a [illegible] and claiming that they got [illegible] equally large were not [illegible] as satisfactory. He [illegible] and sent out a circular inviting the opinion of owners and managers of factories. Of the replies to this circular 60 per cent. were to the effect that preservatives were unnecessary, 20 per cent. were neutral, and 20 per cent. were in favour of the moderate use of preservatives. At the time when he left New Zealand two-thirds of the butter exported to this country was [illegible] natural ice or snow to be used during the present summer; it was stored in peat, moss or sawdust and would be taken out from day to day as required. In his opinion ice was not so difficult to get in this country as most people supposed. In nine years out of ten it was possible to get all the ice or snow required for dairy purposes. At first in Manchester they found some prejudice against the single delivery per day, but this was quickly disappearing, as people discovered that the milk kept perfectly and that the single delivery saved a great deal of trouble. The company insisted on every farmer cooling the milk to 60° F. as soon as it came from the cow. In the same way with regard to cream, he saw no necessity for its being chemically treated if the trade were carried on on proper lines. [illegible] the majority of patients within a fortnight began to complain of dyspeptic symptoms. By that he meant such symptoms as refer to the region of the stomach, uncomfortable sensations after eating; [illegible] acid were not as a [illegible] when the drug was [illegible] experience sufficiently [illegible] while it lasted and [illegible] seated vomiting. His [illegible] of boric acid in milk [illegible] average amount of milk [illegible] ains to the pint. If a [illegible] Dalce a day with that [illegible] trment to him. But [illegible] perhaps two pints of [illegible] day, from fever, using [illegible] By Dr. Butler [illegible] physician [illegible] should know whether [illegible] acid in his food. [illegible] taking 10 grains of boric acid in milk ought to be made digestible by it.

Mr. Pitt [illegible] and the Member of [illegible] the [illegible] said, want [illegible] food for the [illegible] thought he legislation requiring all milk to be sold at 15 degrees Centigrade. He expressed the opinion that there would be practical difficulty in getting this temperature at all farms where there was an adequate water supply. On the subject of boric adulteration Mr. Schorlemmer said that since he had given evidence before the Food Materials Committee the use of preservatives had increased and of salicylic acid decreased.

Mr. Henry Simon, of Messrs. J. and S. Simon and Company, cider makers, who was the last witness examined, gave the opinion that in some circumstances the use of preservatives was desirable (for cider) and recommended that they should be allowed within limits.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, J. B., ET FILS, Paris.—

Précis de Toxicologie Clinique et Médico-Légale. Par Dr. Ch. Vibert. 1900.

BAILLIÈRE, TINDALL, AND COX, King William-street, Strand, London.

Diseases of the Gall-Bladder and Bile-Ducts, including Gall-stones. By A. W. Mayo Robson, F.R.C.S., assisted by F. Marrss, M.B., C.M. Glasg. Second edition. 1900. Price 10s. 6d. net.

A Treatise on Nasal Suppuration. By Dr. Ludwig Grunwald of Munich. Translated by Wm. Lamb, M.D., M.C. Edin., M.R.C.P. Lond. Illustrated. 1900. Price 10s. 6d. net.

Treatment by Hypnotism and Suggestion, or Psycho-Therapeutics. By C. Lloyd Tuckey, M.D. Aber. Fourth edition. 1900. Price 7s. 6d. net.

CASSELL AND COMPANY, London.

Tuberculosis: Its Nature, Prevention, and Treatment, with special reference to the Open-Air Treatment of Phthisis. By A. Hellier, B.A., M.D., C.M. Illustrated. 1900. Price 7s. 6d.

CHURCHILL, J. AND A., Great Marlborough-street, London.

[illegible] of Urinary [illegible] Price 12s. [illegible] M.D.

[illegible] T. Ballin. Price 14s.

A Text-book of Medical Treatment, Diseases and Symptoms. By N. Tirard, M.D. Lond., F.R.C.P. 1900. Price 12s.

DUCKWORTH AND CO., Henrietta-street, Covent-garden, London.

A Glossary of Botanic Terms, with their Derivation and Accent. By B. D. Jackson. 1900. Price 6s. net.

FISCHER, GUSTAV, Jena.

Lehrbuch der Klinischen Hydrotherapie. Von Dr. M. Matthes. 1900.

GLAISHER, H. J., Wigmore-street, Cavendish-square, London.

Practical Gynecology: A Handbook of the Diseases of Women. By H. Smith, M.A., M.D. Oxon. Second edition. 1900. Price [illegible] net.

GOERITZ, B., Braunschweig.

Einfache Lebensformen des Tier- und Pflanzenreiches. Von H. Eyferth. 5 Auflage. Bearbeitet von Dr. W. [illegible] und Alfred Kalbfuss. 1900.

GRIFFIN, CHAS., AND CO., Bacter-street, Strand, London.

The Anatomy of the Central Nervous Organs in Health and in Disease. By Dr. H. Obersteiner. Second edition. Translated by Alexander Hill, M.A., M.D., M.R.C.S. Illustrated. 1900. Price 30s.

JOHNSTON, W. AND A. K., Edinburgh.

Canine and Feline Surgery. By F. T. G. Hobday, F.R.C.V.S. 1900. Price 5s.

MACMILLAN AND CO., London.

A Manual of Medicine. Edited by W. H. Allchin, M.D. Lond., F.R.C.P., F.R.S. Edin. Vol. I., General Diseases. 1900. Price 7s. 6d. net.

MALOINE, A., Paris.

Manuel Complet de Gynécologie Médicale et Chirurgicale. Par A. Lutaud. 1900.

MASSON ET CIE, Paris.

Leçons de Clinique Chirurgicale. Par Dr. E. Tuffier. Part I. 1900.

Traité de Chirurgie d'Urgence. Par Felix Lejars. Deuxième édition. 1900.

MEDICAL PUBLISHING COMPANY, Bartholomew-close, London.

Cleft Palate and Adenoids, Treatment of Ulcers Treated by Operation, Diseases of Joints, Operative Treatment of Cancer, Acquired Deformities, Arthritis, Hernia, &c. By W. A. Lane, M.S. Second Edition. 1900. Price [illegible] net.

OLIVER AND BOYD, Edinburgh.

Narrative of Cruises in the Mediterranean. By [illegible], L.R.C.S.E. Illustrated. 1900. Price [illegible] net.

PHILIP, GEO., AND SON, Fleet-street, London.

Philip's Handy-volume Atlas of the Counties of London. With Directory and Complete Index. Third edition. 1900. Price [illegible]

PUTNAM'S SONS, G. P., Bedford-street, Strand, London.

Honey, Silver and Pleasure. By J. H. Coppenhaver. Second edition. 1900.

Care and Treatment of Epilepsy. By W. P. Lachlan, M.D. Illustrated. 1900. Price [illegible] net.

SCIENTIFIC PRESS, Southampton-street, Strand, London.

Bachelor Official Nursing Directory. 1900. By Mr. H. Bachelor. Price 5s.

SMITH, WALTER, Patent Agent, London.

The "Climber" Guide of the Cycle Houses of England and Wales. 1900. Map Compiled by T. A. Edge. Price 1s.

SPOTTISWOODE AND CO., Queen-street-square, London.

The Doctor's Legal Handbook. 1900.

STRAND NEWSPAPER CO., Strand, London.

Dangerous Blocks in Industrial Premises and Overcoming Them. By J. J. Mantlemant. Illustrated. 1900. Price 1s. 6d.

TRUBNER AND CO., Ludgate-hill, London.

[illegible] New [illegible] and Some Experiments. By the Baroness [illegible]. Price [illegible]

WARD, LOCK, AND CO., London.
Illustrated Official Guide to Llandrindod Wells, Llangammarch Wells, Llanwrtyd Wells, &c. Illustrated. 1900.

The Nurse's Report Book: compiled by K. H. (H. J. Glaisher, Wigmore-street, London), 1900, price 6d. net.—Transactions of the Life Assurance Medical Officers' Association, London, for 1898 and 1899.—Magazines, &c., for May: Strand Magazine, Boy's Own Paper, Girl's Own Paper, Leisure Hour, Sunday at Home, Ludgate Magazine, Westminster Review, Contemporary Review, Friendly Greetings, Myra's Journal, Pall Mall Magazine, Windsor Magazine, English Illustrated Magazine, Knowledge, Humanitarian, Wide World Magazine, New Century Review.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ALBUTT, T. C., M.D. Cantab., F.R.C.P. Lond., has been appointed Honorary Physician to Addenbrooke's Hospital, Cambridge.
BENSON, P. L., M.A., M.D. R.U.I., D.P.H. Camb., has been re-appointed Medical Officer of Health for the Rural District of Buckingham.
BROCKWAY, A. B., L.R.C.P. Lond., M.R.C.S., has been appointed Surgeon in the Queensland Defence (Marine) Force.
CARTER, EDWARD G., L.D.S., R.C.S. Eng., L.F.P.S. Glasg., has been appointed Dental Surgeon to the St. Helena's Home for Girls, West Ealing, and also to the Hanwell Cottage Hospital.
COLLIER, R. S., L.R.C.P. Lond., M.R.C.S., has received an appointment in South Africa, where he has proceeded, as an ordinary volunteer.
COLLINS, E. TREACHER, F.R.C.S. Eng., has been appointed Surgeon to the Royal London Ophthalmic Hospital, City-road, E.C.
CROSSFIELD, A. K., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for Dartmouth Sanitary District, Totnes Union.
DE GRUCHY, C. W., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer by the Caerleon District Council.
EDWARDES-KER, G. C., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the Woodbridge District Council.
FISHER, J. H., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Royal London Ophthalmic Hospital, City-road, E.C.
FLEMMING, PERCY, M.D. Lond., has been appointed Assistant Surgeon to the Royal London Ophthalmic Hospital, City-road, E.C.
FORSYTH, ALEC, M.B., C.M. Aberd., Civil Surgeon, has been appointed to fill a vacancy on the Medical Staff of the Western District.
FREEMAN, J., Civil Surgeon, has been appointed to fill a vacancy on the Medical Staff of the Western District.
GORDON, COLIN, M.B., C.M. Edin., has been appointed Medical Referee under the Workman's Compensation Act, 1897, to County Court Circuit No. 57, including Taunton, Bridgwater, Chard, Wellington, Williton, and Langport.
JACKSON, J. J., L.R.C.P. Edin., L.R.C.S. Irel., has been re-appointed Medical Officer of Health by the Wakefield Urban District Council.
JACOBSON, G. O., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Fourth Sanitary District of the Chipping Norton Union, vice W. G. Nicholls, resigned.
JAMES, JOHN, L.R.C.P. Lond., M.R.C.S., Fagwyr, has been appointed Certifying Surgeon under the Factory Acts for the Talybont District.
KENDALL, W. B., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Kingswear Sanitary District, Totnes Union.
KINGSTON, H. F., M.B., B.Ch. Dub., has been appointed Medical Officer for the Alsager and Odd Rode Sanitary District of the Congleton Union.
KIRKBY, W., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health by the Maesteg Urban District Council.
LAWSON, ARNOLD, F.R.C.S. Eng., has been appointed Assistant Surgeon to the Royal London Ophthalmic Hospital, City-road, E.C.
MCDOUGAL, GEORGE, has been re-appointed Analyst for Kincardineshire by the Kincardine County Council.
MORGAN, H. L., L.S.A. Lond., has been appointed Deputy Medical Officer and Public Vaccinator for Cannock.
NORMAN, A. S., L.R.C.P. Lond., M.R.C.S., D.P.H. Camb., has been appointed Medical Officer for the Second Sanitary District and the Workhouse of the Havant Union, vice W. Bannister, resigned.
OATE, EDWARD AUGUSTUS, M.B. Durh., M.R.C.S., has been appointed an honorary Medical Officer to the Wellington (Somerset) Cottage Hospital.
RIMMER, J. F., M.B., Ch.B. Vict., has been appointed Resident Assistant Medical Officer for the Workhouse of the Birkenhead Union, vice A. Ingram, resigned.
ROBERTS, KILLIAN, L.R.C.P., Lond., M.R.C.S., has been appointed Medical Officer of Health for the combined Ampthill and Woburn Rural Districts.
STEVENS, W. T. HOLMES, F.R.C.S. Eng., has been appointed Surgeon to the Royal London Ophthalmic Hospital, City-road, E.C.
TEDSWORTH, J. W., M.B., Ch.B. Vict., has been appointed Medical Officer, pro tem., by the Blackrod Urban District Council.
WHELLIS, SAMUEL SHORT, M.D., B.S. Durh., has been appointed Head Surgeon to the Fleming Memorial Hospital for Sick Children, Newcastle-on-Tyne, vice Walter Ridley, resigned.
WILKINSON, G. A., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Third Sanitary District of the Northleach Union, vice D. Rees, deceased.
WILLIS, JOHN, M.D. Edin., F.R.C.P. Edin., M.R.C.S., has been elected to the Chair of Medicine, Edinburgh University, vice the late Sir T. G. Stewart.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

BIRMINGHAM AND MIDLAND EYE HOSPITAL, Birmingham.—Assistant House Surgeon. Salary £60 per annum, with apartments and board.
BIRMINGHAM AND MIDLA[illegible] URINARY DISEASES, Birmingham.
BIRKENHEAD BOROUGH HO[illegible] Salary £75 a year, with board, [illegible] alcoholic liquors. A further sum is obtained [illegible]
BOROUGH HOSPITAL, Bootle, Liverpo[illegible] Medical Officer. Salary £100 per annum, with board, &c.
BRISTOL ROYAL HOSPITAL FOR SICK WOMEN AND CHILDREN.—House Surgeon. Salary £120 per annum, with rooms and attendance (not board).
CARDIFF INFIRMARY.—Assistant House Physician for six months. Salary at the rate of £50 per annum, with board, washing, and apartments.
CHILDREN'S HOSPITAL, [illegible] (non resident) for six months. Sala[illegible]
CITY OF GLASGOW FEV[illegible] rintendent at the Belvedere Hos[illegible], with house accommodation, boa[illegible] ons to Mr. J. Lindsay, City Chambers, Glasgow.
COUNTY ASYLUM, Rainhill, near Liverpool.—Assistant Medical Officer as Locum Tenens for about four months during the summer. Salary £3 3s. per week, with furnished apartments and board.
[illegible] HALIFAX.—Medical Officer of Health for the [illegible] 500 per annum. Drugs, medicines, and surgical [illegible] provided by the Corporation. Applications to the Town Clerk, Town Hall, Halifax.
CRAIGLOCKHART POORHOUSE AND HOSPITAL, Edinburgh.—Resident Medical Officer. Salary £100 per annum, with board and apartments. Applications to the Clerk of the Parish Council, Council Chambers, Castle-terrace, Edinburgh.
CUMBERLAND AND WESTMORLAND ASYLUM, Garlands, Carlisle.—Junior Assistant Medical Officer, unmarried. Salary £130 a year.
[illegible]
Applications to the Union Clerk, Offices, Prince Consort-road, Gateshead.
GENERAL INFIRMARY AT LEEDS.—House Surgeon for twelve months. Board, lodging, and washing provided.
GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, London.—House Physician for six months. Salary at the rate of £60 per annum, with board, lodging, [illegible]
Junior House Physician for si[illegible] per annum, with board, lodgin[illegible]
HARRIS PARISH COUNCIL.—Medical Officer for the Southern Division of Harris. Salary £90, besides other public appointments and private practice. Apply to Mr. T. Wilson, solicitor, Lochmaddy, Clerk.
JESSOP HOSPITAL FOR WOMEN, Sheffiel[illegible] unmarried. Salary £50 per annum, with board, [illegible]
KENT COUNTY OPHTHALMIC HOSPITAL, [illegible] Surgeon. Salary £100 per annum, with board and lodging in the hospital.
LIVERPOOL NORTHERN HOSPITAL.—Assistant House Surgeon. Salary £70 per annu[illegible] the house.
LOUGHBOROUGH A[illegible] ND DISPENSARY. Loughboroug[illegible] 100 per annum, with furnishi[illegible]
LOUGHTON URBA[illegible] Essex.—Medical Officer of Health. Salary £30 a year. Applications to the Clerk to the Council, Loughton, Essex.
MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Medical Officer for the Dispensary of the above Institution. Salary £180 per annum. Applications to the Secretary, Children's Dispensary, Gartside-street, Manchester.
MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Junior Resident Medical Officer for six months. Salary at the rate of £40 per annum.
MORPETH DISPENSARY.—Medic[illegible] coal, gas, and attendance p[illegible]
NEW HOSPITAL FOR WOMEN, 144, Euston-road, London.—Two Fully Qualified Medical Women as Assistant Anæsthetists. Also three Clinical Assistants. These appointments for one year. Also two fully qualified Medical Women as House Physician and House Surgeon.
NORTHAMPTON GENERAL INFIRMARY.—Qualified Assistant to the House Surgeon for six months. Honorarium £25, with board, lodging and washing.
NORTH-WEST LONDON HOSPITAL, Kentish Town road.—Resident Medical Officer and Assistant Resident Medical Officer for six months. Salaries at the rate of £50 per annum each.

[illegible]

...TAL, Ripon.—Resident House ... Salary £100 a year, with ...

...GLAND.—Two Examiners in ...ofessor, the Erasmus Wilson, ...

House Surgeon, unmarried, ... board, and washing.

...SPORT HOSPITAL.—Assistant ... lary at the rate of £50 per ...

...OL.—Junior House Surgeon ... annum, with a bonus of £5 5s quarterly. Also Honorary Physician.

ROYAL UNITED HOSPITAL, Bath.—House Surgeon on June 1st for four months. (Salary at the rate of £100 per annum, with board, ...

...g William street, ...

...Assistant Resident ... £80 per annum.

SALOP INFIRMARY, Shrewsbury.—Assistant House Surgeon for six months. Salary at the rate of £40 per annum, with board and washing.

SOUTHPORT INFIRMARY.—Resident Senior House Surgeon. Salary £50 per annum, all found.

STROUD GENERAL HOSPITAL.—House Surgeon. Salary £50 per annum, with [illegible]

[illegible]

per annum, with board, lodging, and washing.

YORK LUNATIC ASYLUM, Bootham, York.—Assistant Resident Medical Officer. Salary £150 a year, with board, washing, and attendance.

Births, Marriages, and Deaths.

BIRTHS.

COOKE.—At Lanowli, near Bombay, on March 30th, the wife of Dr. H. Hunt Cooke, M.A., of a son.

HICKMAN.—On April 28th, at Overton House, Wanstead, Essex, the wife of Herbert V. Hickman, M.B. Lond., M.R.C.S., L.R.C.P., of a son.

LEICESTER.—On May 2nd, at the residence of her brother-in-law, Minto-street, Edinburgh, the wife of Morton R. Leicester, M.D., of a daughter.

ROSS.—On May 7th, at Kiloran, Hillsea-terrace, Portsmouth, the wife of Richard Adolphus Ross, Surgeon Royal Navy, of a son.

MARRIAGES.

EDWARDS—HILL.—On May 2nd, at the parish church, Ludlow, by the Rev. H. H. Clayton, M.A., rector, Lewis Charles Edwards, M.B., C.M. Edin., son of the late Rev. T. Charles Edwards, D.D., Principal of the University College of Wales, Aberystwyth, to Lilian, third daughter of the late R. C. Hill, Esq., Newcastle, Staff., and of Mrs. Lyon, Killiney, county Dublin.

JONES—RUSSELL.—On the 5th inst., at St. Peter's, Chalfont, by the Rev. F. Woods, vicar of the parish, Dr. J. Llewelyn Jones, of Melton Mowbray, son of David Jones, of Aberdare, to Helena Margaret, second daughter of the late Canon and Lady Mary Russell.

DEATHS.

DRUMMOND.—On May 4th, at Stoneycroft, Wakeham, Portland, Dr. [illegible] Drummond, M.B., C.M., aged [illegible] years.

FLEMING.—On May [illegible]th, at Merchiston-place, Edinburgh, James [illegible] Fleming, M.D., Deputy Inspector-General of Hospitals.

HIGHET.—At Singapore, on April 7th, Douglas Atherton Campbell, only son of H. Campbell Highet, M.D., Physician to the Siamese Palace, Bangkok, aged [illegible] [illegible].

TYACKE.—On May 7th, at Westgate, Chichester, [illegible] Tyacke, M.D. Edin., F.R.C.P. Lond., J.P. for Sussex and Chichester, aged [illegible].

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

ANDERSON AND FENNER v. MOELLER.

IT is not often that an action between a patient and his medical man comes before such a high authority as the Court of Queen's Bench. On May 8th and 9th, however, the Lord Chief Justice and a special jury were engaged in hearing an action brought by Dr. W. M. A. Anderson of Wimpole-street and Mr. Robert Fenner of New Cavendish-street, against Mr. Charles Moeller to recover the sum of £144 18s. for medical and surgical attendance upon the defendant. The plaintiffs had attended the defendant from April 5th until June 29th, 1899, when Mr. Moeller was found to be prescribing for himself and the plaintiffs accordingly withdrew from the case. Mr. Moeller was suffering from some rather obscure form of streptococcus poisoning which gave rise to articular troubles and phlebitis, together with endocarditis. The articular mischief was treated locally by hot [illegible] baths and a hot air bath. Dr. Anderson admitted that in a letter to Mr. Moeller's brother-in-law he had called the illness "rheumatic gout." Defendant's argument was that he had derived no benefit from the treatment but that he had suffered actual injury, and that the charges were excessive. In addition to the attendance of the plaintiffs defendant had seen Sir Thomas Lauder Brunton, Mr. Alfred Cooper, and an anæsthetist. He contended that the charges were excessive. Finally the jury found for the plaintiffs on the claim for fees, allowing [illegible] guineas; they also found for the plaintiffs on the counter-claim for damages, adding the following rider: "We are of opinion that the plaintiffs treated the defendant with all reasonable care and skill, and we attach no blame to them whatever." We congratulate Dr. Anderson and Mr. Fenner on the jury's vindication of their care and skill. The case was one of those in which the patient was undoubtedly very ill, but also irritable and hysterical. In fact, the Lord Chief Justice stigmatised his conduct as childish. We must enter a protest against Mr. Lewis Walton's remarks in his capacity as counsel for the defendant. It was doubtless his business to make out that Mr. Moeller was an ill-used martyr, and we do not complain of that, or even of his talking about the gross blunders of the plaintiffs. If the diagnosis was in doubt for some time it is quite certain that the two medical men would know a great deal more on the matter than would Mr. Walton. But what we do complain of is this. He is reported in the *Times* to have said: "The plaintiffs from their position as general practitioners ought to make very moderate charges, but a most exorbitant amount had been sent in to Mr. Moeller—£144 for 84 days' attendance—that amounted to nearly two guineas a day. That was not creditable to these gentlemen and it was for them to justify their account." Why, we should like to know, should a general practitioner necessarily be so very moderate in his charges? His education costs a great deal and although general practitioners do any amount of work for nothing they have a right to charge a well-to-do patient at a higher rate than a poor one. Mr. Moeller admitted that his income was £2000 a year and he lives in Piccadilly at [illegible] which is not exactly the abode of a poor man. Besides, 84 days at two guineas a day amounts to £176 8s., and there is a good deal of difference between that sum and the sum which was charged. However, neither the jury nor the Lord Chief Justice seemed to agree with Mr. Walton, which was satisfactory for the plaintiffs.

UNUSUAL LAPSE OF TIME BETWEEN TWO PREGNANCIES.

To the Editors of THE LANCET.

SIRS,—On Sunday last, May 6th, I attended a woman, aged [illegible] years (in March last) with her [illegible] child, the [illegible] child being [illegible] [illegible], 21 years and [illegible] months old. I [illegible] that lapse of time [illegible] 22 years, [illegible] [illegible] I [illegible] [illegible] [illegible] [illegible] of interest to your [illegible] readers. The labour was a very [illegible] [illegible] [illegible], and was quite natural. The [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

I am, Sirs, yours faithfully,

[illegible], May 8th, 1900. [illegible]

THE NEED FOR [illegible].

An inquest which was held at [illegible] on the death of a [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

not been neglected. The coroner then informed the jury that Mr. Hillyard was not registered and of course in that case he could not give a certificate. Mr. Hillyard's name was, however, only removed from the Register because he had failed to give notice of a change of address. One of the jury made the interesting remark that since Mr. Hillyard was not registered he should not practise. The coroner pointed out with regard to Mr. Hillyard's refusal to go that while it might seem harsh medical men had as much right as anyone else to be paid. A verdict was given in accordance with the medical evidence. The Medical Register, as we have upon several occasions had to point out, is by no means a model of accuracy. While, however, this is in many instances the fault of the authorities, who are responsible [illegible] also due in great part to the shortcomings of [illegible] profession themselves. If a medical man [illegible] should by all means give notice to the [illegible] may be struck off, and to b[illegible] matter for a medical man. [illegible] but it cuts him off from [illegible] It debars him from suing [illegible] ess in a court of law—a fact w[illegible] upon Mr. Hillyard—and prevents him from signing a death certificate. The coroner also mentioned that Mr. Hillyard had informed him that he had applied to have his name re-instated on the Register, so that he will no longer suffer from the disabilities to which we have alluded.

WANTED—A HOME.

To the Editors of THE LANCET.

SIRS,—[illegible] you or any of your readers can tell me of any [illegible] epileptics where a patient of mine can be taken permanently for a small weekly payment. Thanking you in anticipation and enclosing my card, [illegible] I am, Sirs, yours faithfully, [illegible] PRACTITIONER.

April 29th, 1900.

THE NOMENCLATURE OF VENEREAL CONTAGIOUS DISEASES.

To the Editors of THE LANCET.

SIRS,—At the International Congress on the Prevention of Venereal Diseases, held at Brussels last September, a desire was expressed that a uniform [illegible] should, if possible, be agreed u[illegible] t of the Health of the Navy in [illegible] the navy all venereal sores are [illegible] hilst on the continent statistics of venereal contagions separate the initial lesion of syphilis from the soft sore. In Norway, this latter classification has been in force since the year 1879 and all cases of syphilis, [illegible] gonorrhœa are notified [illegible] very week to a central [illegible] Congress objection was made on this ground to our British army and [illegible] known physician attaché [illegible] (*Compte Rendu du Congrès*) [illegible] statistics: "By an error, which science mo[illegible] place in [illegible] the soft s[illegible]" [illegible] the same criticism of some army statistics brought forward by Major MacPherson, R.A.M.C., at the Congress, and it seems to me that M. Bassereau put the matter clearly before the profession in 1858. Would it not be possible to come to some agreement on this point and then, when notification is adopted, as it seems likely to be by most civilised nations, a similar set of statistics may be obtained for comparison? I am, Sirs, yours faithfully,

CHARLES R. DRYSDALE,
Formerly physician to the Rescue Society of London.

London, April 30th, 1900.

AN UNREGISTERED DENTIST FINED.

AT the Guildford Borough Police-court on Monday, May 7th, before the Mayor, Mr. H. Peak, and other magistrates, Albert Palmer, of, 7, Market street, Guildford, was charged that he did use the name and title of dentist, and also the titles, additions, and description following, and implying that he was a person specially qualified to practice dentistry—viz., surgeon dentist and registered dental surgeon—he not being registered under the Dentists' Act of 1878 and not being a qualified medical practitioner. Mr. Dunlop Hill, barrister, instructed by Mr. E. Gale Crowdy, appeared to prosecute on behalf of the General Medical Council of the United Kingdom, and Mr. Wells, solicitor, represented the defendant, who pleaded guilty. Mr. Dunlop Hill said he appeared in support of the summons which had been instituted by the General Medical Council. The offence alleged against the defendant was that he had used the name of E. J. Smith and did in the terms of the information laid against him use the name of dentist and R.D.S., he being at the time an unregistered person, thereby contravening the Act of 1878. The offence was a somewhat serious one. The Bench would see that the scale of charges put forward by the defendant in his advertisements published in the local papers and directories was very low. The persons affected by that class of offence belonged to the working-class and it was viewed by the General Medical Council as a serious one. There was nothing more for him to do than prove that the defendant had brought himself within the Act, the third section of which [illegible] which stipulated a penalty [illegible] the name of E. J. Smith, who [illegible] practice as a dentist, but in June [illegible] Since then the defendant had taken over the practice. In November he announced that he was a R.D.S. and advertised in the Guildford [illegible] carried on under the English and American system, the scale of charges being: tooth extraction, 1s.; new set of false teeth, one guinea; consultations free. Evidence was then called. Mr. Edward J. Smith proved that his father died on June 13th, 1899, and Mr. Gale Crowdy said that he was conducting the prosecution on behalf of the General Medical Council. He produced a copy of the Register and papers in which the defendant had advertised. [illegible] Mr. Laban also gave evidence as to t[illegible] Mr. Wells, solicitor, said that for 13 [illegible] as manager to Mr. Smith and had obtained an expert knowledge of dentistry. He had a large num[illegible] members of the corporation, to a [illegible] He admitted that he had made [illegible] led to believe that he is duly qualified because he uses the name of E. J. Smith.—The magistrates retired to consider their decision. On their return the mayor said that the bench had decided to impose the mitigated penalty of £5 and the costs 15s. 6d.

THE EXEMPLIFICATION OF A NOBLE EXAMPLE.

To the Editors of THE LANCET.

SIRS,—Enclos[illegible] The representat[illegible] e Company that [illegible] e patient, who wa[illegible] for four years, my bill coming to £45. My recompense is the following, which, though very nice and sweet, will not pay for horses, carriages, or grocer's bill. The company supported the man during his illness, paid his passage to Australia, and even advanced the widow money. The [illegible] in his being a noble example one meets in the [illegible] I am, Sirs, yours faithfully,

May 7th, 1900. D. MOWAT, M.D. Edin.

[ENCLOSURE.]

DEAR SIR,—I [illegible] alter their decisi[illegible] you rendered to poor [illegible] result than the one you have received. [illegible] mples one meets with in your profession. Yours truly,

"THE SEAL OF PROFESSIONAL SECRECY."

To the Editors of THE LANCET.

SIRS,—With due deference to the Nottingham magistrates, to whom you refer in your article (May 5th), and who appear to recognise some validity in the objections of Dr. Hunter to answer questions, or practically to refuse to give evidence in a court of law on the ground that "[illegible] of "[illegible] ained, [illegible] by answering questions in a law court he would violate [illegible] University of which he has the [illegible] reference to "professional secr[illegible] question, never so much as hinted at a graduate refusing to give evidence in law; neither, indeed, would it have authority to qualify such an oath. It may be, as Dr. Hunter states, never have been decided in the higher courts as to what constitutes "professional secrecy," but the idea of refusing to answer questions on the ground that a witness would be amenable to an action at law because no enactment exists to indemnify him would scarcely [illegible] o raise a legal point on [illegible] that ground. I am, Sirs, yours faithfully,

May 8th, 1900. [illegible] M.R.C.S.

H. L. (West Dulwich) describes his condition quite clearly, but we do not give medical advice. If he tells his medical man what he has told us he will learn the course to be pursued.

Perplexed.—It is usual to charge half; but some practitioners charge less, while we think a little more than half should be charged.

Mr. R. B. Anderson's letter has been forwarded to *Dr. Glover.*

During the week marked copies of the following newspapers have been received: *Sydney Daily* [illegible] *ham Daily Post, Scarborough Daily Post, Hull Daily Mail, Liverpool Daily Post, Middlesbrough Gazette, Leeds Mercury, Sussex Advertiser, Derbyshire Courier, Sheffield Daily Telegraph, Western Mail, Glasgow Herald, India Witness (Calcutta), Norfolk Daily Standard, Daily Express, Toronto Globe, Times of India, Pioneer Mail, Dundee*

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 10th, 1900.

...	29·68	S.W.	...	116	72	53	55	60	Cloudy
... 6	29·74	S.H.	...	66	69	56	55	61	Cloudy
... 7	29·55	S.W	0·12	115	66	53	53	57	Cloudy
... 8	29·60	RNE	..	81	63	51	51	53	Cloudy
... 9	29·61	W.	0·02	74	58	51	52	54	Raining
... 10	29·83	E.	0·12	53	52	50	51	52	Raining

Medical Diary for the ensuing Week.

OPERATIONS.

...ew's (1.30 P.M.), St. Mary's (2.30 P.M.), Chelsea (2 P.M.), ...P.M.), Soho-square ...thopædic (3 P.M.), St. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (3 P.M.).

TUESDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (1.30 P.M.), Middlesex (1.30 P.M.), West-... Cancer (2 P.M.)

THURSDAY (17th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (1.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), St. Northern Central (Gynæcological 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.).

FRIDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (1.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), St. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (19th).—Royal Free (3 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (14th).—Society of Arts.—8 P.M. Prof. V. Lewes: The Incandescent Gas Mantle and its Use. (Cantor Lecture.)

Medical Society of London.—8 P.M. General Meeting for the Election of Officers and Council for next Session. 8.30 P.M. Ordinary Meeting. Mr. J. Hutchinson, jun.: Inoculation of the Gaseous Gangrene for Tuberculous Neuralgia, with series of cases. Dr. A. Morison: A Clinical Study of the Causes of the Pain felt in Disease of the Heart.

TUESDAY (15th).—Pathological Society of London (Section of Medical Jurisprudence), King's College, Strand.—8 P.M. Papers and Demonstrations by Prof. Crookshank, Dr. Barker and Dr. Hunter, Dr. Hewlett, Dr. Newman, Dr. Hewlett and Dr. Bowman, Dr. Macfadyen, Dr. Drysdale, Mr. Scott, Dr. F. Jones, and Dr. Nash.

...(MAY 16th).—Medico-Chirurgical Society (33, Hanover-square, W.).—8.30 P.M. Lumleian Lecture. Dr. ...

SDAY (17th).—Harveian Society of London (Stafford Rooms, ...chorne-street, Edgware-road, W.).—8.30 P.M. Papers.—Dr. D. Buxton: Incidents in Surgical Anæsthesia.

FRIDAY (18th).—Epidemiological Society of London (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Ordinary Meeting.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (14th).—Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.).—4 P.M. Dr. H. Gilbert's Consultation. (Skin.)

TUESDAY (15th).—Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.).—4 P.M. Dr. S. Taylor: Consultation. ...

...ELPHI (Queen-... ...erals of Spinal ...

... AND POLYCLINIC ... Consultation. ...

...4.30 P.M. Mr. ... Series of Cases. ...

... AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Hutchinson: Cases ...ations. (Surgical.)

... Dr. S. Eagle: Surgical Cases. ...

... Orpington-street, W.C.).—4 P.M. Dr. T. H. Kellock: Demonstration of Selected Cases.

FRIDAY (18th).—Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.).—2.30 P.M. Dr. H. Campbell: Clinical Examination of the Nervous System. Demonstration I. 4 P.M. Dr. D. Grant: Consultation. (Ear.)

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Two Clinical Lectures

ON

MALARIA AND THE MALARIAL PARASITE.

Delivered at the Medical Graduates' College and Polyclinic,

BY PATRICK MANSON, M.D., LL.D. ABERD., F.R.C.P. LOND., C.M.G.,

LECTURER ON TROPICAL DISEASES AT ST. GEORGE'S HOSPITAL AND CHARING-CROSS HOSPITAL MEDICAL SCHOOLS AND AT THE LONDON SCHOOL OF TROPICAL MEDICINE.

LECTURE I.

Delivered on Feb. 21st, 1900.

GENTLEMEN,—This lecture is devoted to a description of the parasite and of its life cycles. The existence of a parasite in malarial disease has been suspected for a long time, but only very recently have we had absolute assurance that such a parasite exists. Some time in "the thirties" Meckel described in the human blood certain black particles which he found in leucocytes and in certain pale, leucocyte like bodies the nature of which he did not know. When he saw these bodies he certainly saw the malarial parasite. His observations were repeated and extended in "the forties" and "the fifties" by Frerichs and Virchow, and they, too, undoubtedly saw the malarial parasite. But it is one thing to see and quite another to recognise; discovery is recognition.

Laveran was the first, in 1880, to recognise the true nature of these pigmented bodies, to discover the malarial parasite. He was working in Algeria on those pigmented bodies which have since been described so often, and while contemplating one of them he saw that its periphery was beset by a number of actively moving filaments. This fact of movement conveyed to his mind at once the assurance that what he saw was a living body and was really, considering the circumstances under which he found it, the parasitic cause of malarial disease. Step by step he added to his knowledge by discovering not only these peculiar flagellated bodies, but also amœboid bodies composed of similar materials and occupying the interior, or attached to the surface, of the red blood corpuscles. In addition to these he discovered certain other bodies having a peculiar crescentic shape. He also saw, apparently free in the liquor sanguinis, minute spore-like particles. He recognised, too, the presence of specks of dark pigment, not only free in the liquor sanguinis, but also included in these various parasitic bodies and in the white corpuscles. He saw a medley of things; but the nature of the connexion of one with the other he could not distinctly affirm. The f[illegible] then almost a[illegible] that he did not [illegible] the different items, so to speak, that composed the strange fauna. It was as if some intelligent being from the planet Mars, unacquainted with our fauna, had dropped into this world and had come across some such zoological collection as the inhabitants of a fowl run. He would see fowls, and feathers, and eggs, and faeces, and empty egg-shells, and chickens, and so forth, but he would not be able for a long time to recognise the connexion between the egg shell and the chicken or between the feather and the faeces. And so, in the first instance at all events, they would be all more or less a medley and confusion of apparently unconnected facts.

It was reserved for Golgi, the distinguished Italian, to beat out the music that Laveran could only hum but of which he could not find the tune. He was the first to piece together certain of the different forms that Laveran and others had seen and described, and to work out one phase of the malarial parasite, and to indicate the zoological connexion between the different items. As the result of Golgi's work we now know that the malarial parasite in its mature form has the appearance—I shall take the tertian parasite as a type—of a mass of pale protoplasm occupying practically the whole of the red blood corpuscle. Scattered through this mass of protoplasm are a number of black specks or minute rods of intensely black pigment. Later in the life of the parasite a peculiar thing happens: all these little specks of black pigment concentrate usually towards the centre of the organism whilst the pale protoplasm arranges itself into little spherules, the whole constituting what is known as the "rosette body." Later in the life of the parasite the surrounding blood corpuscle breaks away and this rosette body floats free in the liquor sanguinis and then breaks up into its constituent spores, setting free at the same time the black pigment clump. Phagocytes attack many of these free spores and probably absorb most of them, as well as the little pieces of pigment. The result is the pigmented leucocyte, so characteristic of malarial blood. A few of the spores escape and in virtue of some peculiar faculty, which is not at present understood, enter fresh blood corpuscles and appear there as pale specks in the hæmoglobin. These pale specks, if watched in perfectly fresh blood, are seen to be possessed of very active amœboid movement. They throw out pseudopodia in various directions and wander about through the hæmoglobin of the corpuscle. After a time they increase in size by assimilating the hæmoglobin. By and by there appear somewhere in the parasite those specks of black pigment which we saw in the mature animal. Later they increase still further in size until they come to occupy half, and finally nearly the whole, of the blood corpuscle. Again there is concentration of pigment and the formation of little spherules. This is the cycle, as described by Golgi, of the tertian and quartan parasite.

It was further reserved for Marchiafava, Bignami, and other Italians to make out the cycle of the more malignant and dangerous parasites—the æstivo autumnal or, as Koch calls them, the tropical parasites. The cycle of this tropical or æstivo autumnal parasite corresponds in plan almost exactly with that of the quartan and ordinary tertian parasite. It was now found that the life cycles of these parasites ran parallel with the clinical cycle of malarial disease. It was found that when the parasite had arrived at maturity the apyretic interval in an ague was about to conclude, and that when the parasite had arrived at the sporulating stage the patient had entered on the shivering stage of his fever. During that and the succeeding hot and sweating stage the spores had entered the red blood corpuscles, and when the parasite had encysted itself in the red blood corpuscle and begun to grow the fever had come to an end. It was found in tertian fever that the cycle of the parasite took 48 hours to complete, exactly the length of the cycle of the clinical phenomena. In quartan fever the cycle took 72 hours, exactly the length of the clinical cycle of that form of malarial disease. In the malignant or tropical fevers there was found to be a similar correspondence between the cycle of the parasite and the cycle of the disease. It was found that with each recurring paroxysm of fever there was a renewal of the life of the parasite, and that in this way the life of the parasite was continued from period to period and from cycle to cycle for weeks or even, especially in the case of quartan malaria, for months. Now this explains very well the way in which the malaria parasite contrives to maintain its existence in the human body, but it does not explain how it passes from host to host, neither does it explain certain appearances that Laveran and everybody else who has studied the subject have witnessed. In malarial blood we sometimes see that peculiar body, the flagellated body, which I have already alluded to as consisting of a spore surrounded by from one to six or seven long, fine, [illegible] in a state of continual agitation. Neither does it explain the peculiar crescent-shaped body which also so powerfully arrested Laveran's attention. This latter body can be by careful examination and staining be demonstrated to be a red blood corpuscle, for one can see around the periphery of the little crescent a narrow rim of hæmoglobin, and passing from one horn of the crescent to the other a band of hæmoglobin, obviously the remains of the red blood corpuscle in which the body had developed. Golgi's scheme leaves the passage of the parasite from host to host and also the nature of these two bodies unexplained. What reason have these two bodies in the life of the parasite? Their nature and purpose do not seem to fit in with the Golgi theory. We would fain be a little more [illegible] look enough the flagellated body [illegible] and not find it in material [illegible] withdrawn from the body. It is only after an interval of minutes, perhaps a [illegible] after the body has been withdrawn that these spores [illegible]

they come? If you make a preparation of malarial blood from a patient by pricking the finger and spreading a little of the blood on a slide, fixing it immediately with heat or alcohol and staining it, you will never see any of these flagellated organisms. But if the slip be kept moist and in a warm temperature for half an hour and then stained the flagellated bodies will be seen, proving that they develop only after the escape of the parasite from the human body. Such a fact is very interesting and obviously has some significance in connexion with the life of the parasite. Whence, I ask, come these flagellated bodies? If you select one of the crescent-shaped bodies for observation and keep it continuously in the field of the microscope and watch it you will see that the crescent body slowly undergoes in many instances a change of shape. You will see that from being a rather long and elegant figure it will become a short, dumpy, reniform sort of body. You will then see that the crescent shape disappears and gradually gives place to a spherical shape, the pigment remaining at the centre. If you continue to watch you will see peculiar movements occur inside the little sphere, that the pigment becomes diffused and begins a sort of boiling movement. Gradually this boiling movement becomes more energetic and is communicated to the mass of the little sphere. Then suddenly, whilst you are watching, you will see flagella thrust out from the periphery of the sphere. Later you may see one or more of these flagella break away and swim about. If by great care you keep one of these swimming flagella under observation you will find th[illegible] through the liquor sanguinis and th[illegible] into contact with a blood corpuscle [illegible] out and indulges in a peculiar vibra[illegible] if endeavouring to penetrate the cor[illegible] it is seen to attack a white blood corpuscle. In [illegible] to follow the progress of these [illegible] f a parasite of the pigeon, [illegible] closely resembles the malari[illegible] w the destiny of the free flage[illegible] s of the bird you find lying a[illegible] a pale body, shaped something like a halter containing black pigment and consisting of pale protoplasm exactly as in the case of the human parasite. If you keep the halteridia under observation you find a certain proportion of them slip out from the including blood-corpuscle and then assume a spherical form. You will find that these escaped bodies are of two kinds, one kind being beautifully hyaline and [illegible] l. you watch the hyaline forms you wi[illegible] a peculiar boiling movement occurs in the pigment and later that flagella are thrown out, exactly as in [illegible] case of human malaria. By-and-by the flagella bre[illegible] away and swim about in the liquor sanguinis. By-and-by you may see them approach the granular spheres and vigorously butt and attack the periphery of the latter. In course of time one of the little flagella enters the sphere and coiling up comes to rest therein. If you keep such a sphere under observation for a little longer you will find that this act of impregnation—for such it is—is followed after five or ten minutes by gradual changes in shape. It tends to become oval and the pigment tends to accumulate at one pole of the oval body. Later the opposite end of the oval becomes elongated into a sort of beak or proboscis; hyaline and glistening as if composed of some dense substance. When the little body has assumed this shape, which it may do in some 10 minutes, it begins to acquire movement. The movement increases in vigour and then the parasite tumbles about through the liquor sanguinis in a screw-like, wriggling fashion, travelling about all over the field of the microscope. If it comes into contact with a white or a red corpuscle it will pass through it. Obviously this tumbling vermicule is endowed with great powers of penetration, powers which have, depend upon it, a definite purpose in view. These valuable observations, which have now been many times confirmed, we owe to an American worker—MacCallum. What is the purpose of this travelling vermicule?

Many years ago King in America and others too numerous to mention suspected that the mosquito had something to do with malaria, but in what way they could not say. Not only civilised observers had this suspicion but the savage natives of certain tropical countries had the same idea. Koch tells us that certain natives of German East Africa who lived in a moon'alness, and therefore non-malarial, part noticed that when they descended to the malarial regions on the coast that they acquired a fever which they called "mbu." They said that they were bitten there by certain insects which they also called "mbu," mosquito or gnat. They give the same name to the mosquito and to the fever, therefore obviously these savages associate the insect and the fever as cause and effect. Peasants in certain parts of Italy have the same idea, believing that the bite of the mosquito may be followed by the development of malarial fever.

Laveran some years ago, in one of his numerous works on malarial fever, said that possibly the malarial parasite was cared for by the mosquito in the same way that the latter cares for the filaria of the blood. He did not, however, formulate a definite theory on the subject.

In 1894 I was engaged in working at malaria, following out Golgi's work and that of other Italians. I was particularly struck by the phenomena of exflagellation and more particularly by the fact that it occurred only when the blood had been removed from and was outside the human body. I reasoned that if this exflagellation occurs only outside the body the purpose of the flagellated body must lie outside the human body, and that therefore the flagellated body must be the first phase of the malarial parasite outside the body, must be the first step that the malarial parasite takes in passing from one human host to another. There seemed to me to be a sort of logic in this. But how was the malarial parasite to pass from one human being to another? It was not provided while inside the human body with any organs of locomotion or penetration; as far as we know the parasite is never extruded in the excreta, neither does it habitually escape in hæmorrhages. Therefore, the idea of a spontaneous escape of the parasite from the human body had to be dismissed. I therefore concluded that some extraneous agency must remove the parasite from the human body, so as to afford the [illegible] ation which I had concluded must [illegible] its extra-corporeal life. In castin[illegible] which could effect this removal I, [illegible] in some respects to those that influenced the savage African, the Italian peasant, King, Laveran, and others, came to the conclusion that the medium of removal and transit must be the mosquito. I was so impressed with the probabilities of this double hypothesis and with its extreme practical value, should it prove to be correct, that I endeavoured to leave England for a time and to visit British Guiana or some such suitable malarial country where I might work out the idea. Unfortunately, that could not be accomplished, so I published my theory in the hope that [illegible] someone who [illegible] at enjoy the opportu[illegible] commence. At that time Surgeon-Major Ross was at home from India and we had many conversations on the subject. I described to him [illegible], the probabilities of which and the possibilities of which powerfully appealed to his highly logical and practical mind. He undertook, when he returned to India, to do his best either to establish or confute it. Accordingly he set to work in India experimenting with mosquitoes and malaria.

Ross was stationed in Secunderabad, in the south of India, where there was abundant opportunity for experimental work—plenty of patients and plenty of mosquitoes. He got patients with crescent parasites in their blood and he got mosquitoes to bite them. He found that in the course of a few minutes after the blood had entered the insects' stomachs the crescent parasites proceeded to the formation of sphere and flagellated body. But he got no further. This experiment was repeated hundreds of times. Many of his preparations were sent to me, and I could confirm from them the accuracy of his statements on the subject. Ross was encouraged, for obviously we were on the right track. One day Ross, whose station had in the meantime been changed, caught some mosquitoes which had been feeding on a patient the subject of tertian malaria. He kept the mosquitoes and after a few days dissected them. He took the stomach out and placed it on a slip with a little salt solution, covered it with a cover-glass and examined it with a microscope. He was gratified to find lying amongst the transverse and longitudinal muscular fibres a number of spherical bodies, very sharply defined, and including a great many grains of intensely black pigment exactly like those of the malaria parasite. Ross was at once struck with the similarity. After years of labour he believed he had at last seen the malaria parasite in the tissues of the mosquito, where we reasoned it ought to be; and he was right. At a subsequent experiment on the malarial patient he found exactly the same bodies, and on dissecting several mosquitoes at different intervals of time he found that the parasite, which originally was six micro-millimetres in

diameter only, grew to 60 or 80 micro-millimetres, each parasite, notwithstanding its growth and the lapse of time, still containing the peculiar and most characteristic black pigment. Ross was now quite sure that he had found the extra-corporeal phase of the malarial parasite. Some of these preparations he sent home. I examined them and showed them to a number of friends in London familiar with the malarial parasite; they agreed with me, as Laveran also did, in believing that probably this indeed was the long- [illegible] the malarial parasite [illegible] getting opportunities for experiment on the subject and in procuring proper mosquitoes. He found that the mosquitoes in which he had discovered these pigmented bodies were of a different species to those on which he had formerly experimented, and that in this circumstance lay the explanation of his lack of success earlier as well as the secret of his ultimate success. Failing to get sufficient opportunity for [illegible]

The malaria parasite of the sparrow—proteosoma—does not assume the peculiar halter-shape of the corresponding parasite of pigeons and crows; it does not embrace the nucleus of the red blood-corpuscle but fills the greater part of the corpuscle, thrusting the nucleus to one end. Ross procured a number of infected sparrows and let loose upon them a number of mosquitoes of a species belonging to the genus *culex*. These mosquitoes, after from one to ten days, he dissected and examined their stomachs. He found in the stomach-wall pigmented bodies exactly similar to those which he found in the stomach-walls of mosquitoes fed on human malarial blood. He found that they increased in size and in a week or ten days grew from six to 80 micro-millimetres in diameter. When they became of considerable size they protruded like warts from the surface of the insect's stomach and were included in a very definite capsule. At this stage the capsule was filled with a vast number of very minute rod-like bodies. These capsules, which now projected into the body cavity of the [illegible] d and discharged the [illegible] the mosquito For a [illegible] ils. He could not find [illegible] One day, in dissecting the head of a mosquito, he encountered two small trilobed glands the ducts from which united to form a main duct. The glands lay on either side of the head and the common duct he traced to the base of the proboscis of the mosquito. This was the salivary gland of the mosquito. He found that the cells of the gland contained rod-like bodies exactly like those which he had found inside the parasitic capsules in the stomach-wall. He concluded that somehow these "germinal rods" (for so he called them) had managed to find their way into the salivary gland of the mosquito. It immediately occurred to him that this might be the route by which the parasite escaped from the mosquito into its vertebrate host. No sooner had the idea occurred to Ross than he put it to the test of experiment. He selected a number of sparrows in whose blood he satisfied himself that there were no parasites and let loose upon them a number of mosquitoes which he had already infected with malarial parasites. He found after a week or ten days that the sparrows which were experimented upon sickened and many of them died and in their blood he found the malarial parasite.

We now understand why the flagellated body is developed outside the human host, because its function lies outside the human host. We now understand why the flagella break away and enter the granular sphere: they impregnate it and start it on the road of development. We now understand why MacCallum's vermicule is beaked and endowed with powers of locomotion and penetration: that it may approach and penetrate the stomach of the mosquito. And we now know why the sporozoites, the "germinal rods," enter the mosquito's salivary gland: that they may be injected into vertebrate blood and so pass the parasite from vertebrate to vertebrate.

This is one of those fairy tales of science which people are inclined to doubt, but anyone who has worked at the subject and taken the trouble to go through the large series of preparations which have been sent home from India cannot for a moment have the slightest doubt that what Ross stated was absolutely true, and that not only for bird but for human malaria. So soon as the idea occurred that the key to the way in which the malarial parasite is propagated had been found the Italians immediately set to work with renewed vigour and, with the utmost skill. Almost at once they demonstrated that what happened in the case of Ross's sparrows happened also in the human subject: that the appropriate species of mosquito fed upon the human malarial subject and subsequently allowed to feed upon a non malarial subject conveyed the malarial parasite and malarial disease, and that the appropriate species of mosquito belonged to the genus anopheles.

Lately, while in Rome, I had the opportunity of visiting the laboratory of Professor Grassi and of examining many of the preparations by which he had worked out for the malaria parasite what Ross had so brilliantly done partially for bird and completely for the malarial parasite of the sparrow. The histological details I shall endeavour shortly to describe. In some of the preparations I could see quite easily in the lumen of the stomach the pigment-laden vermiform vermicule—an elongated body distinctly coloured by the staining fluid employed. There could be no doubt that this vermicule evolved from the crescent body which originally the mosquito had ingested. I also saw in one preparation the vermicule entering the stomach-wall between two epithelial cells. In other preparations the little spherical body, with a well defined outline and nucleus and containing a number of grains of black pigment, could be seen. In other preparations this body had grown and in its growth had carried before it the outer layer of the stomach-wall. In other preparations it had so grown that it appeared as a huge wart on the outer surface of the stomach. By special methods of staining it was shown how the germinal rods, or sporozoites, were evolved. After the vermicule had entered the stomach-wall and the parasite had increased in size the nucleus fragmented, each fragment proceeding towards the periphery of the parasite, where it became surrounded by a minute spherical mass of protoplasm. After a time the fragments of the nuclei themselves began to throw out little chromatic masses which in their turn occupied the periphery of the little spherule that had formed, these in turn went on multiplying in the same way until the now relatively huge parasite was filled with a large number of sporules, each of which had its masses of nuclear matter arranged at the periphery. At a certain stage multiplication of sporules ceased, the rods I have mentioned appearing instead. Professor Grassi showed me sections of a salivary gland of an infected mosquito; in the cells of the gland were to be seen the sporozoites. From this and much similar evidence there cannot be the slightest doubt that the mosquito acts the part of transmitting agent as well as definitive host of the malaria parasite.

This is a piece of knowledge of the utmost importance to mankind, for we know that malarial disease in tropical countries—which, after all, in the future will be the most important part of the world, seeing that they can produce more food than temperate countries and can therefore support a larger population—causes more deaths and more disposition to death by inducing cachectic states predisposing to other affections than all the other parasites affecting mankind put together. We know now in what way the parasite is acquired. Depend upon it, in time, in virtue of this knowledge, we will get enormous power over the disease and sooner or later we will be able to prevent the infection of man by the parasite. It is only a question of study and the application of the knowledge already acquired, only a question of money and perseverance and a little ingenuity, and these results will come. It may not be in 10 years or 50 years, but sooner or later the early part of a century shall [illegible] portion of scientific mankind can [illegible] expended in endeavouring to devise means for preventing the infection of man with the malarial germ by the mosquito will yield valuable fruit.

You can readily understand that it is [illegible] to be able to recognise the species of mosquito which [illegible] country malaria. The [illegible] species are regarded [illegible] malaria belong to the genus anopheles; species of the genus culex are innocuous in the case of malaria. Fortunately, these two genera are easily recognised even by the amateur naked eye. If you find a mosquito [illegible] wall or other surface [illegible] by the posterior. If the body is [illegible] angles to the surface on which they are [illegible] anopheles. If the body is almost parallel to the surface it is a culex. There are [illegible] you have a pencil [illegible] the two species [illegible]

palpi are rudimentary and very short; whereas in anopheles those organs are almost as long as the proboscis. It should be remembered that the male mosquito is not a blood-sucker and therefore is not dangerous. It is the female anopheles which transmits the disease. The mosquito larvæ inhabit stagnant or slow running water. If a mosquito larva be found with its head downwards, the body hanging at right angles to the surface of the water, it is a culex; if the body lies parallel to the surface of the water, it is an anopheles. There are other points of difference with which I need not now trouble you; those referred to suffice for diagnosis between the innocuous and the dangerous mosquitoes.

The facts regarding the malaria parasite which I have described are of great importance for many reasons. First, because they help us to understand the pathology and etiology of malaria. Secondly, they help us in diagnosis. Without an accurate knowledge of the characters of the malarial parasite precision in the diagnosis of malarial disease is difficult, in not a few cases it is impossible. With an accurate knowledge of the microscopical appearances of the malarial parasite diagnosis is absolutely assured. Thirdly, our knowledge of the parasite is invaluable in directing treatment. Good treatment depends on accurate diagnosis in many cases; if diagnosis be not accurate, energetically directed treatment may be wrong and even fatal. Accurate diagnosis of malarial fever can at times be assured only by the microscope and knowledge of the habits and appearances of the parasite. It is important in some cases to know when to give quinine in the course of malarial fever; especially is it so in that type of malarial disease known as "blackwater fever." Quinine under certain conditions tends to induce hæmoglobinuric symptoms; but it does not tend so powerfully to induce hæmoglobinuric symptoms as does the malarial parasite. Therefore when it comes to a choice between two evils we choose the lesser and give quinine. But if you give quinine to a patient who has not the parasite in his blood you expose your patient to an unnecessary and very grave danger. Only the microscope can tell you if in any given patient the malarial parasite is present or not. Lastly, a knowledge of the life-history of the malarial parasite is of extreme value for the prevention of malarial disease, for could we by mechanical or other arrangements prevent the mosquito attacking the human body we could prevent the malarial parasites from entering the human body; or if we could abolish the mosquito by drainage or other means from a country then we might be sure that we would abolish the malaria of that country also.

Attempts are being made to solve these practical problems. At the present moment such attempts are being actively made in Rome by Professor Celli and elsewhere by others. I have no doubt that in the course of a few years we shall get some very valuable results in this direction and that, thanks to this new-born knowledge about the malarial parasites, better times are rapidly approaching for malarial countries.

THE EAST SUBURBAN MEDICAL PROTECTION AND MEDICO-ETHICAL SOCIETY, LIMITED.—A quarterly general meeting of this society was held in the Town Hall, Stratford, E., on May 3rd.—Dr. Fred. J. Smith took the chair and Dr. A. G. Bateman read a paper on Medical Defence, in the course of which he pointed out the liability of every member of the profession to attacks by unscrupulous persons and the immense advantage of being defended in these cases by a powerful association like the Medical Defence Union. The work of indirect or impersonal defence could be carried on by various societies, although in his opinion the whole of this work ought to be taken over by the British Medical Association; but for direct or personal defence a powerful organisation with special skill and experience, such as the Medical Defence Union placed at the service of its members, was absolutely necessary. The speaker touched upon actions for malpraxis, libels upon medical men, x-ray photographs as evidence in court, threatened proceedings in connexion with lunacy certificates, friendly society appointments, and many ancillary subjects, illustrating his remarks by examples from the case-books of the Medical Defence Union. He also referred to the difficulty of taking cases of "covering," e.g., before the General Medical Council owing to the unsatisfactory position of that tribunal, which could not even witnesses by subpœna, administer the oath to witnesses, or any redress to either side.

An Address

ON

THE MODERN TREATMENT OF DIABETES MELLITUS.

Delivered before the Medical Section of the Gloucestershire Branch of the British Medical Association at Cheltenham on May 15th, 1900,

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MR. PRESIDENT AND GENTLEMEN,—I am greatly honoured by your invitation to visit your beautiful town and to address you upon a subject so interesting and important as diabetes must be to all of us.

PHYSIOLOGICAL FOREWORD.

If I discuss the question mainly from the point of view of the practitioner and refer only to such experiments as throw light upon our clinical observation, I must not be thought to be unregardful of the work which for 50 years has been ungrudgingly bestowed upon the problems of diabetes. But as few of the questions raised have been so definitely settled as to form an unquestionable basis for practical conclusions it would be out of place to take up your time by discussing them. A very brief outline of our physiological knowledge must suffice.

Under normal conditions the liver stores up in the form of glycogen or animal starch the [illegible] into the body as food. By mean[illegible] it converts this glycogen [illegible] it into the circulation in such quantit[illegible] s required by the tissues. Under ab[illegible] functions are upset; the liver no longer stores glycogen but allows the whole of the carbohydrate food to pass directly into the circulation as sugar while any stored glycogen is converted and discharged at once. This is what occurs after many experimental injuries of the nervous system, of which the best known is Claude Bernard's puncture of the floor of the fourth ventricle, a[illegible] blows on the head, back, [illegible] certain poisons, &c. The re[illegible] porary but in some of the [illegible] firmed diabetes follows.

THE THEORY OF DIABETES.

These traumatic effects appear at first sight to supply a satisfactory basis for the foundation of a theory of diabetes in which the essential cause would be the derangement of the glycogen-storing function of the liver and the *causa causans* the bodily or mental shock or other *noxa* to which the disturbance could be immediately attributed. But the theory is inadequate because any [illegible] glycogen are dissipated very rapidly and [illegible] supply of sugar must depend solely upon the carbohydrates introduced as food. Moreover, if the body continues as before to consume sugar a good deal that reaches the circulation must be destroyed and the glycosuria should occur only after a full carbohydrate meal and should then rapidly disappear, but in all severe cases of diabetes the withholding of carbohydrate food fails to stop the excretion of sugar. The latter phenomenon has been partly explained by the fact established by Pavy and others that the albuminous molecule while undergoing decomposition into urea, water, and CO_2 splits off a carbohydrate molecule from which sugar is formed. The resulting sugar and urea bear a definite relation to one another, so that if we know the quantity of urea excreted in 24 hours we can calculate the amount of sugar formed in the body from the decomposition of albumin. The proportion is roughly about one part of urea to two parts of sugar, so where the total output of urea is 500 grains there are 1000 grains of sugar to be accounted for. Yet if the tissues continued to consume a normal proportion of sugar all of this should be used up in the body, so that it has been found necessary to amplify the above-stated theory by postulating a further failure of the sugar destroying

function of the tissues. This hypothesis has been established upon a basis of fact by the researches of Professor Bouchard, who has worked out the consumption of sugar in health and in diabetes. He has shown that the quantity varies with age and body weight, slender young persons consuming a much larger proportion of sugar per kilogramme of body-weight than those who are older and fatter, an observation which by itself throws light upon the tendency to diabetes observed in elderly obese people.

Table (modified from Bouchard) showing the Consumption of Sugar in the Bodies of Healthy Persons at Various Ages and of Different Weights. (The figures have been converted into English measures.)

Age.	Weight.	Consumption of sugar per pound of body-weight.	Total.
17 years	101 lb.	54 grains	5450 grains
25 "	120 "	42 "	5420 "
40 "	103 "	41 "	4223 "
59 "	170 "	13 "	2210 "
70 "	111 "	23 "	2554 "

But he has also calculated the amounts of sugar consumed per kilogramme of body-weight by a number of diabetic patients and has compared the results with the figures obtained from normal individuals of the same age and weight, the conclusion being that all diabetics exhibit a very considerable reduction of their sugar-consuming power. If we take 1 as the normal standard of sugar consumption his diabetic cases showed only 0·05, 0·10, 0·11, 0·16, 0·19, 0·42, and 0·51. It will be noticed that in the last of the series only was the sugar-consuming power equal to half the normal amount, while in the others it dropped so low as to an eighth, a tenth, and even a twentieth. These careful and original observations, made, it may be remarked, human beings by a practising [illegible] I to have settled this previously [illegible] those who maintain that diabetic patients consume a normal amount of sugar must explain whence they get it, as on ordinary strict diabetic diet the total amount of sugar, including that derived from the decomposition of albumin, amounts to little over 2000 grains, and yet upon that diet these patients increase in weight and excrete a certain amount of sugar.

[illegible]

some way by the excess of sugar which reaches them. When this quantity is restricted by careful diet many diabetic patients show after some time an increase of sugar-destroying power; and conversely others who at first preserve a fair amount of this faculty so that they can safely take limited quantities of starchy food, if they become careless of keeping strictly within the prescribed amounts and neglect the necessary precaution of occasional "carbohydrate fasts," develop thirst and polyuria and manifest a greater intolerance of starchy food than existed when they first came under treatment. We have therefore arrived at the conclusions that under the influence of certain agencies, some of which have been alluded to, but will be described more fully in the next section, the liver loses its power of storing glycogen; in consequence the tissues, gorged with sugar, suffer a diminution of their power to consume that substance, and, finally, glycosuria ensues which becomes persistent and increasing unless arrested by treatment.

PATHOGENESIS.

Countless experiments have so multiplied the possible agencies by which the above described functions of the liver can be disturbed that we may expect to find sugar in the urine in affections of many and most distantly related parts. Most of these cases, however, are merely examples of temporary non-diabetic glycosuria and need not detain us, but there are three principal organs to which upon more or less important grounds we look for the seat of the original mischief to which the functional disturbance of the liver must be attributed. These are the nervous system, more especially the brain, the medulla oblongata and vagi, the pancreas, and the liver.

DIABETES OF NERVOUS ORIGIN.

Ever since Claude Bernard's brilliant experiment the nervous origin of diabetes has held a foremost place in medical opinion and for a long time has occupied the field to the exclusion of all other doctrines, in spite of the parsimony with which morbid anatomy supplied any facts in its support. From the latter point of view, indeed, there has been little to encourage the opinion, for, saving a few examples of tumours chiefly in the fourth ventricle or upon the vagi nerves, nothing that could stand criticism has been discovered. The facts in its favour, apart from the presumption afforded by experiments upon animals, are to be found in our clinical experience. We should put in the first rank of this sort of evidence the cases of diabetes which follow traumatisms, with or without organic injury to the nervous centres, but always attended by severe shock. With these Professor Senator would class the cases originating in non-traumatic neurasthenia, assigning all alike to the functional disturbance of the nervous system. In the second place, closely allied but somewhat less definite, are those cases, in favour of which there is an overwhelming concurrence of clinical evidence, where the disease sets in in consequence of over-study or during the strain of a crisis in business or sickness or war. Thirdly, we have the well-known fact that the disease is much more common among the educated than the uneducated classes—that is, it occurs chiefly among those whose nervous systems undergo more wear and tear. Four years ago Dr. A. L. Smith read a paper before the New York Academy of Medicine in which he sought to show that engine-drivers suffer as a class disproportionately from this disease, and he attributed this, in part at least, to the anxious nature of their work. My inquiries from railway surgeons did not reveal that any such opinion had been suggested by their experience, but my [illegible] ted at my disposal of the London and North [illegible] a number of years, and upon comparing these with a similar number of deaths among the general population at the same period of life the mortality from diabetes of these men turned out to be nearly twice as great as that of the general population.

Class.	Age.	Mortality from diabetes per 10,000 deaths.
General population	50 to 60 years.	23
Engine-drivers	50 " 60 "	13

I do not wish to insist too much upon these figures, but so far as they go they support Dr. Smith's conclusions and are in favour of the nervous origin of diabetes, even if we must include among them a certain number of cases due to injury and shock.

PANCREATIC DIABETES.

Since von Mering and Minkowski proved conclusively by their splendid series of experiments that the entire removal of the pancreas in dogs is invariably followed by all the symptoms of severe diabetes the anatomical changes in the pancreas upon which Lancereaux had insisted for many years previously acquired the first degree of importance. The lesions observed vary, the most common, but not the least obscure, being that which is usually described as atrophy or fibroid degeneration. This process seems to be one of interstitial inflammation with increase of connective tissue and gradual destruction of the glandular tissue. Nothing certain is known as to its origin, but analogy with similar familiar processes in the liver suggests that it may be due to attacks of infectious disease. Diabetes is well known to be an occasional sequela of infectious diseases, but it has not been established, so far as I know, that the pancreas in these cases is always but rarely affected. In considered impossible that in certain instances the nervous system may be at fault. But for the [illegible] of the pancreas, the consequence of all forms of [illegible] or perhaps of a more acute character, and [illegible] too, with cystic [illegible] of the gland from [illegible] of the gland [illegible] a history of attacks [illegible] to the passage of [illegible] calculi. A case has been [illegible] in which [illegible] complete necrosis of the pancreas was caused by a [illegible]

gastric ulcer of the posterior wall of the stomach which set up diffuse inflammation followed by the formation of an abscess. The abscess was opened and the pancreas was discharged in a state of necrosis through the opening. The patient recovered from the operation but remained permanently diabetic. Lastly, a good many cases have been published of cancer of the pancreas associated with diabetes.

It must not be assumed that disease of the pancreas is invariably attended or followed by diabetes. It is very well known that this is not the case, and the explanation afforded by Minkowski's experiments is complete. These showed that if even a small portion of the tail of the pancreas was left behind diabetes did not follow the operation of removing the rest of the organ. The physiological relation of the pancreas to the glycogenic function of the liver still remains to be elucidated. The theory at present provisionally accepted is that the pancreas forms an internal secretion which normally inhibits the discharge of glycogen from the liver. What proportion of cases of diabetes is due to pancreatic disease is also still unsettled. The estimates vary from one-third to two-thirds of the whole number, but in any case there are many which must be explained in some other way.

HEPATIC DIABETES.

In spite of the well-known relation of the liver to sugar formation the dependence of diabetes upon any definite hepatic lesion is by no means satisfactorily established. I have recorded several cases of glycosuria associated with hypertrophic cirrhosis of the liver, but, as I have elsewhere pointed out, in these the glycosuria appears to depend rather upon the alcoholic habit than upon the anatomical change. The condition described by Hanot as "bronzed diabetes," in which there is pigmentary cirrhosis of the liver associated with bronzing of the skin and glycosuria, is, as Marie contends, more probably a peculiar form of cirrhosis of the liver associated with glycosuria than a complication of . . . I have also met with glycosuria in some cases of . . . abscess, but there is no constant relation between the two conditions. When I was pathologist to the General Hospital I made a post-mortem examination of the body of a man who had suffered from what was called diabetes and in his liver there was a very large abscess. I could learn very little about his clinical history except that the case had been regarded as one of diabetes presenting no special features. I have never had a similar case under my own care. Pavy has recorded a case of diabetes which followed a kick from a horse over the region of the liver. Some degree of enlargement, increase of connective tissue, or fatty degeneration has often been observed in diabetic livers, but no constant or marked change is present. However, I think it may be allowed to be probable that there is a group of cases to which the term "hepatic diabetes" may be provisionally applied.

DEFINITION AND DIAGNOSIS OF DIABETES.

It is not easy to furnish a clinical definition of diabetes which is both accurate and comprehensive. Probably we cannot say more than that it is a persistent or recurrent glycosuria which sooner or later is accompanied by thirst, polyuria, and failure of nutrition. Such a definition has the obvious disadvantage that in the presence of a given case of glycosuria we may be unable to say for some time whether it will or will not prove to be diabetes. Unquestionably there are cases of glycosuria which by their short duration, the absence of other symptoms, and their subsequent freedom from any unfavourable result should not be called diabetes, which is a term carrying with it so much that is ominous for the patient's future. On the other hand, diabetes presents itself under very different degrees of gravity; all the symptoms, including the glycosuria, may disappear for a time and then return in the most malignant form; or, finally, the disease may last for years without getting sensibly worse, yet without warning or after some trifling disturbance of mind or body it may terminate by diabetic coma. I could give many illustrations of these changes. For example, a young medical practitioner suffered from thirst and found sugar in his urine after a bicycle ride on a hot day in the summer of 1898. He put himself under treatment and the sugar rapidly disappeared. When I saw him there was none, but he was anxious to do the best for himself, so I sent him for a rest and cure to Neuenahr and he afterwards went to Switzerland. On his return he seemed quite well, and he did his winter's wo without flagging. In the early summer he paid a seco visit to Neuenahr and returned to his work feeling very we A little later his symptoms returned, he lost weight, a when I saw him again he was passing some 1500 grains sugar in spite of careful diet, and in the following Septemb he died. I remember a similar case where the interval what seemed to be perfect health lasted two years and th under a special strain of work in business the patient, young man, broke down and after a few months died fro coma. I have known many cases of elderly diabetics wh have been going on well until some day breathlessness ha come on after a little extra exertion and death has followe in a few hours. On the other hand, we see cases of glycosuri which look very like diabetes, and I think it is not unfair t suspect that most, if not all, of the examples of the cure o diabetes which are attributed to this or that drug reall belong to this category, for there is an absolute consensus o opinion among those who have most experience of thi disease that no drug hitherto suggested has any definit influence upon its course. I have recently published a lecture upon non-diabetic glycosuria and to that I must refer you for illustrations. There is no doubt of their existence and where we can learn the cause and remove it, as, for example, in alcoholic glycosuria, we can effect what looks like a very remarkable cure.

The lesson which it is desirable to learn is that we must not be content to call every case of glycosuria "diabetes" or to place such patients straightway upon a routine course of treatment, but our opinion must often be suspended and the case meanwhile studied. Unfortunately, cases are common enough in which the severity of the symptoms makes the diagnosis only too plain. I do not wish to detain you by discussing methods of examining the urine, but I cannot help repeating the warning often given that the reduction of copper does not necessarily mean sugar. Where the absence of other symptoms or any other circumstance . . . a doubt the urine should be filtered seven or eight times through animal charcoal to remove other reducing substances and the copper test repeated with the filtered urine. If it is decided that sugar is present the next step is to determine not merely the percentage of sugar but the total amount excreted in 24 hours. This is done by collecting the urine of the 24 hours, measuring it, and estimating the percentage of sugar; then by very simple arithmetic we can calculate the total loss in grains. If the patient has not been under treatment this will pretty certainly amount to thousands of grains. For example, a patient passing 100 ounces of urine containing 5 per cent of sugar is losing over 2000 grains of sugar daily.

TREATMENT.

The diagnosis being settled, the daily excretion of sugar determined, and the patient's weight noted, we should seek to ascertain the effect of withdrawing all carbohydrate food as a preliminary to the settlement of the very important question, How much carbohydrate food does the patient still retain the power to assimilate? For it is no longer believed that all diabetic patients have completely lost the power of utilising carbohydrates. The late Professor E. Kulz, to whom we are indebted for so many valuable observations upon diabetes, found only two instances out of a long series of cases examined by him in which this power was totally lost.

In drawing up a diet table attention must be paid to quantity as well as to quality, for it is more than probable that such untoward results as are alleged to have sometimes followed the use of other diabetic diet were due to excessive quantities of albuminous food. According to Rübner a man consumes the following quantities in 24 hours for each kilogramme (2 lb.) of body-weight: during repose, 32·9 heat units; on slight work, 34·9 heat units; on moderate work, 41·0 heat units; on hard work, 48·0 heat units. So that a person weighing 10 stones (70 kilogrammes) on slight work requires daily an alimentary value of 2450 heat units. In addition a diabetic subject must receive a quantity equal to the sugar which he excretes unconsumed, which in the case of a patient excreting 1500 grains would be 400 heat units, or a total of 2850 heat units. The usually accepted heat values of the ordinary elements of food are, roughly: for one gramme of albumin, four heat units; for one gramme of carbohydrates, four units; for one gramme of fat, nine units; and for one gramme of alcohol, seven units. The following are the values in heat units of various articles of

food converted into familiar English measures from a table constructed by Weintraud:—

Meat, per ounce	35 0	heat units.
Eggs, each	75 0	" "
Milk, per ounce	17 7	" "
White bread " "	75 0	" "
Toast " "	75 0	" "
Cheese " "	117 0	" "
Butter " "	240 0	" "
Fat " "	270 0	" "
Cream " "	60 0	" "
Light wine (claret) per half pint	50 0	" "
Whisky per ounce	105 0	" "

I append an example of an average diet constructed on this system for a patient requiring 2400 heat units or thereabouts:—

	210	heat units.
	540	" "
	150	" "
	120	" "
Three ounces of butter	720	" "
Three ounces of cheese	351	" "
Six ounces of green vegetables, say	50	" "
Nine ounces of Callard's brown loaf, biscuits, and sponge-cakes	50	" "
Half a pint of bouillon	00	" "
One pint of tea	00	" "
Half a pint of claret	50	" "
Two ounces of Scotch whisky	210	" "

s: The various articles breakfast, luncheon, tea, which can be modified d that it is better to early equal, thus avoiding much food at any one ar as possible free from contained in the green not exceeding 500 grains of sugar forming material. Callard's brown loaf, diabetic biscuits, and diabetic sponge-cakes contain only traces of carbohydrates or none at all, and the green vegetables contain amounts varying between 10 and 20 per cent. Protene diabetic bread made by the Protene Food Company is also very free from starch. It is necessary to mention the makers' names because even well-made gluten bread contains from 25 to 40 per cent. of starch and many so-called "diabetic" breads and biscuits show a much higher proportion. I append some analyses which I have had made to illustrate these statements.

Analyses of Diabetic Bread Substitutes.

Name	Carbohydrates calculated as glucose.
Callard's brown loaf,	6 75 per cent. (29 4 grains per ounce).
Callard's biscuit	6 6 " " (28 4 " " ")
English gluten bread	28 4 " " (127 0 " " ")
French gluten bread	36 78 " " (155 0 " " ")
Protene diabetic bread	2 7 " " (11·7 " " ")

At the end of a week of this diet the urine should be again collected, the total sugar and urea estimated, and the patient's weight recorded. If the urine is free from sugar the patient has used up, not only some 500 grains of sugar derived from the carbohydrates in the food but also an amount equal to twice the quantity of urea excreted. If we suppose the latter to be 500 grains we should have 1500 grains of sugar utilised by the tissues. On the other hand, if he is passing a certain amount of sugar it is only necessary to subtract this from the total derived from the carbohydrates and albumin in order to show the proportion consumed. Unless the sugar has entirely disappeared it is advisable to maintain the diet unaltered for several weeks, repeating the examination of the urine and the weighing every week or every fortnight at least.

Loss of weight may not be an undesirable result if the patient is decidedly too fat, but under other circumstances it should lead to a careful revision of the diet. It may be found that the patient is not carrying out instructions or there may have been some mistake in the construction of the diet. When the sugar has entirely disappeared small additional quantities of carbohydrate food should be allowed. No positive rules can be laid down which are applicable to all patients, for experience proves that individuals differ in the power to assimilate different forms of carbohydrate. Speaking generally, milk may be allowed in moderate quantities not exceeding a pint. A pint of milk contains about 400 grains of lactose and 300 grains of fat. It affords 350 heat units and may in some cases with advantage replace some part of the solid fatty food which patients often find difficulty in eating. In this respect we are at a disadvantage as compared with our German colleagues, for German cooks are accustomed to use large quantities of butter in cooking vegetables, and salad made with oil and fat bacon (speck Salat) is an ordinary article of German diet. Lævulose or left handed fruit sugar in quantities not exceeding one to one and a half ounces is also very frequently readily assimilated. A considerable proportion of the sugar of apples is lævulose, so that an apple raw or baked may be tried. Lævulose itself is prepared by Schering and Glatz of Berlin, but it is dear and only slightly sweet so that it is little use as a sweetening agent. For this purpose saccharin should be prescribed. I have repeatedly read that saccharin causes stomach derangement, but we have had a pretty long experience of saccharin in England and that seems to be generally favourable. I do not remember to have noticed any reports of bad effects observed from its use, and considering the number of non-diabetic persons who use it habitually as a substitute for sugar in the hope of counteracting an unfashionable tendency to plumpness we ought to have heard of these injurious effects if they commonly occur. I cannot say anything about dulcin and it seems to be useless to make experiments with a comparatively unknown substance when we possess one of well-tried safety and utility. Of other fruits which contain very little sugar may be mentioned oranges (about Christmas time), cherries, apricots, cranberries, and bilberries. Kraus, jun., of Carlsbad, has invented a method of preparing fruit for diabetics by repeated stewing in successive portions of water which are then thrown away and a little saccharin with cloves or cinnamon added to the fruit to restore to it some degree of flavour. Such fruits contain only a low percentage of sugar and can be obtained in London. The following analyses were made for the *British Medical Journal*:—

Analyses of Preserved Fruit Prepared by Mr. K. Blackley, of 17, Oxford street, London.

Fruit.	Percentage of reducing sugars present after treatment with saccharin.
Plums	2 55 per cent.
Gooseberries	1 99 "
Cherries	3 35 "

Undoubtedly, the greatest difficulty in the feeding of diabetic patients arises from the need to deny them both bread and potatoes. As already explained, the various bread substitutes are not entirely [illegible] at contain little or no starch are [illegible] pleasant they are to the [illegible] starch they are sure to contain. Besides they are by no means inexpensive, and while quite beyond the reach of the poor their cost is a matter of some consideration to all persons of moderate means who have many demands upon their incomes. The best white bread contains about 60 per cent. of starch and coarse brown bread about 50 per cent., and if we allow the very moderate quantity of an ounce three times a day we are giving 600 or 700 grains of starch in substances, and it is to be feared that few patients would be content to use so little. If we give some bread of gluten bread this contains about 1000 grains of starch. Potato material, which is more than many diabetics can take.

Can anyone tell me why patients are [illegible] eat toast without butter as if toasted bread is a way deprived of its starch, of course and that the toasting effect is to destroy so much of its starchy [illegible] weight, that contains a much higher percentage of starch than bread? Yet white toast is so frequently used and invariably [illegible] that persons have [illegible] under, although they contain only a small [illegible] starch, 15 per cent. [illegible] old. [illegible] over 500 grains of starch [illegible] the actual quantity of starch [illegible] food, for, as a [illegible] food [illegible]

marked individual peculiarities in this respect, but as a rule potatoes are tolerated better than an equivalent quantity of bread, by which I mean a quantity of bread containing the same amount of carbohydrates, and as the bulk of potato is three to four times as great it presents undoubted advantages. Six ounces of potatoes are quite enough for at least one meal and with the other permitted articles of diet would enable the patient to dispense altogether with any bread substitutes.

Bread is best given in the form of toast. Toast contains about 320 grains of sugar-forming carbohydrates per ounce and must therefore be given with caution; from an ounce to an ounce and a half is as little as a patient can do with at a meal, so that we see he may easily take the equivalent of 1000 or 1500 grains of sugar in a day, and unless his capacity for assimilating sugar is pretty good he is better without it.

Alcohol should be generally prescribed in the form of Scotch whisky or the light wines of France and Germany. Scotch whisky generally contains no sugar and, as has been seen, has a high heat-giving value, but it should not be allowed where there is any gastric disturbance, such as is frequently present in elderly diabetics; for these it is much better to use the light wines of France and Germany diluted with mineral water. As a rule we should not yield to the desire of our patients to drink beer unless they will be content to take it in the form of Harvey's Sugar-free Pale Ale. Ordinary bitter beer contains about 500 grains of sugar per pint, which is of course not a very large amount if the patient is willing to give up an equivalent amount of other carbohydrate-containing food, but it is often neither possible nor desirable for him to do this.

If we are to proceed safely in making these additions to the diet of our patients we should be careful to allow each of these "extras" separately and to yield no further until the result has been ascertained by careful analysis of the urine. When the patient has a sufficient diet we should do well to maintain a sternly uncompromising attitude upon the question of further concessions. Even where the added articles of diet are quite well borne it is very necessary for their effect to be watched, and in order to check the accumulation of sugar in the body we should recommend our patients to submit from time to time to what have been already alluded to as "carbohydrate fasts"; that is to say, a patient should one day a week abstain altogether from the various extras which may have been allowed, and if at any time there seems to be a tendency for the sugar to rise strict diet should be taken for a week or two. It is only by such precautions that these indulgences can be permitted. The following tables are arranged as examples of what we may do on the ascending scale when we desire to add a certain amount of carbohydrates:—

B Diet.	Heat units.	Carbohydrates in grains.
Two ounces of bacon	540	..... —
Three eggs	225	..... —
Two ounces of butter	480	..... —
Two ounces of cheese	350	..... —
One pint of milk	354	 400
Six ounces of cooked meat ...	210	..... —
Six ounces of Callard's bread, &c.	50	 175
Six ounces of green vegetables	50	 250
Six ounces of potatoes	100	 500
One pint of tea	0	 0
Half a pint of bouillon	0	 0
Totals	2359	 1325
With half a pint of claret (50)	2409	
With two ounces of whisky (210)	2569	

If the above diet is tolerated we may proceed to the next:—

C Diet.	Heat units.	Carbohydrates in grains.
Two ounces of fat bacon ...	540	..... —
Three eggs	225	..... —
Two ounces of butter ...	480	..... —
Three ounces of cheese	350	..... —
One ounce of cream	60	..... —
One pint of milk	354	 400
Six ounces of cooked meat ...	210	..... —
Twelve ounces of green vegetables	50	 250
Six ounces of potatoes	100	 500
Four ounces of toast	372	 1276
Two ounces of Callard's sponge cakes	50	..... —
Four ounces of fruit	10	 40
Half a pint of bouillon	0	 0
One pint of tea	0	 0
Four ounces of coffee	0	 0
Totals	2801	 2466
With half a pint of claret (50)	2851	
With two ounces of whisky (210)	3011	

In determining the value of these diets we must not be content merely to judge by the effect upon the urine, for it is quite natural that where the carbohydrates are increased there should be a greater excretion of sugar. The point is whether the patient is assimilating a considerable proportion of the carbohydrates allowed. The following cases are fairly comparable and serve to show how very differently these diets may act.

CASE 1.—A man, aged 34 years, was admitted to the hospital on Dec. 8th, 1899, complaining of loss of flesh, polyuria, and thirst of six months' duration. He was passing about 1200 grains of sugar per diem. As his weight was 116 pounds he required for that a diet containing 2030 heat units and in addition for the 1200 grains of sugar which he was excreting he required 320 heat units, being a total of 2350. He was allowed A diet with two ounces of whisky which afforded 2400 heat units and contained certainly not more than 500 grains of carbohydrates. Upon this diet he excreted on an average about 800 grains of urea, so that from the decomposition of albumin he manufactured 1600 grains of carbohydrates in his body in addition to the 500 taken as food, supplying a total of 2100 grains which went to his tissues for consumption. During the same time he excreted an average of about 700 grains of sugar, so that he consumed the balance of 1400 grains. According to Bouchard's table this man in health would consume over 4000 grains of sugar. By Dec. 18th he had gained four pounds in weight and was then allowed in addition six ounces of potato estimated to contain 500 grains of starch and worth about 50 heat units. His urea excretion remained about the same, so that he had now 1000 grains of sugar derived from the carbohydrates of his food and 1600 derived from the albumin, or a total of 2600 grains. The sugar excretion remained also about the same, nearly 800 grains, so that upon this diet he assimilated 1800 grains, as against 1400 with the smaller quantity of carbohydrates. By Dec. 26th he had gained another four pounds and therefore was allowed four ounces of toast which contained 1276 grains of starch. Upon this diet the total carbohydrates amounted to 2026 grains, the amount of urea diminished to about 520 grains per diem, making an average of 1040 grains of carbohydrates manufactured from the albumin of the food. The total, therefore, of sugar supplied to the tissues was 3066 grains; of this he excreted about 900 grains, so that he assimilated 2166. The toast was then omitted from the diet. The result of this was to diminish the sugar excretion to a little over 400 grains, but as the total of sugar derived from carbohydrates and the albumin of the diet did not amount to more than 2000 grains he was not assimilating more than 1600. If you have been able to follow this you would see that he actually assimilated the least sugar upon the strictest diet and the most sugar upon the most liberal diet, while the difference between the sugar excretion on A diet (525 grains) and upon C diet (824 grains) was not so very great. By Jan. 13th, 1900, the patient had gained in all 14 pounds, and he left the hospital at his own request, having been in little more than a month. The next case to which I wish to draw your attention is an exact converse.

CASE 2.—The patient, a man, aged 39 years, was admitted into the General Hospital on Feb. 16th, 1900, complaining of thirst, weakness, and polyuria. He weighed 127 pounds and was passing about 800 grains of sugar daily, for which he required a diet containing about 2400 heat units. He was allowed diet A without alcohol or cream, which was really not sufficient for his needs as it contained only 2070 heat units. He excreted upon this diet about 800 grains of urea, which would furnish about 1600 grains of sugar, and there were 500 grains of sugar derived from the diet, making a total of

2100. Against this he excreted about 200 grains, leaving 1900 grains which must have been consumed in his body. *His normal consumption of sugar would be over 5000 grains.* By Feb 24th, in spite of the diet being rather short, he had [illegible] wed in addition six [illegible] ich would be worth about 900 grains of sugar. Upon this diet he excreted only 600 grains of urea, so that we have 2600 grains of sugar to account for. But he excreted 930 grains of sugar, so that he assimilated 1670 grains. By March 3rd he had gained four pounds, but the sugar having gone up he was put back to the A diet. Upon this he excreted 240 grains of sugar and 660 grains of urea, giving a total of 1580 grains of sugar consumed. By March 19th he had gained eight pounds. He was then allowed six ounces of potatoes Upon this he excreted 850 grains of sugar and 700 grains of urea, so that he assimilated 1550 grains.

These figures show that this patient assimilated the largest quantity of sugar upon a dietary which was very poor in carbohydrates and hardly sufficient for his needs We must recollect, however, that he was in bed and therefore required less than he would have done if he had been walking about.

CASE 3.—The patient, who was 18 years of age, was admitted to the General Hospital on Jan. 23rd, 1900, complaining of thirst, polyuria, and wasting of three weeks' duration. He weighed on admission 90 pounds and was passing over 2000 grains of sugar daily, so that he would require about 2200 heat units if he were going about and about 2100 when in bed. To supply this he was allowed diet A without alcohol or cream, which furnishes 2070 heat units and contains 500 grains of carbohydrates. Upon this diet he excreted about 700 grains of sugar and 500 grains of [illegible] 1000 grains of sugar. [illegible] normal consumption [illegible] Feb 9th a pint of [illegible] ds he excreted about 900 grains of sugar and 700 grains of urea, still showing an assimilation of about 1000 grains of sugar On Feb 13th he was given six ounces of potatoes daily. Upon this he excreted about the same quantity of sugar and 610 grains of urea, showing an assimilation of about 1700 grains of sugar On March 5th he was allowed four ounces of toast upon which he excreted 1596 grains of sugar and 610 grains of urea. Here the carbohydrates derived from food amounted to 2676 grains, and those from the decomposition of albumin to 1720 grains, or a total of 3996 *If we subtract from this* [illegible] ted we shall see that he was [illegible] In spite of this he did not gain [illegible] after being in about nine weeks weighing no more than when he came. The only explanation which I can give of the failure of the diet to increase his weight in spite of the large amount of sugar assimilated is that the younger the patient the larger is the amount of sugar demanded by the tissues, so that although as great as, or greater than, that assimilated by the older patient it was all consumed and none stored up as fat. This shows the need *there is in young patients for giving them a relatively richer* diet and where possible a moderate allowance of carbohydrates That patients can gain weight very satisfactorily upon strict diet is shown by the following case.

CASE 4.—A man, aged 28 years, consulted me in March, 1899. At that time he weighed 122 pounds and on strict diet excreted 144 grains of sugar. The diet which he was allowed gave about 2240 heat units, against 2160 which his weight and sugar excretion required Upon this diet by June 28th he had gained 25 pounds and there was no sugar in his urine He was then allowed to take potatoes and milk, his diet being estimated to contain 1700 grains of carbohydrates His normal consumption of sugar would be 5460 grains. On this he passed about 160 grains of sugar daily and gained nine pounds in the next three months. Toast was added, so that the total carbohydrates in his diet were estimated to amount to 2760 grains Upon this in three months he gained six pounds more, the daily excretion of sugar amounting to 240 grains. As in January the sugar shows a tendency to go up he was put back upon a strict diet for a time, but the result of a year's treatment is a gain of 30 pounds and a considerable improvement in health and strength. At the present time this gentleman is taking C diet which affords him [illegible] carbohydrates He is passing 35 ounces of [illegible] containing 0·7 per cent. of sugar, giving a total of 165 grains of sugar and 1·1 per cent. of urea, giving a total of [illegible] urea. His figures

therefore, are supplied with 2474 grains of sugar derived from carbohydrates and all amin in the food, and as he *excretes only 169 grains he consumes 3305. He thus is able* to consume about two-thirds of the normal amount of sugar. Both the father and grandfather of this patient died from diabetes.

It is not very easy for an audience to follow a speaker who is dealing with a number of figures and I am afraid I have somewhat tried your patience, but if we are to improve upon present methods it can only be by making them more exact. We must be willing to measure and to weigh repeatedly the urinary excreta of our patients and we must ask our patients to weigh their food. After all, this is not so troublesome as it may at first appear, for if the food is weighed a few times the quantity can afterwards be measured by the eye with sufficient accuracy. Our calculations, too, are not by any means difficult nor do they involve much loss of time, but no doubt they become easier when you are accustomed to them, and in this respect the specialist has an advantage

I append a table which I hope may be found useful. It gives in parallel columns the carbohydrates per cent. and in grains per ounce of a large number of articles of food which diabetics may desire to take. By means of this table it is very easy to calculate the amount of sugar which will be formed by a given quantity of any of the desired articles. The prescriber must, of course, use his discretion as to whether any trial of this sort can be allowed and as to the amount permitted.

Table showing the Carbohydrates or Sugar forming Substances contained in Various Articles of Diet which may be used in Limited Quantities by Diabetic Patients.

	Carbohydrates	
	Per cent.	Grains per ounce
Bread and bread substitutes—		
Toast	73 00	316 9
White bread	63 00	273 3
Brown bread	49 25	213 9
Gluten bread	26 10	124 0
Almond bread	12 67	55 0
Callard's brown loaf	6 75	29 2
Proteno bread	2 7	11 7
Vegetables—		
New potatoes	16 00	[illegible]
Old potatoes	20 00	97 10
Salsify	15 00	65 55
Ground artichokes	14 00	61 1[illegible]
Green peas	12 00	[illegible]
Celery	11 60	[illegible]
Cabbage	11 00	[illegible]
Radishes	8 10	[illegible]
French beans	6 00	[illegible]
Cauliflower	4 [illegible]	1[illegible]
Spinach	4 44	[illegible]
Asparagus	3 67	[illegible]
Lettuce	[illegible]	[illegible]
Endive	2 39	[illegible]
Cucumber	2 [illegible]	[illegible]
Fruits—		
Cherries	10 0	[illegible]
Apples	[illegible]	[illegible]
Pears	8 0	[illegible]
Ripe gooseberries	7 6	[illegible]
Green gooseberries	7 4	[illegible]
Red currants	[illegible]	[illegible]
Black currants	5 3	[illegible]
Strawberries	[illegible]	[illegible]
Bilberries	5 4	[illegible]
Greengrages	4 3	[illegible]
Apricots	4 0	[illegible]
Plums	[illegible]	[illegible]
Sour oranges	[illegible]	[illegible]
Cranberries	2 0	[illegible]
Milk—		
Condensed [illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
Cow's [illegible]	[illegible]	[illegible]
[illegible] milk	[illegible]	[illegible]
Cream	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

marked individual peculiarities in this respect, but as a rule otatoes are tolerated better than an equivalent quantity of bread, by which I mean a quantity of bread containing the same amount of carbohydrates; and as the bulk of potato is three to four times as great it presents undoubted advantages. Six ounces of potatoes are quite enough for at least one meal and with the other permitted articles of diet would enable the patient to dispense altogether with any bread substitutes.

Bread is best given in the form of toast. Toast contains about 320 grains of sugar-forming carbohydrates per ounce and must therefore be given with caution; from an ounce to an ounce and a half is as little as a patient can do with at a meal, so that we see he may easily take the equivalent of 1000 or 1500 grains of sugar in a day, and unless his capacity for assimilating sugar is pretty good he is better without it.

Alcohol should be generally prescribed in the form of Scotch whisky or the light wines of France and Germany. Scotch whisky generally contains no sugar and, as has been seen, has a high heat-giving value, but it should not be allowed where there is any gastric disturbance, such as is frequently present in elderly diabetics; for these it is much better to use the light wines of France and Germany diluted with mineral water. As a rule we should not yield to the desire of our patients to drink beer unless they will be content to take it in the form of Harvey's Sugar-free Pale Ale. Ordinary bitter beer contains about 500 grains of sugar per pint, which is of course not a very large amount if the patient is willing to give up an equivalent amount of other carbohydrate-containing food, but it is often neither possible nor desirable for him to do this.

If we are to proceed safely in making these additions to the diet of our patients we should be careful to allow each of these "extras" separately and to yield no further until the result has been ascertained by careful analysis of the urine. When the patient has a sufficient diet we should do well to maintain a sternly uncompromising attitude upon the question of further concessions. Even where the added articles of diet are quite well borne it is very necessary for their effect to be watched, and in order to check the accumulation of sugar in the body we should recommend our patients to submit from time to time to what have been already alluded to as "carbohydrate fasts"; that is to say, a patient should one day a week abstain altogether from the various extras which may have been allowed, and if at any time there seems to be a tendency for the sugar to rise strict diet should be taken for a week or two. It is only by such precautions that these indulgences can be permitted. The following tables are arranged as examples of what we may do on the ascending scale when we desire to add a certain amount of carbohydrates:—

B Diet.	Heat units.	Carbohydrates in grains.
Two ounces of bacon	540	..... —
Three eggs	225	..... —
Two ounces of butter	480	..... —
Two ounces of cheese	350	..... —
One pint of milk	354	 400
Six ounces of cooked meat ...	210	..... —
Six ounces of Callard's bread, &c.	50	 175
Six ounces of green vegetables	50	 250
Six ounces of potatoes	100	 500
One pint of tea	0	 0
Half a pint of bouillon	0	 0
Totals	2359	 1325
With half a pint of claret (50)	2409	
With two ounces of whisky (210)	2569	

If the above diet is tolerated we may proceed to the next:—

C Diet.	Heat units.	Carbohydrates in grains.
Two ounces of fat bacon ...	540	..... —
Three eggs	225	..... —
Two ounces of butter	480	..... —
Three ounces of cheese	350	..... —
One ounce of cream	60	..... —
One pint of milk	354	 400
Six ounces of cooked meat .	210	..... —
Seven ounces of green vegetables	50	 250
Six ounces of potatoes	100	 500
Four ounces of toast	372	 1276
Two ounces of Callard's sponge cakes	50	..... —
Four ounces of fruit	10	 40
Half a pint of bouillon	0	 0
One pint of tea	0	 0
Four ounces of coffee	0	 0
Totals	2801	 2466
With half a pint of claret (50)	2851	
With two ounces of whisky (210)	3011	

In determining the value of these diets we must not be content merely to judge by the effect upon the urine, for it is quite natural that where the carbohydrates are increased there should be a greater excretion of sugar. The point is whether the patient is assimilating a considerable proportion of the carbohydrates allowed. The following cases are fairly comparable and serve to show how very differently these diets may act.

CASE 1.—A man, aged 34 years, was admitted to the hospital on Dec. 8th, 1899, complaining of loss of flesh, polyuria, and thirst of six months' duration. He was passing about 1200 grains of sugar per diem. As his weight was 116 pounds he required for that a diet containing 2030 heat units and in addition for the 1200 grains of sugar which he was excreting he required 320 heat units, being a total of 2350. He was allowed A diet with two ounces of whisky which afforded 2400 heat units and contained certainly not more than 500 grains of carbohydrates. Upon this diet he excreted on an average about 800 grains of urea, so that from the decomposition of albumin he manufactured 1600 grains of carbohydrates in his body in addition to the 500 taken as food, supplying a total of 2100 grains which went to his tissues for consumption. During the same time he excreted an average of about 700 grains of sugar, so that he consumed the balance of 1400 grains. According to Bouchard's table this man in health would consume over 4000 grains of sugar. By Dec. 18th he had gained four pounds in weight and was then allowed in addition six ounces of potato estimated to contain 500 grains of starch and worth about 50 heat units. His urea excretion remained about the same, so that he had now 1000 grains of sugar derived from the carbohydrates of his food and 1600 derived from the albumin, or a total of 2600 grains. The sugar excretion remained also about the same, nearly 800 grains, so that upon this diet he assimilated 1800 grains, as against 1400 with the smaller quantity of carbohydrates. By Dec. 26th he had gained another four pounds and therefore was allowed four ounces of toast which contained 1276 grains of starch. Upon this diet the total carbohydrates amounted to 2026 grains, the amount of urea diminished to about 520 grains per diem, making an average of 1040 grains of carbohydrates manufactured from the albumin of the food. The total, therefore, of sugar supplied to the tissues was 3066 grains; of this he excreted about 900 grains, so that he assimilated 2166. The toast was then omitted from the diet. The result of this was to diminish the sugar excretion to a little over 400 grains, but as the total of sugar derived from carbohydrates and the albumin of the diet did not amount to more than 2000 grains he was not assimilating more than 1600. If you have been able to follow this you would see that he actually assimilated the least sugar upon the strictest diet and the most sugar upon the most liberal diet, while the difference between the sugar excretion on A diet (525 grains) and upon C diet (824 grains) was not so very great. By Jan. 13th, 1900, the patient had gained in all 14 pounds, and he left the hospital at his own request, having been in little more than a month. The next case to which I wish to draw your attention is an exact converse.

CASE 2.—The patient, a man, aged 39 years, was admitted into the General Hospital on Feb. 16th, 1900, complaining of thirst, weakness, and polyuria. He weighed 127 pounds and was passing about 600 grains of sugar daily, for which he required a diet containing about 2400 heat units. He was allowed diet A without alcohol or cream, which was really not sufficient for his needs as it contained only 2070 heat units. He excreted upon this diet about 800 grains of urea, which would furnish about 1600 grains of sugar, and there were 500 grains of sugar derived from the diet, making a total of

2100. Against this he excreted about 260 grains, leaving 1900 grains which must have been consumed in his body. His normal consumption of sugar would be over 5000 grains. By Feb. 24th, in spite of the diet being rather short, he had gained three pounds and was then allowed in addition six ounces of potatoes and a pint of milk, which would be worth another 250 heat units and would furnish about 900 grains of sugar. Upon this diet he excreted only 600 grains of urea, so that we have 2600 grains of sugar to account for. But he excreted 930 grains of sugar, so that he assimilated 1670 grains. By March 3rd he had gained four pounds, but the sugar having gone up he was put back to the A diet. Upon this he excreted 240 grains of sugar and 660 grains of urea, giving a total of 1580 grains of sugar consumed. By March 19th he had gained eight pounds. He was then allowed six ounces of potatoes. Upon this he excreted 850 gra [illegible] so that he ass [illegible] the largest quantity of sugar upon a dietary which was very poor in carbohydrates and hardly sufficient for his needs. We must recollect, however, that he was in bed and therefore required less than he would have done if he had been walking about.

CASE 3.—The patient, who was 18 years of age, was admitted to the General Hospital on Jan. 23rd, 1900, complaining of thirst, polyuria, and wasting of three weeks' duration. He weighed on admission 90 pounds and was passing over 2000 grains of sugar daily, so that he would require about 2200 heat units if he were going about and about 2100 when in bed. To supply this he was allowed diet A without alcohol or cream, which furnishes 2070 heat units and c [illegible] he ex [illegible] urea, [illegible] His weight [illegible] of sugar would be 4860 grains. On Feb. 9th a pint of milk was added to his diet and upon this he excreted about 900 grains of sugar and 700 grains of urea, still showing an assimilation of about 1000 grains of sugar. On Feb. 13th he was given six ounces of potatoes daily. Upon this he excreted about the same quantity of sugar and 610 grains of urea, showing an assimilation of about 1700 grains of sugar. On March 5th he was allowed four ounces of toast upon which he excreted 1596 grains of sugar and 610 grains of urea. Here the carbohydrates derived from food amounted to 2670 grains, and those from the decomposition of albumin to 1220 grains, or a total of 3886. If we subtract from this the 1596 grains of sugar excreted we shall see that he was able to assimilate 2300 grains. In spite of this he did not gain weight and left the hospital after being in about nine weeks weighing no more than when he came. The only explanation which I can give of the failure of the diet to increase his weight in spite of the large amount of sugar assimilated is that the younger the patient the larger is the amount of sugar demanded by the tissues, so that although as great as, or greater than, that assimilated by the older patient it was all consumed and none stored up as fat. This shows the need there is in young patients for giving them a relatively richer diet and where possible a moderate allowance of carbohydrates. That patients can gain weight very satisfactorily upon strict diet is shown by the following case.

CASE 4.—A man, aged 28 years, consulted me in March, 1900. At that time he weighed 123 pounds and on strict diet excreted 141 grains of sugar. The diet which he was allowed gave about 2240 heat units against 2168 which his weight and sugar excretion required. Upon this diet by June 28th he had gained 25 pounds and there was no sugar in his urine. He was then allowed to take potatoes and milk, his diet being estimated to contain 1500 grains of carbohydrates. His normal consumption of sugar would be 5400 grains. On this he passed about 100 grains of sugar daily and gained nine pounds in the next three months. Toast was added, so that the total carbohydrates in his diet were estimated to amount to 2700 grains. Upon this for three months he gained six pounds more, the daily excretion of sugar amounting to 240 grains. As in January there was a tendency to go up he was put back upon strict diet for a time, but the result of a year's treatment is a gain of 40 pounds and a corresponding improvement in his strength. At the present time this gentleman is taking C diet, which affords him 2400 heat units and 240 grains of carbohydrates. He is passing 55 ounces of urine containing 0.7 per cent. of sugar, giving a total of 107 grains of sugar, and 1.1 per cent. of urea, giving a total of [illegible] grains of urea. He therefore, are supplied with 3474 grains of sugar derived from carbohydrates and albumin in the food, and as he excretes only 169 grains he consumes 3305. He thus is able to consume about two-thirds of the normal amount of sugar. Both the father and grandfather of this patient died from diabetes.

It is not very easy for an audience to follow a speaker who is dealing with a number of figures and I am afraid I have somewhat tried your patience, but if we are to improve upon present methods it can only be by making them more exact. We must be willing to measure and to weigh repeatedly the urinary excreta of our patients and we must ask our patients to weigh their food. After all, this is not so troublesome as it may at first appear, for if the food is weighed a few times the quantity can afterwards be measured by the eye with sufficient accuracy. Our calculations, too, are not by any means difficult nor do they involve much loss of time, but no doubt they become easier when you are accustomed to them, and in this respect the specialist has an advantage.

I append a table which I hope may be found useful. It gives in parallel columns the carbohydrates per cent. and in grains per ounce of a large number of articles of food which diabetics may desire to take. By means of this table it is very easy to calculate the amount of sugar which will be formed by a given quantity of any of the desired articles. The prescriber must, of course, use his discretion as to whether any trial of this sort can be allowed and as to the amount permitted.

Table showing the Carbohydrates or Sugar forming Substances contained in Various Articles of Diet which may be allowed in Limited Quantities by Diabetic Patients.

	Carbohydrates	
	Per cent.	Grains per ounce
Bread and bread substitutes—		
Toast	73.00	319.0
White bread	63.00	275.0
Brown bread	49.25	215.0
Gluten bread	26.10	113.0
Almond bread	12.67	55.0
Callard's brown loaf	6.75	[illegible]
Protene bread	2.7	11.7
Vegetables—		
New potatoes	16.00	[illegible]
Old potatoes	20.00	87.40
Salsify	15.00	65.55
Ground artichokes	14.00	61.18
Green peas	12.00	[illegible]
Celery	11.13	[illegible]
Cabbage	11.63	[illegible]
Radishes	8.18	[illegible]
French beans	5.00	[illegible]
Cauliflower	4.55	[illegible]
Spinach	4.41	[illegible]
Asparagus	3.67	[illegible]
Lettuce	2.73	[illegible]
Endive	2.53	[illegible]
Cucumber	[illegible]	[illegible]
Fruits—		
Cherries	10.0	[illegible]
Apples	[illegible]	[illegible]
Pears	[illegible]	[illegible]
Ripe gooseberries	7.[illegible]	[illegible]
Green gooseberries	[illegible]	[illegible]
Red currants	[illegible]	[illegible]
Black currants	[illegible]	[illegible]
Strawberries	[illegible]	[illegible]
Bilberries	[illegible]	[illegible]
Green gages	[illegible]	[illegible]
Apricots	[illegible]	[illegible]
Plums	[illegible]	[illegible]
Sour oranges	[illegible]	[illegible]
Cranberries	[illegible]	[illegible]
Milk—		
Cow's milk (average)	[illegible]	[illegible]
Cow's milk	[illegible]	[illegible]
Skimmed milk	[illegible]	[illegible]
Cream	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

	Alcohol per cent.	Sugar. Per cent.	Sugar. Grains per ounce.
Beer—			
Burton bitter beer	5·55	5·65	24·4
German lager beer	3·95	5·78	24·9
Harvey's sugar free	[illegible]	0·20	0·8
Wine—			
Moselle (still)	12·06	2·0	8·7
Hock "	11·43	2·5	10·9
Bordeaux claret	9·40	2·3	11·0
Chablis	10·30	1·88	7·8
Spirits—			
Scotch whisky	49·40	0·00	—
French brandy	55·00	0·00	—

I fear that I have taken up so much of your time in discussing questions of diet that I must omit all detailed reference to other modes of treatment. I should like to be allowed to say something of the great importance in mild cases of diabetes of exercise and abundance of fresh air, but in advanced cases while fresh air still does good exercise must be very moderately indulged in, and great attention must be paid to the avoidance of fatigue which is too often fatal. For this reason if for no other we ought not to send advanced cases of diabetes to travel long distances in order to undergo cures at reputed health resorts. I do not undervalue these places, indeed I appreciate very highly the skilled and careful treatment which our patients receive from the local practitioners, but it is neither fair to them nor to our patients to send the latter away from their homes when they are suffering from advanced diabetes, by which I mean cases where, in spite of strict diet, the quantity of sugar remains large and there is general failure of nutrition with acetone and diacetic acid in the urine.

In conclusion, permit me to thank you for the attention with which you have listened to this address and to ask you if I have in any way arrested your attention to read it over carefully when it appears in print, as I hope will shortly be the case, and where you have the opportunity I trust you will endeavour to put into practice the principles which I have tried this afternoon to lay before you.

The Milroy Lectures

ON

SUMMER DIARRHŒA,

WITH SPECIAL RELATION TO CAUSATION AND PREVENTION.

Delivered before the Royal College of Physicians of London on March 8th, 13th, and 15th, 1900,

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LECTURE II.[1]

Delivered on March 13th, 1900.

ETIOLOGY.

MR. PRESIDENT AND GENTLEMEN,—Diarrhœa is a symptom of intestinal irritation. The irritant may be of the nature of a drug, as arsenic or colocynth, or it may be of bacterial origin—that is to say, due to micro-organisms or to their toxins elaborated either within or without the body. The action may be in the first place directly local on the intestine or it may be due to the excretion of an irritant from the blood by the intestinal route. So far as summer diarrhœa is concerned there seems little reasonable doubt that it belongs to the microbic class and is a local affection that afterwards becomes general. It seems probable that summer diarrhœa may result from infection of the gastro-intestinal tract by various organisms.

[1] [illegible] in THE LANCET of May 12th, 1900, p. 1344.

PREDISPOSING FACTORS.

The influence of age as a predisposing factor in the incidence of the disease is widely recognised and its main facts are incidentally [illegible] these lectures. One of the [illegible] iron-ment of early childh[illegible] the epidemic spread of [illegible] due in many instances to [illegible] position with regard to [illegible] the disease has been ably [illegible] as follows: "The enor[illegible] of deaths from infantile diarrhœa takes place before the end of the first year; there is a remarkable [illegible] and a still more remarkable [illegible] child enters with the third [illegible] is concerned."

Sex.—There is a slight but distinct preponderance of [illegible] cy upwards, but the reason [illegible] in this as in some other [illegible] t influence on the disease. [illegible] third quarter of the year—show double the number of deaths compared with the deaths from the same cause in Great Britain during the remaining nine months. Dr. E. W. Hope has admirably summarised the influence of wet and dry seasons directly upon street environment and indirectly upon epidemic diarrhœa in the following passage[3]: "We have the strongest evidence that a cool and wet summer and autumn will minimise the deaths from infantile diarrhœa, while a hot and dry summer and autumn will raise them to a maximum. Heavy falls of rain in this connexion are invariably followed by immense benefit and the close connexion between the thorough washing of streets, footwalks, roofs, gutters, drains, and sewers and the diminution of autumnal diarrhœa is very striking. It is an almost invariable experience that the choleraic disease of the summer and autumn mon[illegible] low and declines to its minimu[illegible] than continuous rainfall, occur. [illegible] a fine and warm summer the [illegible] dust and dirt and filth, largely [illegible] rei[illegible] es rise [illegible] an[illegible] follows [illegible] diarrhœa has already been shown to be essentially a disease of towns, where the brunt of its attack falls upon the poorer classes. Dr. Holt of New York, speaking of the general infant mortality, says: "In the well-to-do classes with the best care the mortality from all causes during infancy does not exceed 2 or 3 per cent., as against a general mortality for this period among all classes of about 20 per cent." Statistics show that a considerable amount of this disproportionate infantile mortality among the poor is due to epidemic diarrhœa. The predisposing influence of urban life forms one of the most striking features of this disease. It may, however, be of interest to mention a table which was drawn up in answer to a circular letter addressed to the medical officers of health of 30 great towns, excluding London. The object was to gain, if possible, some information as to the relation of certain conditions to the prevalence or unequal incidence of diarrhœa in those towns. The questions asked were as to the general width and paving of roads, the number and paving of courts and alleys, and the kind of scavenging applied to both, especially with reference to hosing of roadways and of courts. Various fallacies were involved, the chief one being perhaps the dilution of general results in a large town by the excessive rates of diarrhœa districts. It was found impossible to arrive at any definite conclusions, but at the sa[illegible] general impression from the table [illegible] and many courts were associated w[illegible] Disadvantages of this kind may be [illegible] by abundant rainfall and by steep gradients, which favour the action of wind and rain in clearing away dust. The local conditions of diarrhœal districts in the great towns offer a promising field for further investigations, and this inquiry might with advantage be extended so as to deal with the physical environment of the diarrhœa districts of the towns mentioned, whereby a more accurate collection of data would be secured for purposes of comparison.

The hand-feeding of infants.—The great predisposing

[2] J. T. Fotheringham: Canadian Practitioner and Review, p. 549.
[3] Public Health, July, 1899, p. 663.

fluence of artificial feeding in the causation of infantile iarrhœa has been carefully investigated, by various bservers. Chief among them may be mentioned Dr opo, the medical officer of health of Liverpool, who for any [illegible] o the ubjec [illegible] from is re [illegible] 'It is rfec. [illegible] [illegible] itions ffecting the infant so far as feeding and the mount of parental care given it are concerned will main the same from year's end to year's end, but is only during the one season of autumn that e mortality from forms of disease affecting the imentary system becomes excessive, that excess being lmost in an exact ratio with the degree of dryness and the eight of the temperature The circumstances attending 098 of the fatal cases of infantile diarrhœa during last ummer and autumn have been made the subject of careful ivestigation, they were cases taken consecutively and the iquiry revealed many points of interest. The average age

These calculations were based upon the information obtained at vaccination stations and elsewhere which showed the relative proportion of infants fed in the various ways. So far as the actual figures go it was found that out of 676 deaths of infants under six months of age only 90 had been fed upon the breast, while the remaining 560 received food of the most miscellaneous description. In [illegible] of the total cases the parents were intemperate and in 115 the deaths occurred in houses unfit for human habitation." These observations of Dr. Hope are so much to the point that there need be no apology for quoting them at length. There can be no doubt that artificial feeding has a great predisposing influence in determining the mortality and probably also the incidence of summer diarrhœa, while at the same time it may sometimes convey the specific poison or poisons that cause the disease It may act both by direct irritation of the intestine by the presence of indigestible food and indirectly by lessening the resisting powers of the child to invasion. By the courtesy of Dr. Hope I am enabled to present the following interesting and suggestive table

TABLE IX.—TAKEN FROM DR HOPE'S REPORT FOR THE LAST QUARTER OF THE YEAR 1899, CONTAINING THE RETURNS OF INFANTILE DIARRHŒA FROM JULY 1ST TO SEPT. 14TH IN THAT YEAR.

Total number of cases	1095	Total number of [illegible] deaths from [illegible] complaints	[illegible]
Total number of families	1062	Total number of children in [illegible]	[illegible]
Total number of houses	1078	Total number of families [illegible]	[illegible]
Total number of children born	4574	Total number of families in which the [illegible] to be intemperate	[illegible]
Total number of children living	22[illegible]	Total number of cases in which [illegible] suffering from similar symptoms	[illegible]
Total percentage of deaths	50·9	Total number of cases in [illegible]	[illegible]
Total number of families in which there have been more than one death	18	Total number of cases in which [illegible] resident in Liverpool	3
Total number of cases in which there were twins	11	Total number of houses [illegible]	1
Average age in months	7·[illegible]	Total number of back-to-back houses	[illegible]

	Under 3 months.					From 3 to 6 months					From 6 to 12 months.					Above 12 months.					Total.	[illegible]	[illegible]	[illegible]	[illegible]
	English	Irish	Scotch	Welsh	Foreign	English	Irish	Scotch	Welsh	Foreign	English	Irish	Scotch	Welsh	Foreign	English	Irish	Scotch	Welsh	Foreign					
Breast	41	11	1	1	2	[illegible]	9	1	[illegible]	—	[illegible]	11	2	1	1	31	11	4	3	—	[illegible]	6	[illegible]	3	[illegible]
Breast and bottle	41	8	—	1	1	27	3	2	1	1	[illegible]	4	1	3	—	[illegible]	3	—	1	—	[illegible]	[illegible]	[illegible]	[illegible]	11
Bottle and artificial food	96	11	2	4	7	123	15	7	7	7	[illegible]	[illegible]		[illegible]	5	[illegible]	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1
Miscellaneous	6	—	—	—	—	[illegible]	—	—	—	—	[illegible]	[illegible]	—	2	1	[illegible]	[illegible]	2	[illegible]	7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	183	30	3	6	10	189	22	10	9	8	[illegible]	[illegible]	[illegible]	2	7	[illegible]	[illegible]	6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

at death was seven and a half months The 1082 families in which the deaths occurred had on the whole been fairly prolific, but particularly unfortunate in rearing their children – In one instance as many as 18 children had been born, 14 having died in infancy, in another instance a woman living had 16 children, 14 of whom died in infancy; another had had 17 children and lost 10, and many instances occurred of families of 12 and upwards with losses averaging 75 per cent Of the total number of children born in these families 51 per cent died in infancy The people among whom the deaths occurred were by no means of the lowest class, in many it would appear that the families were in fairly comfortable circumstances the husbands being men in steady work, and there were in numerous instances evidences of care and attention having been paid to the children. Upwards of 80 per cent. of the deceased infants had been insured in the burial clubs The d[illegible] feature of greatest importance is the method of feeding The figures point to the old conclusion that artificial feeding during the summer and autumn is attended with immense danger to young infants. These investigations, like others that have preceded them, show that with every care there will be a fatality from autumnal summer diarrhœa of about 20 out of every 1000 infants under three months of age fed upon the breast alone, but out of an equal number of infants of the same age artificially fed the mortality from this form of disease rises [illegible] I [illegible] up to [illegible] per 1000 that is [illegible] 15 times as great

THE BACTERIOLOGY OF SUMMER DIARRHŒA.

The bacteriological investigations of the [illegible] is surrounded with great [illegible] chiefly from the fact that the normal [illegible] inhabited by a large variety of [illegible] [illegible] and valuable [illegible] to diarrhœa was reported by Dr. [illegible] Medical Officer of the Local Government [illegible] His inquiry was [illegible] [illegible] a peculiar [illegible] teristic anaerob[illegible] enteritis sporogenes [illegible] from the [illegible] [illegible] [illegible] The same character [illegible] [illegible]

the time to be highly suggestive as to its causative relation to the St. Bartholomew's outbreak. Dr. Andrewes in the course of further investigations found that the bacillus enteritidis sporogenes was present in a majority out of 20 cases of diarrhœa. He is no less cautious than Klein, however, in assigning to the bacillus an active rôle in the causation of diarrhœa.[4] Klein has since isolated the special organism in question in several cases of infantile diarrhœa and cholera nostras and has found it present in water, sewage, manure, and in eight out of ten samples of milk examined. On the other hand he failed to isolate the bacillus in other cases of infantile diarrhœa; nor was he more successful in testing the intestinal evacuations of healthy individuals.[5] Recent investigations by Dr. R. T. Hewlett, however, appear to point to an almost universal distribution of the bacillus enteritidis sporogenes in the human intestine as well as a wide outside distribution. He sums up his results thus[6]: "I have isolated the bacillus enteritidis sporogenes from the dejecta in 12 cases of ulcerative colitis, in one case of ordinary diarrhœa, one case of chronic dysentery, and in 11 out of 13 specimens of normal dejecta from 10 healthy individuals, and the conclusion I have formed is that the organism is probably an inhabitant of the normal digestive tract and frequently to be found in the dejecta; considering the wide distribution of the organism and the resistant nature of the spores this is not unlikely to be the case. I have isolated the bacillus enteritidis sporogenes from road dust, from laboratory dust, from water, and from eight samples of milk out of 15 examined, and the conclusion I have formed is that this organism is probably ubiquitous."

To Dr. Klein belongs the merit of having first investigated the anaerobic organisms in relation to diarrhœa. The field thus opened is a large and promising one, but its complexity seems to have prevented any exhaustive research in that direction up to the present time.

Several valuable contributions have been made to the bacteriology of summer diarrhœa by Dr. W. D. Booker of Baltimore. As physician to the Thomas Wilson Sanatorium for Sick Children he had abundant clinical material and his bacteriological researches were carried out at the Johns Hopkins University. The sanatorium is devoted exclusively to the treatment of summer diarrhœa of children and is open only during the months of June, July, and August. In 1897 he published an article on the subject, containing the following general observations which he expressly stated were in no sense to be taken as positive conclusions. The constant and obligatory bacteria of the healthy milk fæces—viz., bacillus coli communis and bacillus lactis aerogenes—do not disappear in the diarrhœal fæces. The bacillus coli communis is found in all cases, but does not predominate, as is the case in the healthy milk fæces, and rather appears to diminish in numbers, the diminution being in direct proportion to the severity of the disease. The bacillus lactis aerogenes is found in nearly all cases and is generally in greater numbers than in the healthy milk fæces. With the exception of the forms obligatory for the healthy milk fæces no variety of bacteria is found sufficiently constant to be considered from this standpoint as the specific exciter of the disease. Many varieties of bacteria are sometimes found in individual cases of diarrhœa. The greatest number of varieties were found in cases of cholera infantum, a larger number in catarrhal enteritis than in dysenteric enteritis, and the smallest number in the case of a healthy child used for control, in which case only one variety was demonstrated. The actual number of individual bacteria, however, is as great in the healthy milk fæces as in the diarrhœa excreta, but they are less numerous in the discharges of dysenteric enteritis than in those of diarrhœal form. None of the bacteria isolated were found to be capable of multiplying in ordinary hydrant water 48 hours after it had been inoculated; in all such cases negative results were obtained. All the varieties of bacteria are capable of thriving in milk; some varieties produce [illegible] reaction; others render milk acid [illegible]; one variety coagulates milk with alkaline reaction; and some varieties have no apparent action on milk. "Imperfect as this study is," using Dr. Booker's words, "it goes far to establish the important point that not one specific organism but many different varieties are concerned in the etiology of the summer diarrhœa of infants." Booker himself[7] divides cases into [illegible] the species of bacteria appearing to be [illegible] in each, without reference to the clinical features. 1. Proteus vulgaris, numerically prominent. These cases are mostly of serious and chronic character. 2. Micrococci appear of special importance. These cases are usually serious and show general toxic disturbances. 3. The more inconstant varieties of bacteria which seem of importance. These cases are serious with general toxic disturbances. 4. Bacillus coli communis and bacillus lactis aerogenes chiefly found. These cases are mostly mild and of short duration, while the patients as a rule are free from toxic phenomena.

The gist of these observations appears to point to the multiple bacterial origin of the group of diarrhœal diseases described under the heading of "Summer-Diarrhœa." That multiplicity, however, if accepted, does not disturb the relation of this infectious disease to soil and temperature nor to its general method of entry into the body by means of milk, as shown by Ballard. Indeed, as most of these bowel organisms, both normal and pathogenic, thrive in milk, it has been not inaptly suggested that the bacteriology of summer diarrhœa to a great extent is the bacteriology of milk. In leaving this part of the subject it may be remarked that the state of our knowledge as to the bacteriology of epidemic diarrhœa is still very imperfect. A similar remark applies to the diseases in lower animals. The bacteriological investigation of both forms, human and comparative, might possibly or probably furnish data of value not only in preventive, but also in curative, medicine.

THE COMMUNICABILITY OF DIARRHŒA.

The theory of the communicability of the disease has been advanced by several observers. One of the clearest accounts is the classical one already referred to, given by Dr. Bruce Low, of several outbreaks in the rural district of Helmsley in Yorkshire. There were 183 cases in all, divided into four separate outbreaks. In one remarkable group 60 cases followed importation of the disease into the village of Pockley from a distant town. In the 60 cases there was only one that could be clearly traced to exposure to infection from diarrhœal discharges. This view, indeed, agrees with the general experience of medical men. At the same time it should be noted that the degree of communicability appears to vary as in other infectious diseases—for instance, scarlet fever and cholera.

The exact method of communication of diarrhœa is uncertain, but close personal contact with an environment infected by diarrhœal stools appears to be almost always essential, if we may judge from a study of Dr. Low's carefully recorded cases. Speaking generally the part played by house or room infection in the spread of specific infectious diseases is perhaps hardly recognised so fully as it ought to be. In the case of enteric fever medical men are so used to tracing the disease to the agency of water or milk that they are apt to overlook such obvious sources of danger as that of a poor patient lying day after day in bedclothes and bedding more or less soaked with bowel discharges. In a paper read at the meeting of the British Medical Association at Portsmouth Dr. H. Peck made a suggestive contribution to the subject. Out of 206 cases he traced 12·13 per cent. to sick-room infection, and to that number it is fair to add some of the 38 cases included under the heading of "No ascertainable cause."

Now, the analogy between enteric fever and summer diarrhœa is strong. In both diarrhœa is a prominent feature; in enteric fever the specific microbe is constant, whereas in summer diarrhœa the causative organisms are probably multiple. In a certain number of summer diarrhœas the active cause is probably a toxin outside the body, and one would not expect the stools in such cases to possess infectivity, unless they had roused up some of the normal bowel organisms into pathogenic activity. When the specific organism or organisms of the diarrhœa invade the gastro-intestinal tract one would expect the stools to be specially infective, just as in the case of typhoid fever.

It is hardly needful to point out the facilities for the spread of room infection that are afforded in the case of acute diarrhœa. In the first place, the malady is mainly

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one of infancy and childhood, when there is imperfect control over the evacuations. Infants and babies pass diarrhœal excreta and almost every part of the environment is liable to fæcal pollution. Then the diapers of infants used to catch the motions are washed in or near the house and a fresh source of infection is thereby created. The hands of patients can hardly escape contamination any more than the hands of those who attend to the removal of dejecta and to the cleansing of soiled articles. Further, any person coming into an infected house would run a risk of special fæcal contamination from door-handles, furniture, and, indeed, from almost every single object with which any part of the visitor's body would come into contact. These statements leave out of consideration the chance of aerial infection by specifically charged particles of dried excreta blown about as dust.

At the same time the importance of foodstuffs as an agency in the distribution of summer diarrhœa must not be overlooked.[8] In one of Dr. Bruce Low's groups, that of the village of Pockley, out of the total of 60 cases two were clearly due to milk infection. In that particular instance the children were kept apart from their village companions, and the only communication was through the milk-supply, which was obtained from a cow belonging to an infected family.

A valuable contribution to the communicability of gastro-enteric disorder was made by Finkelstein.[9] Dealing with [illegible] service he found a [illegible] the second of those [illegible] ralings were removed [illegible] ow building with two [illegible] es and attendants was [illegible] ies took place of a [illegible] haracter of dyspepsia, [illegible] of acute enteritis, and even of cholera infantum. Each epidemic coincided with the admission of a child affected with this particular form of contagious gastro-enteritis. Other forms of gastro-enteritis did not spread when admitted to the wards. A certain number of the cases of the contagious form were fatal and in those that recovered the malady ran a slow course.

On the whole one is inclined to agree with Dr. Booker, who has favoured us with the following views: "I believe the disease to be communicable under certain conditions. It is often the case with twins for both children to have the same form of diarrhœa, and I have seen in a case of twins where one child had mild dyspeptic diarrhœa and the other child had fatal streptococcus enteritis, the first child develop in the course of two weeks the same form of enteritis as the second. At the Wilson Sanatorium for Sick Children, where each mother had a separate room for herself and baby, infection from one child to another sometimes occurs in spite of careful measures to prevent it. As we have discovered no specific germ for this disease as in the case of typhoid fever a number of difficult problems must be solved before we even know the extent to which the disease is communicable." While fully admitting the communicability of summer diarrhœa under some circumstances it is nevertheless hardly possible to doubt that the distribution of a common contagion plays the chief part in the epidemic prevalence of the malady.

THE SOURCE OF THE INFECTION.

In casting around for a possible source of what may be regarded as a manifold infection of epidemic character the idea occurred to me, as it has to others, that organically polluted dust might be the vehicle of distribution. A further consideration of the circumstances of the case led me to form an opinion that I have not seen elsewhere suggested—namely, that horse-dung may be the specific polluting material. It will be well, therefore, to consider shortly the matter of street-dust.

Dust, mud, and street environment.—The origin of dust in a country road is obvious enough. It is mainly formed of pulverised stone and earth from the macadamised roadway with a small proportion of horse-dung. When we turn to the dust of towns, however, the case differs widely. Where urban roads are macadamised the dust is still to a great extent composed of pulverised stone and earth, but there is a large admixture of horse-dung, which at once constitutes an important peculiarity in the disease producing potentiality of urban as compared with rural dust. In roadways other than macadam we still find a considerable amount of dust. They may be made of stone or granite "sets," in which case the friction of horses' hoofs and of vehicles will create a certain amount of pulverised stone. Where the paving is of wood more or less woody fibre is pounded into dust. On all smooth impermeable pavements such as wood, asphalte, and concrete it is necessary at certain times of rain and frost to scatter gravel, which is soon converted into powder. There are other extraneous sources of street dust, such as soot and the atmospheric particles with which the air of towns is always more or less charged. One of the chief sources of dust in towns is undoubtedly horse-dung, and the busier the streets the greater the amount of material derived from that source. The dust once formed in the streets of a town can be distributed only over a comparatively small area. When raised in one part of the street it is deposited in another at a distance dependent on the strength of local air currents and the extent to which the roadway is sheltered or otherwise by neighbouring houses. The dust of roadways in towns, then, is under conditions of creation, nature, and distribution that differ widely from the roadway dust of rural districts.

We shall now turn more particularly to the street environment of towns. The effect of rain is to convert the dust of streets into mud, which is simply dust worked up into a paste with more or less moisture. By the action of horse and carriage traffic—especially on hard paving—the mud is splashed over the fronts of adjoining houses to a height of a dozen feet or more. As already pointed out, mud is charged with horse-dung and other organic matter, and when it becomes dry it is in such a condition that it can readily be pulverised and reconverted into dust. The while distribution of mud is simply that of organically charged dust in another form. The sweeping of dry streets, as everyone knows, often raises a dense cloud of dust. In certain atmospherical conditions, as on a still dry winter day, this cloud may rise visibly to a height of 20 feet or more, and it sometimes lingers in a street for a considerable time. Indeed, some wood-paved streets, where there is considerable traffic, give the impression in dry weather of never being free from a fine cloud of dust, as those who cycle much in towns will be able to testify. The action of wind in raising dust is obviously considerable. It is only high and constantly prevalent winds that would be likely to sweep the streets of a moderately sized and tolerably flat town. The narrowness of streets and the height of houses must obviously have a considerable influence upon the dispersal or otherwise of dust-clouds. A town built on a slope would be less likely to harbour dust than one lying on a plain. The paving of streets, as already hinted, has a direct bearing upon the amount of accompanying dust and mud. It is clear that macadamised roadways must be always dusty and muddy, because of their looser surface and because they can never be efficiently cleansed, that is to say, washed with hose and hydrant. To a less extent the same is true of paving by stone sets and cobbles, the numerous interstices harbour dust and mud and forbid effectual cleansing. The smoother, harder, and more impervious the roadway the less the accompanying dust and mud, and the more thorough the cleansing process that can be applied. The practical lesson to be learnt from the action of rain upon the streets is that to be learnt from systematic watering is desirable in dry weather and that no systematic watering is desirable without previous watering. The latter precaution is needful because the initial distribution of road-dust is far-reaching. In this way when stirred up by traffic or by wind or by watering it travels downhill and is freely deposited in passages, courts, and yards.

In theory the germicidal action of the sun upon the bacteria of organically charged road dust is no doubt considerable. In practice one may doubt whether the germicidal action of the sun is in any sense a substitute for even widely active germicides or is adequate to the road dust of large towns. The layer of dust, for instance, is often too thick for penetration and the intimate relation of particles to the disinfecting rays of material is too close to permit of anything like a thorough germicidal action of the sun's rays. Here, again, the narrowness of the streets and the height of the adjoining houses is such as to prevent any but a relatively small amount of light from reaching the roadway. It will be seen that narrow streets with high houses are [illegible] of high [illegible] are most calculated to create and harbour dust. It is worthy of note that these [illegible] are [illegible] to modern views of street [illegible]. In [illegible] of the [illegible] of the [illegible] of [illegible]

[8] See Dr. Bruce Low's Report on Epidemic Diarrhœa, 1899, Medical Series, p. 124.

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In casting around for a possible source of what may be regarded as a manifold infection of epidemic character the idea occurred to me, as it has to others, that organically [illegible] that horse-dung may be the specific poisoning material. It will be well, therefore, to consider shortly the matter of street-dust.

Dust, mud, and street environment.—The origin of dust in a country road is obvious enough. It is mainly formed of pulverised stone and earth from the macadamised roadway with a small proportion of horse-dung. When we turn to the dust of towns, however, the case differs widely. Where urban roads are macadamised the dust is still to a great extent composed of pulverised stone and earth, but there is a large admixture of horse-dung, which at once constitutes an important peculiarity in the dust possessing potent vitality of urban as compared with rural dust. In roadways other than macadam we still find a considerable amount of dust. They may be made of stone or granite "sets," in which case the friction of horses' hoofs and of vehicles will create a certain amount of pulverised stone. Where the paving is of wood more or less woody fibre is pounded into dust. On all smooth impermeable pavements such as wood, asphalte, and concrete it is necessary at certain times of rain and frost to scatter gravel, which is soon converted into powder. There are other extraneous sources of street-dust, such as soot and the atmospheric particles with which the air of towns is always more or less charged. One of the chief sources of dust in towns is undoubtedly horse-dung, and the busier the streets the greater the amount of material derived from that source. The dust once formed in the streets of a town can be distributed only over a comparatively small area. When raised in one part of the street it is deposited in another at a distance dependent on the strength of local air currents and the extent to which the roadway is sheltered or otherwise by neighbouring houses. The dust of roadways in towns, then, is under conditions of creation, nature, and distribution that differ widely from the roadway dust of rural districts.

We shall now turn more particularly to the street environment of towns. The effect of rain is to convert the dust of streets into mud, which is simply dust worked up into a paste with more or less moisture. By the action of horse and carriage traffic—especially on hard paving—the mud is splashed over the fronts of adjoining houses to a height of a dozen feet or more. As already pointed out, mud is charged with horse-dung and other organic matter, and when it becomes dry it is in such a condition that it can readily be pulverised and reconverted into dust. The wide distribution of mud is simply that of organically charged dust in another form. The watering of dry streets, as everyone knows, often raises a dense cloud of dust. In certain atmospherical conditions, as on a still dry winter day, this cloud may rise visibly to a height of 20 feet or more, and it sometimes lingers in a street for a considerable time. Indeed, some wood-paved streets, where there is considerable [illegible] in dry weather of never being [illegible] t, as there who cycle much in [illegible] The action of wind in raising [illegible] It is only high and constantly prevalent winds that would be likely to sweep the streets of a moderately sized and tolerably flat town. The narrowness of streets and the height of houses must obviously have a considerable influence upon the dispersal or otherwise of dust-clouds. A town built on a slope would be less likely to harbour dust than one lying on a plain. The paving of streets, as already hinted, has a direct bearing upon the amount of accompanying dust and mud. It is clear that macadamised roadways must be always dusty and muddy, because of their looser surface and because they can never be efficiently cleansed, that is to say, washed with hose and hydrant. To a less extent the same is true of paving by stone sets and cobbles; the numerous interstices harbour dust and mud and foil efficient cleansing. The smoother, harder, and more impervious the roadway the less the accompanying dust and mud, and the more thorough the cleansing processes that can be applied. The practical lesson to be learnt from the action of rain upon the streets is that systematic watering is desirable in dry weather and that no roadway should be swept without previous watering. The latter precaution is needful because the particle distribution of road dust is far reaching. In this way when stirred up by traffic or by wind or by sweeping it invades shops and is freely deposited in passages, courts, and yards.

In theory the germicidal action of the sun upon the bacteria of dust-laden road dust is no doubt considerable. In practice one may doubt whether the germicidal action of the sun is in any sense a universal or even widely acute agencies or is adequate to the road dust of large towns. The layer of dust, for instance, is often too thick for penetration and the intimate relation of the bacteria to the contagious material is too close to permit of anything like a thoroughly germicidal action of the sun's rays. Then, again, the narrowness of the streets and the height of the adjacent houses in such as possess any [illegible] kind of [illegible] from reaching the roadway. It will be seen that narrow streets with high houses [illegible] streets are most [illegible] dust [illegible] worthy are most [illegible] [illegible] of [illegible] that their [illegible] [illegible] In some [illegible] of the [illegible] [illegible] of [illegible] of the [illegible] [illegible]

* Zeitschrift für Hygiene und Infectionskrankheiten, Bd. Band xxiv., S. 125.

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THE BACTERIOLOGY OF HORSE-DUNG.

This subject is a wide one and it has not been possible within the time at command to do more than arrive at a few facts. Mr. E. C. Bousfield, who at my request has kindly conducted some investigations into the subject, has reported the presence in the fæces of the horse of 31 varieties of bacteria, among which are bacillus coli communis and the proteus vulgaris. Dr. Hewlett has also found the bacillus enteritidis sporogenes in the same material.

As an evidence of the power of equine excrement in the possible general distribution of micro-organisms the following points may be of interest. A single gramme of moist horse-dung was found to contain nearly 10,000,000 bacteria. Taking the moisture at 75 per cent., which is a low estimate, and an average dropping as weighing one kilogramme, we find that such a dropping if converted into dust would furnish some 10 000,000,000 micro-organisms capable of diffusion through the air and contained in about half a kilogramme of dust. Of the organisms thus distributed a large proportion are, of course, perfectly harmless, but there are many the pathogenic powers of which are well known and there are others which must be regarded with suspicion.

The bacteria above mentioned have been repeatedly found in the fæces of summer diarrhœa in man and are held by some observers to have a definite causal connexion with summer diarrhœa in man. At any rate we may confidently make the general statement that certain micro-organisms are common to the intestines of the horse and to those of man.

These facts are suggestive, and it will be interesting to ascertain by future experiment whether any definite organisms may be pathogenic alike to the gastro-intestinal tract of the horse and man. The diarrhœa of the horse, which is common enough in towns, offers another field of promising research. Meanwhile, before any absolute conclusion can be arrived at it will be necessary to have a more detailed and exhaustive knowledge of the organisms, normal and pathogenic, aerobic and anaerobic, that are common to the intestines of the horse and to those of man. The extensive nature of such an investigation is shown by the fact already mentioned that in a gramme of horse-dung were found nearly 10,000,000 bacteria capable of developing upon the ordinary culture media, to say nothing of the anaerobic organisms which appear to be almost equally numerous. Mr. Bousfield has with certainty identified proteus vulgaris, bacillus fluorescens liquefaciens, bacillus subtilis, and bacillus coli communis. In addition, he reports the presence of others, notably a streptococcus which does not grow at ordinary temperatures, and which is the only one of this form so far found. Bacilli seem to be in the majority, and of these many are of a polymorphic type and appear to belong to the same group as the bacillus coli communis. Of cocci the number is much smaller and only a single form of cladothrix has yet been isolated. One important fact, from this point of view, remains to be mentioned—namely, the very considerable number of chromogenic organisms present in horse-dung. Booker appears to have found none of these in his investigations into the bacteriology of human diarrhœa, and he has for the most part, after isolating bacillus coli, bacillus lactis aerogenes, and proteus vulgaris, contented himself with such generalisations as "cocci" or "a green liquefier."

One of the greatest difficulties in research work upon this subject lies in the uncertainty of identification, a difficulty that is increasing day by day with the discovery of new organisms. To classify organisms under letters of the alphabet is simply to shirk the difficulty. It is evident that to be really useful individual work must be capable of collation with the observations of others in the same field. In order to complete the study of the possible relation of the bacteria of the intestine of the horse with human maladies it will be necessary to investigate the bacteriology of the diseased as well as of the healthy equine bowel. Fortunately, however, the extensive nature of any such investigations need not delay the immediate application of radical measures of prevention.

A CLINICAL STUDY OF THE CAUSES OF THE FIRST SOUND OF THE HEART.*

BY ALEXANDER MORISON, M.D., F.R.C.P. EDIN.,
PHYSICIAN TO OUT-PATIENTS AT THE GREAT NORTHERN CENTRAL HOSPITAL AND THE CHILDREN'S HOSPITAL, PADDINGTON GREEN.

IN the beginning of 1896, when in charge of my colleague Dr. C. E. Beevor's beds in the Great Northern Central Hospital, the following case was admitted under my care, and to some points in it I wish to refer in connexion with the theme of this paper.

A housemaid, aged 22 years, was admitted into the hospital on Jan. 6th, [illegible] tated never to have had any serious illne[illegible] months previously, when she manifested [illegible] of breath, lassitude, and loss of appetite, together with a progressive anæmia. About three weeks later the acute phase of her illness began, when she complained of pains in the abdomen, vomited daily, had headache, was feverish, and at night was somewhat delirious. She steadily became worse, refusing food and losing weight until the date of her admission. On admission she was found to have tenderness in the left hypochondriac region. The area of splenic dulness was increased downwards and forwards two-thirds of the way to the umbilicus, but could not be palpated on account of reflex rigidity of the abdominal muscles induced by the excessive tenderness to touch. The other abdominal organs presented nothing notably abnormal except the kidneys, the urine showing a trace of albumin and having a specific gravity of 1018. The examination of the lungs gave a negative result, but respiration was very rapid and shallow, being at the rate of 84 to the minute. The heart's action was also very rapid but regular, and its [illegible] as heaving and in the nipple line [illegible] also described as having been "loud" and without bruit. The pulse was soft, regular, and had a rate of 150 to the minute. There was some œdema of both feet. The patient [illegible] which reacted to light, [illegible] ankle tremor [illegible] rficial reflexes [illegible] The temperature was 101·8° F. and there was no cutaneous eruption.

It is not necessary in the present connexion to enter with much detail into the subsequent clinical history of the case other than that affecting the heart-sounds, beyond stating that the temperature ranged between 97° and 103° until the two days preceding death, when it fell as low as 95°, rising on the day of death (Jan. 16th) to 98·5°; that the area of hepatic dulness increased; and that a loud superficial friction, manifest on auscultation, appeared over the gastro-hepatic area which was shown at the necropsy to be transmitted from the perisplenic region through the intervening organs which acted as conductors of sound.

As regards the cardio-vascular signs the following facts were noted. On Jan. 11th the first note is made of the condition of the heart after the record made on admission, when the sounds are described as being "very loud and hollow" and associated with a "slight systolic bruit at the apex." On the 12th it is written that there was a "very high-pitched systolic bruit at the apex quite different in quality from that observed the day before, and that "the pulse and respiration continued very rapid." On Jan. 15th the pulse, it is stated, could only just be felt at the wrist and the heart-sounds are described as good and the action as regular and at a rate of 108. The respiratory rate was 60 and the abdomen moved with the descent of the diaphragm. The morning temperature was normal and fell to 95·4° on the same evening. The patient was then dying from exhaustion and on the next day died. The necropsy was made by the pathologist to the hospital (Dr. Freyberger) on Jan. 17th, 20 hours after death. All the organs of the body were healthy with the exception of the spleen, the heart, and the kidneys, and the description of these I copy *verbatim* from the register.

"*Spleen*, double size, firmly adherent to peritoneum by means of perisplenitic pseudo-membrane; a large anæmic infarct running like a band across the whole of the subsurface. A smaller cone-shaped one near the apex. No suppuration. Consistence somewhat increased.

* A paper read before the Medical Society of London on May 14th, 1900.

"*Kidneys.*—Both cloudy. Capsule not stripping readily. Cortex diminished. Glandular structure indistinct. A small anæmic infarct. No metastatic abscess.

"*Heart.*—In the pericardial cavity about six ounces of clear serum. A somewhat recent pericardial adhesion posteriorly about half-way between the coronary sulcus and the apex; a much older one (which has evidently become detached) at a similar place anteriorly. There are milky spots anteriorly over the right ventricle. Right ventricle.—On section muscle about a quarter inch thick, healthy looking, consistence not diminished. Pulmonary valves competent, natural. Tricuspid natural; admits three fingers. Loose clot and much fluid blood in right ventricle. Right auricle natural. Left ventricle somewhat contracted. On section muscle half an inch thick, of a greyish-red colour; consistence not diminished. On the left lateral semilunar valve a large lump of coagulated fibrin of a verrucose appearance, taking up the entire ventricular surface and dragging the valve downwards. The fibrinous deposit is continued on to the right, lateral aortic valve, which with its anterior half participates in the formation of this excrescence which sends a long, free, tongue-like process down into the ventricular cavity. A similar verrucose excrescence the size of a pea, on the posterior valve, occupying the site of the nodulus Arantii. Mitral valves.—The mitral cusps are both involved in the process, the valves shortened, and their free edge covered with more cauliflower-like excrescences, which are especially extensive on the auricular surface of the aortic cusp and the right half of [the] posterior cusp. The valves are nowhere perforated, the chordæ tendineæ of [the] aortic cusp shortened, and on some of them there is also precipitation of fibrin in consequence of peri-tendinitic roughness. The posterior auricular surface roughened and puckered, with some lamellar fibrinous precipitate in places."

This case was evidently one of so-called malignant endocarditis, ingrafted in an anæmic subject upon old and extensive lesions of the aortic and mitral valves, probably of rheumatic origin, although no history to this effect could be elicited. The clinical observations were made by myself and by Mr. Randall Wadd, who had been house physician to the Brompton Hospital for Consumption before coming to the Great Northern Central Hospital. I mention these particulars to increase the value of the observations which refer to the general clearness and audibility of the heart-sounds. This condition attracted my attention the more because I had at that time recently assisted the late Sir Richard Quain in the preparation of a paper which he read before the Royal Society on June 3rd, 1897, on the mechanism by which the first sound of the heart is produced. In the case I have recorded, except upon the rare occasions on which a systolic bruit was heard at the apex, both sounds were, as has been stated, clear and even, as the notes tell, [illegible] it [illegible] apparently normal sounds originated. That the clear second sound could only arise at the pulmonary arterial orifice was manifest and its clearness or loudness were probably in a measure due to abnormal tension in the pulmonary circuit and the absence of disturbing murmur in the left heart together with its superficial position. But the explanation of the clear *first* sound was as much a puzzle to me as a clinician as the satisfactory explanation of the first sound of the heart still is to many experimenting physiologists. I therefore thought some light might be thrown upon the cause of this sound by studying it from the clinical point of view and have examined a number of cases with this object. A large proportion of these cases were taken from my clinic at the Paddington Green Children's Hospital as a matter of personal convenience rather than of choice, but the circumstance is not to be regretted because of the variety such subjects present and the ease with which sounds are conducted through their chests. The younger the child, indeed, the more easily are both heart-sounds radiated all round the chest, but there are of course points at which one or other sound has its position of maximum audibility. In the case of the first sound, as we know, this is at the apex of the heart and in the case of the second at the base. The general principle that a greater sound obscures a less is true in the case of the heart as in that of all other substances or sounds which are resonant. The possible media for the generation and conduction of sound in the case of the heart are its fibrous structure and valves, its muscle, the blood circulating through the organ, and the thoracic case which contains the whole with its solid and gaseous contents and surroundings. We may briefly consider these possible factors *seriatim*.

1. As regards the valves. In the case of mitral systolic bruit both sounds may be universally audible in front, even including the apex area, when the bruit is not loud, and in this case to the right of the sternum both sounds may be heard without associated bruit. This may be so even when regurgitation through the valve is sufficiently marked to be audible in the left paravertebral groove. But in such case the second sound is not audible in the back. When the second sound is audible in the back in mitral regurgitation, it is usually at the level of the scapular spine and denotes accentuation of that sound and all that that implies. When the second sound is thus accentuated the first sound is usually obscured, and systolic bruit and the evidences of dilated hypertrophy are generally well marked. When the mitral bruit is presystolic in time and even associated with presystolic thrill both sounds may be universally audible in front unless the noise of the bruit be considerable, in which case the first sound is masked and the second audible as a simple or reduplicated sound. In the case of a double mitral bruit both sounds may be audible outside the apex area, while the second may be heard at the apex and in both paravertebral grooves. With aortic systolic bruit the first sound may be obliterated in the aortic area and the second heard, while both may be audible in the pulmonary area and also in front, provided the systolic bruit be not very loud. Both sounds may also be distinctly audible all over the precordia when the aortic bruit is diastolic, unless the diastolic bruit be loud, when the second sound is as universally masked. If with a loud diastolic bruit the heart suddenly fails, as it does in malignant attacks, the pulmonary second sound becomes audible and even accentuated and is again masked when the bruit returns with the recovery of the heart. In double aortic bruit there is most abolition of the heart sounds because the noise is often considerable. With fair ventricular systolic force, however, in these cases, the closure of the pulmonary valve is usually marked by a detectable second sound. When an aortic systolic bruit is associated with a mitral systolic bruit the second sound may be clearly audible, both noises being systolic. The same is true of systolic pulmonary murmur with tricuspid regurgitation, of which I have observed one case verified by post-mortem examination. In this instance, however, the aortic second sound could only occasionally be detected with difficulty on account of a diastolic pulmonary bruit being also present. Hæmic systolic bruits at the base of the heart may conceal the first sound to one or both sides of the sternum, but in such case both sounds are easily audible at other points of the precordia. In cases of congenital malformation of the heart when bruit is present it is usually (always so far as my experience goes) systolic, and if loud may mask the first sound, but not by any means invariably. Even when the systolic bruit is loud the first sound may at times be easily heard through it. The second sound is usually very easily audible, because accentuated, and both may be distinctly audible, because accentuated, and both may be heard over a wide area. Thus in the case of a patient under my care in the Children's Hospital there was a loud systolic bruit best heard over the cartilage of the fourth left rib, but both sounds could be heard universally over the whole front and back of the chest with remarkable clearness, although the first sound was masked but not lost in the area of loudest bruit. On the other hand, in considerable congenital defects may be present, as shown by subsequent autopsy, and even in association with well marked cyanosis, without preventing any bruit. In such cases both sounds may be widely heard and only suffer from the normal in obtaining an accentuation proportionate to the cardiac hypertrophy and vascular impediment present.

2. As regards the tension of the cardiac muscle in the production of sound. The fetal system is easily and the pitch or audibility of bruit is a matter dependent in an inversely marked bruit we often cause the sound to be weak about or even [illegible] to some extent to the case [illegible] force of systole and with it the audibility of sound. It may frequently be observed also that as the force of systole [illegible] bruits [illegible] of exhaustion in patients [illegible] force the [illegible] of the [illegible] is frequently [illegible]

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1. As regards the valves. In the case of mitral systolic bruit both sounds may be universally audible in front, even including the apex area, when the bruit is not loud, and in this case to the right of the sternum both sounds may be heard without associated bruit. This may be so even when regurgitation through the valve is sufficiently marked to be audible in the left paravertebral groove But in such case the second sound is not audible in the back. When the second sound is audible in the back in mitral regurgitation, it is usually at the level of the scapular spine and denotes accentuation of that sound and all that that implies. When the second sound is thus accentuated the first sound is usually obscured, and systolic bruit and the evidences of dilated hypertrophy are generally well marked. When the mitral bruit is presystolic in time and even associated with presystolic thrill both sounds may be universally audible in front unless the noise of the bruit be considerable, in which case the first sound is masked and the second audible as a simple or redupliated sound. In the case of a double mitral bruit both sounds may be audible outside the apex area, while the second may be heard at the apex and in both paravertebral grooves. With aortic systolic bruit the first sound may be obliterated in the aortic area and the second heard, while both may be audible in the pulmonary area and also in front, provided the systolic bruit be not very loud. Both sounds may also be distinctly audible all over the precordia when the aortic bruit is diastolic, unless the diastolic bruit be loud, when the second sound is as universally masked. If with a loud diastolic bruit the heart suddenly fails, as it does in angina attacks, the pulmonary second sound becomes audible and even accentuated and is again masked when the bruit returns with the recovery of the heart. In double aortic bruit there is most abolition of the heart-sounds because the noise is often considerable With fair ventricular systolic force, however, in these cases, the closure of the pulmonary valve is usually marked by a detectable second sound. When an aortic systolic bruit is associated with a mitral systolic bruit the second sound may be clearly audible, both noises being systolic. The same is true of systolic pulmonary murmur with tricuspid regurgitation, of which I have observed one case verified by post-mortem examination In this instance, however, the aortic second sound could only occasionally be detected with difficulty on account of a diastolic pulmonary bruit being also present. Hæmic systolic bruits at the base of the heart may conceal the first sound to one or both sides of the sternum, but in such case both sounds are easily audible at other points of the precordia. In cases of congenital malformation of the heart when bruit is present it is usually (always so far as my experience goes) systolic, and if loud may mask the first sound, but not by any means invariably. Even when the systolic bruit is loud the first sound may at times be easily heard through it. The second sound is usually very distinctly audible, because accentuated, and both may be heard over a wide area. Thus in the case of a patient under my care in the Children's Hospital there was a loud systolic bruit best heard over the cartilage of the fourth left rib but both sounds could be heard universally over both the front and back of the chest with remarkable clearness, although the first sound was masked but not lost in the area of loudest bruit. In the other hand, considerable cardiac defects may be present, as shown by subsequent necropsy, and even in consolidated [illegible] well marked cyanosis, without producing any bruit. In such cases both sounds may be widely heard and only differ from the normal in a distinctly accentuated character due to the cardiac hypertrophy and [illegible] present.

2. As regards the muscle of the [illegible] in the production of sound. The force of systole is [illegible] the pitch or audibility of bruit is a [illegible] fact. [illegible] an immediately marked bruit [illegible] weak should [illegible] increase the force of systole and so [illegible] It may [illegible] bruit [illegible] of [illegible] second is [illegible]

feeble persons in advanced life and during failure of the circulation from anæsthetics or other cause. In all these cases the second sound is usually more audible than the first if the arterial valves be entire.

3. The clinically observable influence of the blood in the production of sound and in the obscuration of sounds is perhaps the most easily determinable of all the factors mentioned so far. The weakening of the heart-sounds from loss of blood in surgical and obstetric practice is too well known a phenomenon to call for further comment, while the possible loudness of bruits or noises at defective orifices has been sufficiently emphasised in a previous section. In the case with which I opened this paper, indeed, the peculiar audibility of the heart-sounds was no doubt chiefly owing to the abolition of the bruits in the left ventricle by the failure of impulse in the circulation, although this does not explain fully either where or how the persistent sounds were originated.

4. The fourth and last factor which I have to mention in connexion with a clinical study of the cause of the first sound of the heart is the possible influence of the thoracic case in which the sound-producing organ is contained. All clinical conditions may be regarded as ready-made natural experiments for the study of the physician, but on this point nature at times makes an experiment which is as artificial as any performed in the physiological laboratory. Personally, I have never had an opportunity of observing a case of ectocardia, but such have fortunately been carefully studied. Mr. U. G. Grant observed a case in 1896, an account of which with an accompanying photographic illustration may be seen in the *British Medical Journal* of Dec. 5th of that year (p. 1639). In this case, which was that of a fœtus born alive about the eighth month and which lived for six hours, the heart, which was "external to the chest wall" and devoid of pericardium, pulsated vigorously. The sounds at the base were clear and distinct, no murmur being audible; auscultation at the apex was, it is stated, "impracticable owing to the exaggerated movements." The influence of the chest-wall in contributing towards the sounds of the heart as determined at the bedside may therefore be set aside as a negligible or inoperative quantity. Where, then, and how did the clear heart-sounds in my case originate? In the first place, where?

As has been already stated there can be little doubt that the second of the two normal sounds detected originated at the pulmonary arterial orifice, for the aortic valves were too much diseased for competent closure. The situation of the first sound heard remains to be determined. As has been mentioned the sounds were recorded at times as peculiarly "loud." Now, it is a characteristic of noises at the pulmonary arterial orifice that they are very easily heard on account of that vessel being comparatively near the surface. With the accentuated *claquement* of the second sound at that orifice we are all familiar. It is loud to the ear and palpable by the hand. It may, indeed, be used when thus marked for determining the position of the base of the heart without other aid. Bruits at the same orifice though rarely observed are loud and easily perceptible and may be associated, as in a case which I published in the Transactions of the Pathological Society (1876), with a very coarse thrill. Similarly other sounds originating in the right ventricle if freed from obscuration by competitive noises might be expected likewise to be distinctly audible. In my case this freedom from competitive noise might be supposed to be secured by the feebleness of ventricular action in the diseased left ventricle which, together with the reduced aortic pressure from valvular reflux, prevented the generation of bruit at the defective orifices. It may be asked, then, if the left ventricle was so greatly disabled whether the right did not also share its enfeeblement; and this must undoubtedly have been the case. If, therefore, the first sound originated in the right ventricle it must at any rate mainly have been due to some circumstance or circumstances other than contraction of the cardiac musculature of that chamber. What was this circumstance, or, it may be, what were these circumstances? This leads to the consideration of how the first sound of the heart originated if it be assumed or granted that it arose chiefly in the right ventricle, as seems probable.

In making a few remarks upon this point I desire to avoid all appearance of dogmatism and merely wish to mention some circumstances as premisses which appear to lead to a rational conclusion. The argument will be from the known to the unknown or, at all events, the disputed. My case merely taken as an example shows that either series of semilunar valves may alone be the site of the second sound of the heart, because the aortic valves were quite incompetent in that case and therefore silent. When the second sound is accentuated, moreover, the sound may be felt to be coincident with closure of the semilunar cusps if the hand be placed on the chest while the ear listens through the stethoscope. The second sound, therefore, is due chiefly to an incident in diastole, not to diastole as a whole. It appears possible, therefore, that some incident in systole and its surroundings may play a greater part than others in the production of the first sound of the heart. The possible factors have already been stated to be: (1) the valvular and fibrous structures of the heart; (2) its muscular action; (3) the blood waves; and (4) the thorax.

As regards the first point, we have seen that the first sound may be audible in all forms of valvular disease at one or other part of the chest unless obscured by bruit, which is a very different matter from being abolished or replaced by such. Even hæmic bruit without any valvular incompetence may obscure the first sound of the heart. There is, however, a fallacy involved in drawing a positive conclusion from this consideration, because to exclude the participation of the valvular structures from taking part in the production of the first sound there should be evidence of all four being greatly incompetent at the same time. Such a condition if present in considerable degree would be incompatible with any but the shortest life, and I am not aware that it has been observed by the clinician or even by the experimental physiologist, although I have myself known the aortic, mitral, and tricuspid valves to be simultaneously much disorganised. But even if all the valves were diseased at one time the character as well as the degree of the disease would have to be taken into consideration in deciding the point, for the stiffened flaps of an indurated valve may be an excellent vibrating structure, or serve in a great measure to divide the blood-stream as under normal circumstances. It is certain that the first sound may be audible when representative valves (auriculo-ventricular and semilunar) are diseased, but some share in the generation of the first sound of the heart on the part of the valvular structures cannot be excluded as a result of clinical observation, although that share has probably been over-estimated.

As regards the muscular factor my case proves that the first sound of the heart may be clearly audible when the muscular force of the ventricles is at zero. Congenital cases, moreover, show that gaps in the cardiac septa do not interfere with the generation of a normal first sound, although resulting bruit may at some points obscure it. Sound emitted by the cardiac muscle seems therefore, on clinical evidence, not to be an important factor in the production of the first sound of the heart as conveyed to the ear by the stethoscope.

The influence of blood waves on the other hand in producing sound is clearly shown by the character and variation of the bruits or noises which arise when the blood current is transmitted through diseased or malformed apertures. As, moreover, the distinction between a noise and a tone is merely one of vibration and the fluid medium—the blood—is that to which such vibration must in greatest measure be communicated, the important part played by the blood itself in the production of the first sound of the heart, appears on clinical grounds to be unquestionable.

The last point which has to be weighed—namely, the influence of the thorax, the air-containing cavity which holds the heart in producing the first sound, is easily disposed of. Mr. Grant's case already quoted proves not only that the chest wall has little or nothing to do with the production of the sounds of the heart, including the first sound, but also reveals another very interesting fact—namely, that both sounds may be clearly audible in cases of ectocardia at the base of the heart, when the apex from its mobility is incapable of being satisfactorily auscultated. Were it possible to place the whole mechanism in vacuo without the heart ceasing to pulsate, no doubt all sound to the ear would be abolished very much as the movements of a watch would cease to be audible under like circumstances. But the general question of the conductive power of air may be dismissed as foreign to the present inquiry. In Brakyn's[2] apparatus air took the place of blood and emitted the systolic and diastolic sounds. In nature blood takes the place of air.

[2] THE LANCET, November 1849.

The conclusion, therefore, which appears to flow from this clinical study of the question seems to be that the impulse given to the blood by the muscular action of the heart gives rise in it and in the vibratory structures containing it, to [illegible] which result in that tone [illegible] the systole and usually called [illegible] that the largest share in this result must be attributed to vibrations in the blood itself, to produce which at a normal rate valvular support of the vibrating blood-columns is necessary. The study of some congenital cardiac malformations especially appears to support this conclusion because with considerable parietal defects and bruits caused by such the sounds of the heart may be well heard so long as the division of the blood is fairly maintained by the valves. This conclusion from clinical observations and argument is essentially the same as that reached by the late Dr. Arthur Leared, formerly one of the physicians to the Great Northern Hospital. I cannot, however, agree with him when he writes that the events which occur in the ventricles and at the arterial orifices have no more to do with the generation of the sounds than "the vibration of a door [has] with the sound produced by air [passing] through its keyhole."[3] There is a difference in the noise made by a door slammed to and one pushed open. The former represents the second, the latter the first sound of the heart and in both the character and distribution of the vibrations differ.

The conclusion I have drawn differs somewhat likewise from that arrived at by my late friend Sir Richard Quain in that I cannot attribute so much importance as he did to the impact of the ventricular blood against the closed semilunar valves only and the superincumbent blood-columns, although I think there can be little doub [illegible] the most important portion of [illegible] result in the production of the fi [illegible] Leared appears to me to have [illegible] Richard Quain too little importance to the sound-producing qualities of the blood itself. The truth appears to lie between the views of these two observers and may include as a very subsidiary factor a note derived from the muscular contraction of the organ. The estimation of the last point, however, by the clinician is a very difficult matter.

I have purposely refrained from reference to the results of experimental physiology on this occasion, not because I underrate its great importance, but because it has been my desire to show that in the advancement of scientific medicine the careful study of the ready-made experiments which come under the cognisance of the clinician (a field open to all departments in the profession) may be fruitful of valuable results. The power to disintegrate factors, however, which belongs to the experimenting physiologist renders his assistance necessary to a precise knowledge of the causes of vital phenomena. Some of these, and notably Halford in his valuable essay on the Action and Sounds of the Heart (1860), are largely in agreement with the conclusions set forth in this paper. They dissent from them chiefly in the greater importance which they attach to vibrations of the auriculo-ventricular valves and of the blood in the ventricular cavities.

Upper Berkeley street, W.

[3] Essay on the Sounds Caused by the Circulation of the Human Heart [illegible]

THE STANDARDISATION OF ANTI-VENOMOUS SERUM.

By WALTER MYERS, M.A., M.B. CANTAB., B.SC. LOND., JOHN LUCAS WALKER STUDENT IN THE UNIVERSITY OF CAMBRIDGE,

(*From the Pathological Laboratory, Cambridge University*)

THE standardisation of anti-venomous serum is of some theoretical interest, as well as of practical importance, for the first step in studying the process of neutralisation of a toxin by its antitoxin is to obtain a reliable method of measuring the latter. As illustrating the practical bearing of the subject the fact may be mentioned that some 30,000 persons are reported to have died from snake-bite in India during the year 1898.

Now, it is a matter of extreme difficulty to obtain clinical evidence of the therapeutic value of an antitoxin. Diphtheria antitoxin is one of the most successful, and yet clinicians were for some years undecided as to its value, and even now their opinions are not altogether in agreement. Moreover, there has never been, to my knowledge, much doubt as to the laboratory value—if I may use the expression—of this antitoxin. With snake-poison, however, the case is very different. In the first place, as the history of the therapeutics of snake poisoning shows, there has been the greatest difficulty in determining the value of various remedies employed. Further, the anti-venomous serum is prepared by immunisation against a mixture of venoms, of which cobra poison forms 80 per cent. Calmette, in whose laboratory the antitoxin is made, claims that it neutralises, and is for a certain time at least after the bite even curative for, the bite of all poisonous snakes. Other observers have not substantiated this claim. Cunningham,[1] for instance, found that in the laboratory the antitoxin had very little, if any, neutralising effect even upon cobra venom, the venom for which it should be most efficacious. And more recently Stephens[2] has shown that its power of neutralising the poison of certain other snakes is very limited indeed. It is possible that the results of Cunningham were due to a deterioration of the serum after leaving Lille, its place of manufacture—a deterioration doubtless in some part due to the effect of temperature on the antitoxin. It is, therefore, important that a reliable method of standardisation should be used for the serum employed clinically, both for the advantage of the patient and in view of obtaining reliable statistics as to its therapeutic value. So far, to my knowledge, apart from a few isolated cases that have been recorded there are no statistics available.

At Lille the serum is standardised in the following way. Rabbits of about 2000 grammes in weight are employed and the test dose of the mixture of venoms that is used for immunisation is ascertained. It may be mentioned in passing that this mixture is heated to 73° C. for half an hour before use. The test dose chosen is that amount of the mixture which kills the animal in from 15 to 20 minutes when injected intravenously. The amount of serum which will just prevent death when injected five minutes before the venom is then determined. This amount of serum is said to contain 2,000 units of immunity.

We now know that for snake-poisons toxin and antitoxin interact directly, and so far as our knowledge goes the process is independent of any vital action. Hence the above-described method was designed to permit of the supposed stimulation of the cells of the animal before the toxin is introduced but does not allow of the completion of the reaction between the two bodies before they enter the blood-stream it must be described as unreliable.

The first step in the direction of a rational method of standardisation was taken by Semple and Lamb.[3] These observers determined the number of minimal fatal doses contained in Calmette's test dose, and thus gave a value for the serum in terms of its neutralising power, not, as in the method above described, in terms of its preventive power. They found that Calmette's dose for the rat was equal to three times the minimal lethal dose for that animal.

As has been mentioned, it is important that the method of standardisation be devised so that the general practitioner may be able himself to ascertain, at all events approximately, the strength of the serum which he is about to use. Calmette's method is unsuitable for this purpose for several reasons. The mixture he uses is complicated, and should be replaced by a single venom that is easily obtainable. Although intravenous injection is a simple operation, subcutaneous injection is simpler, and if equally accurate is for this reason to be preferred. Calmette heats his venom to 73° C. for half an hour. This procedure may render the venom more suitable for immunisation, but as we have chiefly to deal with intoxication by natural venom it seems a pure assumption to use unheated venom for standardisation. The reasons that cobra poison only exists in India at this time perhaps will be mentioned later.

For this purpose a cheap and susceptible animal is desirable. Now it is clear that while equally susceptible animals that is, such animals for which the minimal fatal dose per unit of [illegible] animal is the same, the amount of venom per unit of [illegible] animal is the same, the smaller the animal the smaller will be the difference that may be

[1] [illegible]

[2] [illegible]

[3] [illegible]

observed in the neutralising power of the antitoxin, since with many snake-toxins we can only distinguish between mixtures of toxin and antitoxin that are fatal and non-fatal. The larger the maximal non-fatal dose the larger the error. For the same reason the test dose should be a multiple of the minimal lethal dose and as large a multiple as possible. Amongst common laboratory animals guinea-pigs and mice seem to be the most suitable. Guinea-pigs, however, cannot be used, for to neutralise a multiple of the minimal lethal dose undiluted serum must be employed, and, as Cobbett[4] has shown, horse serum is very often acutely toxic for these animals. The serum is also toxic for mice in some cases, but I have found that death from it does not occur within the first 24 hours, so that if the results be noted for this space of time we can neglect the toxic action of the serum. Using mice of about 15 grammes in weight as test animals, and unheated cobra poison, it was found possible to determine the minimal lethal dose to within about 20 per cent.—in other words, increments of one in five could be certainly and constantly appreciated. This dose I found to be 0·012 milligramme and it killed in from three to four hours. Taking ten times this quantity—namely, 0 12 milligramme—the amount of serum required to neutralise it was then determined, the mixtures being allowed to stand at room temperature for half an hour. The neutralisation of ten times the lethal dose could be estimated to within 15 per cent.; when the doses of serum were made closer, the series became too irregular for distinctions to be made within this limit.

On comparing the two methods, the method of mixing *in vitro* and testing the mixtures on mice was found to be more accurate than the rabbit method as used by Calmette. For example, with rabbits of about 2000 grammes in weight, 0·5 milligramme per kilogramme of the dry venom employed killed in 20 minutes. When 0·3 cubic centimetre of anti-venomous serum per kilogramme had been injected five minutes previously the animal died in an hour and a half. With 0 4 cubic centimetre of serum and more, the animal lived and showed no symptoms. 0·5 milligramme of venom is here neutralised by 0·4 cubic centimetre of serum. Hence 0·12 milligramme would be neutralised by 0 096 cubic centimetre of serum. With mice, however, using the same serum, 0 2 cubic centimetre was required to neutralise 0 12 milligramme of the poison. When 0·175 cubic centimetre was used, the animal died in three hours. The latter method is therefore more accurate.

This method of standardisation with unheated cobra poison[5] is cheap, simple, and accurate enough for clinical purposes. We may for convenience call a unit of immunity that quantity of antitoxin which neutralises ten times the minimal lethal dose of cobra poison for a mouse weighing 15 grammes. A serum, for example, of which 0·2 cubic centimetre was required to neutralise the test dose would contain five units per cubic centimetre.

This method does not reach any great accuracy; and this is doubtless due to the weakness of the antitoxin. When it is possible to standardise this serum with 100 times the minimal lethal dose much greater accuracy will probably be possible.

This investigation was begun last year in Professor Ehrlich's laboratory, at his suggestion, and I take this opportunity of expressing my thanks to him for the assistance and advice which he has so kindly given me.

Cambridge.

[4] Proceedings of the Physiological Society, 1899.

[5] The effect of heating a solution of cobra poison (1 cubic centimetre of 1 milligramme in physiological saline solution) to 75° C. for half an hour I have found to be as follows. The minimal hæmolysing dose for human blood is raised 20 times. The minimal lethal dose for mice, subcutaneously, is doubled. The power of the toxin of combining with the antitoxin is also diminished, but not nearly to the same degree to which its toxic power is weakened.

ROYAL ALBERT HOSPITAL, DEVONPORT.—The Managing Committee of this institution, finding that additional accommodation will have to be provided, have decided to erect a residence for the nurses, and important improvements are also to be carried out in the operating theatre, in the out-patients' department, and in the wards. The estimated cost is about £5000, towards which Sir John Jackson has given £500. The committee hope that further subscriptions will be received so that the necessity of drawing upon the capital may be obviated.

CHRONIC ABSCESS OF THE PERICARDIUM.

By DAVID HUNTER, M.A., M.B., B.C. CANTAB.,
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THE patient was a married man who was admitted into the Newcastle City Asylum in July, 1866, and who had therefore been for 33 years under observation. His history previously to his admission into the asylum was as follows. He was by trade a sawyer and from an early age he had been a heavy drinker. Seven weeks before admission he became excited and violent, finally becoming so unmanageable that restraint was deemed necessary. His father and sister died from phthisis.

Progress of the case.—On admission he was found to be a well-nourished and muscular man, aged 34 years. He was suffering from mania *à potu*. Nothing abnormal was noted as to his circulatory system, but there were pain and tenderness on pressure in the hepatic region. He soon became threatening and violent, making several attacks on the attendants and other patients, and about 18 months after admission symptoms of dementia were noted which gradually increased up to the time of his death. In 1873 he was noted as having an attack of synovitis in the left knee, ending in pus formation; but on the whole his health remained good until January, 1892, and he w[illegible] usefully employed about the gardens and [illegible] the institution. In January, 1892, he had what was regarded as an influenzal [illegible] the back, the head, and the [illegible], and hot and dry skin. From this time [illegible] In January, 1893, he was noted [illegible] the nape of his neck and herpes in the areas supplied by the left superficial cervical nerves. In April, 1894, he was in poor health and condition. About the middle of 1895 the heart's action became weak and the administration of digitalis was considered to be necessary. In October of the same year he had a syncopal attack. After this it was not until the year 1897 that a slight improvement was noted in his health and he became well enough to be again employed. In July, 1898, he was confined to bed suffering from symptoms of heart failure. The pulse was feeble, irregular, and intermittent, there were pallor and general feebleness, and the heart sounds were muffled and feeble, unaccompanied by a murmur. Under digitalis and rest in bed he improved and was able to get up later for half days, but the cardiac action remained feeble and he was subject to frequent attacks of threatening heart failure. In January, 1899, his feet and ankles became œdematous. From that date he was permanently confined to bed, showing only temporary improvement, and a discontinuance of the digitalis mixture was invariably followed by rapid and dangerous deterioration. Towards the end of October he failed rapidly, the œdema became more marked, and dulness was observed at both bases. The heart sounds could scarcely be heard. On Nov. 16th the breathing became shallow and difficult, loud râles were heard all over the chest, and he died on Nov. 18th at 6 55 P.M., being then 67 years of age.

Necropsy.—A post-mortem examination was made on Nov. 21st at 11 A.M. The body was emaciated. Rigor mortis had passed off and there was slight post-mortem lividity of the dependent surfaces. Both dura mater and pia-arachnoid were generally thickened but they showed no abnormal adhesions. The convolutions showed wasting, both cortex and white substance being atrophied. The lateral ventricles were dilated. There was marked atheroma of the basal vessels. The brain as a whole weighed 1340 grammes and after dissection 1243 grammes. On attempting to open the pericardium it was soon evident that much thickening existed and that the pericardial layers were firmly adherent. Continuing the incision round to the left side a cavity was opened and some thick, creamy, greenish-yellow pus exuded. The heart and pericardium were removed *en masse* and were found to weigh 530 grammes. On dissection the cavity above mentioned was found to be over the wall of the left ventricle and to contain about four ounces of pus. The walls were thickened and lined with a definite pyogenetic membrane. There was a smaller cavity over the left auricle containing thin ichorous pus, also with

thick and velvety walls The remainder of the pericardium [illegible] with complete firm adhesion [illegible] the left ventricle was hypertrophied [illegible] generally was of good colour and consistence The mitral orifice admitted the tips of two fingers only and the tricuspid orifice was somewhat dilated, but there was no structural valvular disease. The base of

The illustration shows the interior of the left ventricle. The abscess in the pericardium contained horsehair on one side and cotton wool on the other Note the thickening of the visceral pericardium

the aorta showed one or two small atheromatous patches After dissection the heart and pericardium weighed 420 grammes There were a few ounces of thin watery fluid in each pleura and some old firm adhesions The right lung weighed 750 grammes and the left lung 540 grammes They were very œdematous and had some hypostatic consolidation at the bases The liver weighed 1360 grammes It was congested and friable; the capsule was abnormally adherent, and on stripping left a coarsely granular surface The spleen (which weighed 160 grammes) was somewhat enlarged and tough in consistence The right kidney weighed 120 grammes and the left 150 grammes. The capsule in each was thickened and adherent and in the cortex of each were many thin walled cysts of various sizes The cortex itself showed atrophy The peritoneum contained a few ounces of clear watery fluid

Remarks—In this case the pericardial adhesion was evidently of old standing as proved by its dense form, and inseparable nature. Probably the starting point of the condition was an attack of acute or subacute pericarditis, as, according to Dr. F. T. Roberts[1] this is the cause in the large majority of such cases The only record of such an illness is in January, 1892, that is, nearly eight years before the patient's death That the existence of pericarditis was not then discovered is not altogether surprising if one considers the unmanned condition of the patient and also that influenza was prevalent at the time. This supposition is supported by the fact that after this attack the patient never enjoyed good health. In all probability a chronic serofibrinous effusion became converted into a general pericardial adhesion at a later date, a change possibly caused by the carbuncle which he suffered from in the following year or by the co existing Bright's disease Gradual abscess [illegible] then take place with the formation of the dense, firm adhesions, leaving the encapsulated collection of pus over the left ventricle, a situation to be expected on account of its wide range of movement

I am indebted to Dr J T Calcott, the medical superintendent, for permission to record this case

Newcastle-on-Tyne.

[1] [illegible] Medicine, [illegible]

SOME CASES SHOWING THE USE OF "GAS AND OXYGEN" AS AN ANÆSTHETIC IN CERTAIN OPHTHALMIC OPERATIONS

By W. J. McCARDIE, B.A., M.B., B.C. CANTAB.,

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In some ophthalmic operations a general anæsthetic is needful, either or chloroform being the more commonly used As many of these operations are but short ones the use of gas and oxygen whenever possible will obviously have great advantages over the other two anæsthetics. During the last two years I have administered the mixture in the 11 cases noted below in order of time They were not specially selected by myself as suitable cases for "gas and oxygen," but I was asked to give the mixture and did so successfully in most of them. Hewitt's apparatus was used.

CASE 1. *Removal of a small suppurating tumour of the eyebrow* (with Dr Wood White on March 28th, 1899)—The patient was a young man, very nervous, and rather unhealthy-looking Operation was performed in the consulting room The patient had a very light breakfast four and a half hours before He took about two minutes to get under The indicator at first was at 2, then gradually moved on to 0, where it was kept When under the pupils were rather dilated and the eyeballs were inactive and fixed, he was breathing quietly—snoring; his colour was as before anæsthesia, at the end of the fourth minute air was admitted, thinking the operation over, and conjunctival reflex returned Inhalation was resumed till the end of the operation, no inconvenience being caused to the operator The pulse was regular, rather slow, and of good volume The duration of the operation anæsthesia was a little over four minutes. Good recovery ensued, although the patient was rather dazed and incoherent of speech for a few minutes. The operator did not find the apparatus in his way

CASE 2. *Trichiasis of right eye* (with Dr. Wood White)—The patient was a girl, aged 14 years, strong and healthy, who came from a town about 30 miles away She took the mixture exceedingly well, she had a good colour throughout and was allowed a little air once There was no eye complication Operative anæsthesia lasted about two minutes The eyeball moved rather awkwardly to one or two, but the body was absolutely still There were no aftereffects. The patient caught the next train back in half an hour very comfortably.

CASE 3. *Tenotomy for strabismus* (with Dr Wood White)—The patient was a boy aged 10 years Operation was performed in the consulting room There was perfect anæsthesia with absence of the eyeball movements of the operation lasted about one minute There were no after effects whatever

CASE 4. *Tenotomy of the right rectus for squint* (with Mr Hales at the Eye Hospital, Birmingham)—The patient was a boy, aged nine years He took the anæsthetic well, but the operation lasted [illegible] minutes I was at the end therefore [illegible] of the operation there [illegible] coming probably to be [illegible]

CASE 5. *Tenotomy* [illegible] the Eye Hospital—The patient was a [illegible] about seven years [illegible] was soon well [illegible] half an hour [illegible] cases of [illegible] [illegible] to [illegible] [illegible] of the long [illegible]

CASE 6. *Excision of the eye* (at the Eye Hospital, Birmingham).—The patient was an old woman, aged between 65 and 70 years. She was very nervous and restless. She was edentulous. The head was in the mid-line. I could not get the facepiece to fit as air entered at the sides owing to absence of the teeth and absorption of the jaws. I could not get her under so gave chloroform, which the patient took well. After removal of the eyeball a communication of the orbital with the cranial cavity was found and I had to administer chloroform for about 15 minutes. Gas and oxygen would have been rather difficult to administer for so long for such an awkward eye operation, and as matters turned out there would have been no special advantage in using the mixture, but rather the reverse.

CASE 7. *Operation for entropion* (with Dr. Wood White).—The patient was a woman, aged between 65 and 70 years, in good health. Her head was a little raised on three pillows. She took the mixture quietly. Good anæsthesia. The indicator was kept at 8 or 10. The head being in the mid-position the patient began to snore and presently got a little blue owing to respiratory obstruction, causing some venous oozing in spite of plenty of oxygen, so I removed the facepiece and by manipulation restored a free air-way and then re-applied the facepiece, and anæsthesia was continued without recovery. Towards the end a little phonation was heard, but it disappeared on putting back the indicator to 6. The operator stood behind the patient's head. Recovery was rapid and the patient complained of no after-effects at all. Operative anæsthesia lasted four minutes.

CASE 8. *Tenotomy for strabismus* (with Dr. Wood White).—The patient was a woman, aged about 30 years. Operation was performed in the consulting-room. The patient was very nervous at first, laughing hysterically, but she gradually became quiet. There was good colour throughout; she was allowed two breaths of air. Excellent anæsthesia. Quiet, full recovery in from two to three minutes.

CASE 9. *Excision of small tumour of the right upper eyelid* (by Dr. Wood White).—The patient was a healthy young man, aged about 23 years. Operation was performed in the consulting-room. He took the mixture well and quietly. Once or twice the patient very slightly raised the right forearm and hand, but not inconveniently. He was slightly cyanosed at one time because I did not give him enough oxygen. Operative anæsthesia was just five minutes. Quiet recovery with no after-effects.

CASE 10. *Tenotomy of the right internal rectus for strabismus* (with Mr. N. H. Turner and Mr. Priestley Smith).—The patient was a girl, aged four years. The child was stout, healthy, cheerful, and tractable. She was shown the apparatus and bags beforehand and induced to try to blow into them for amusement; she was then put on the table. The child took the mixture admirably, only once lifting her arms. The head was in the horizontal mid-line position. I used the latest pattern of Hewitt's stopcock and beginning with the indicator at 2 I quickly moved it on to 8 and kept it mostly between 8 and 10, but occasionally opened the extra 10 inlet. A little cocaine was dropped into the eye before the conjunctival reflex had disappeared and when the operation was begun the eyeball was fixed, perfectly insensitive, and the pupils were of moderate size. The colour of the patient was very good throughout. The operation lasted from one to one and a half minutes as nearly as I could judge and during it the pulse and respiration were perfectly even and good. Recovery was very rapid and perfect, the child beginning to talk of many things in about a minute after removal of the facepiece and there were no after-effects. The child was not even fretful. Mr. Priestley Smith afterwards remarked that there was less congestion of the eyeball than there would have been during chloroform narcosis. This was a most successful case, for there are generally difficulties in administering gas or gas and oxygen to small children.

CASE 11. *Scleral puncture for recurrent glaucoma of the left eye* (with Mr. Priestley Smith).—The patient was a man, aged 60 years. The right eye had been already removed. The patient was of medium height, muscular, strong, and bearded. He lay in bed sideways to the window, the head of necessity being in the mid-line. As to the depth of anæsthesia I had, of course, to depend on respiration and colour chiefly. After well wetting the beard the facepiece was applied and the mixture was administered. The patient went under quietly, but when deep anæsthesia was attained the tongue fell back, with consequent cyanosis, venous engorgement, especially in the eye, and respiratory embarrassment. However, the operation was begun, the apparatus was removed, and by well pulling forward the chin proper breathing quickly returned and the venous engorgement disappeared. The patient then began to phonate a little, so more of the mixture was given, but a lighter anæsthesia was maintained till the operation, which was only a very short one, was finished, no further trouble occurring. The whole period of anæsthesia lasted about one and a half minutes. Recovery was extremely rapid and the patient declared that he had felt nothing of the operation, which, however, caused severe after-pain, necessitating the injection of morphia. Had it been possible in this case to have kept the patient's head on one side the respiratory embarrassment probably would not have occurred. I generally find that in children the head can be easily maintained in the horizontal mid-line position without causing falling back of the tongue; but in adults, and especially in strong plethoric men of middle age, it is often otherwise, more particularly when nitrous oxide is being administered.

Remarks.—I have not yet had an opportunity of trying the mixture for iridectomy or uncomplicated excision of the eyeball. Probably a deep enough anæsthesia for most eye operations is attainable in properly selected cases. Dexterous management is of course necessary in using the rather complex apparatus and the more so as the facepiece and stopcock are so near to the region of operation. It will be observed that the age of the youngest patient was four years and that of the oldest between 65 and 70 years.

The special advantages of using gas and oxygen in eye work are: (1) the almost absolute safety of the mixture, which is the safest anæsthetic known; (2) the rapid induction of anæsthesia, the patient being under in less than two minutes; (3) the induction is without incident and the maintenance in the best cases is quite sleeplike, while full recovery occurs in less than two minutes; (4) the absence of after effects, the patient being able to leave the room in a very few minutes; (5) the eyeball is fixed, the orbicularis muscle is relaxed, and congestion can be entirely avoided by the allowance of sufficient oxygen, while there is no retching, sickness, cough, straining, or unconscious after-movement causing increased intra-ocular vascular tension; (6) the upright chair or semi-recumbent position on a couch can be conveniently and safely assumed; and (7) this method of anæsthetisation is, for several of the above given reasons, admirably adapted for consulting-room work.

If there be any doubt as to the success of the administration it is perhaps well to have an ether inhaler, ready charged, to hand. It is not advisable to give chloroform after the mixture. With regard to limitations in usage it is not judicious to give gas and oxygen to big, strong, or much bearded men, to alcoholics of either sex, or to very young children, especially for delicate operations. In Case 6 it was impossible to give it to an edentulous and restless old woman. In adults especially it is important to keep the patient's head turned to one side to prevent obstruction to respiration, and in some cases the jaw must continuously be pushed forward to keep a free air-way. There is the disadvantage to the mixture that in operations immediately followed by pain the patient awakes at once to the sense of it and it may be necessary to inject morphia. Nevertheless, even if this be so, the absence of such after effects as retching, vomiting, &c., which so often follow the administration of ether and chloroform, will alone more than compensate for the rapid awakening to pain. Occasionally the operator may find the facepiece in his way, but after a little experience he will probably be but little, if at all, inconvenienced.

After all, the greatest good can be obtained from this or any other anæsthetic by giving it to the most suitable patients and not by administering it indiscriminately in any or every case. Personally, I have been, on the whole, very pleased with the success attained, especially in the operations for strabismus, and in that particular one on the little child, aged four years (Case 10). I think that these cases show that gas and oxygen may be often used with advantage in certain ophthalmic operations. It does not seem quite fair to the patient, if the operation be of short duration, as is very frequently the case, to subject him to the risks attending the induction and maintenance of anæsthesia by

chlorofor[illegible] unpleasant after effects of these [illegible] as gas and oxygen can possibly [illegible]

Birmingham.

ON A FATTY TUMOUR OF THE ASCENDING COLON; ENTERECTOMY; RECOVERY.

By J. BLAND-SUTTON, F.R.C.S. Eng.,

ASSISTANT SURGEON TO THE MIDDLESEX HOSPITAL; SURGEON TO THE CHELSEA HOSPITAL FOR WOMEN.

It has long been known that lipomata occur in the submucous coat of the stomach, jejunum, ileum, and colon, and they have been reported as forming one kind of rectal polypus. I have always been disposed to regard them as pathological curiosities until the case which forms the subject of this record came under observation.

Mr. W. Gifford Nash of Bedford asked me to see a man, 44 years of age, on account of trouble connected with the large bowel on the right side. The patient had suffered certainly for seven years from indefinite disturbances of the intestines; eventually the seat of trouble was localised in the neighbourhood of the cæcum. A physician of repute regarded the condition to be chronic inflammation of the cæcum and Mr. Nash strongly inclined to the opinion that the mischief was due to old appendicitis.

In November, 1899, the patient had a violent abdominal seizure and threatened intestinal obstruction. The rectum was emptied by enemata and obvious resistance could be felt in the region between the cæcum and the umbilicus. The pain was subsequently definitely centred in that spot throughout the rest of the illness. From this time onward the patient became liable to attacks of colic and a sensation as though something was being forced into the cæcum and on manipulation the lump could be passed upwards towards the umbilicus. By careful attention to the bowels the frequency of the attacks was [illegible] which the attacks of c[illegible] anxious for his life. In J[illegible] of Dr. W. Cayley. There [illegible] presence of a definite fairl[illegible] hood of the cæcum. Of its nature we could not be certain, but the long history of the symptoms encouraged us to dismiss carcinoma. In January I performed cœliotomy and exposed the cæcum. Two inches below the ileo-cæcal valve a lump could be felt in the colon. The abdominal cavity was isolated with sterilised dabs and an incision was made over the tumour. This was ovoid, one pole being embedded between the mucous and muscular coats; the remaining two-thirds of the tumour, covered with mucous membrane, projected into the lumen of the ascending colon. On splitting its capsule I was astonished to find a large lipoma. After enucleating it the mucous coat was sutured with a continuous silk suture and the muscular and serous coverings were drawn over it with interrupted silk sutures. The line of sutures remained exactly under the abdominal incision and I deemed it prudent to retain it in relation with the wound by means of a thin narrow strip of gauze. The margins of the wound were secured in three layers and dressed with gauze and Gamgee tissue. Recovery was uneventful and the patient is in excellent health.

The tumour is a lobulated lipoma weighing two ounces. Although it burrowed between the mucous and muscular coats of the bowel I think that it probably arose in the subserous fatty layer because when engaged in removing the tumour I noticed a deep dimple in the serous investment of the colon immediately over the attached pole of the tumour. Mr. Stabb operated upon a man for acute intussusception of the ileum due to a lipoma and he draws attention to an infundibular recess in the serous coat of the gut at the base of the tumour.[1] The lipoma which forms the subject of my communication is preserved in the museum of the Royal College of Surgeons of England.

[illegible] W.

[1] [illegible]

A CASE OF INCOMPLETE DEVELOPMENT OF THE THIRD AND FOURTH RIBS.

By F. B. JEFFERISS, M.R.C.S. Eng., L.R.C.P. Lond.

As there are only a limited number of these cases published I take the opportunity of describing the following instance which occurred in a rather poorly nourished boy, aged 12 years.

On inspection the right side of the chest presented obvious flattening and a deficiency in muscular covering which gave it a very wasted appearance. There was no nipple on this side. On abducting the right arm the anterior axillary fold was represented by a well-marked fold of skin extending from the level of the fourth costal cartilage to half-way down the arm; there was no muscle whatever in this fold. The first and second ribs appeared to be quite normal but seemed rather close together. Between the lower margin of the second rib and the upper margin of the fifth there was an obvious deficiency in the bony chest wall which extended out as far as the mid-axillary line. This space was covered by normal skin and under this was seen

The illustration shows the [illegible] of the third and fourth right ribs.

and felt a firm yielding fascia like structure which was made up of tense vertical bands. One especially strong band extending between the second and fifth ribs at their [illegible] with their cartilages was well seen on deep inspiration. The right free margin of the sternum was easily felt with the prominences for articulation with the third and fourth costal cartilages. In the mid-axillary line a hard [illegible] prominence was felt which seemed to be the free end of the third rib. Half an inch below this the fourth rib was felt to run downwards towards the fifth and [illegible] apparently above and behind it at the anterior axillary fold. There was no trace of the pectoralis major on the right side, while the pectoralis minor was represented by a small but very strong muscular slip extending between the [illegible] process and the first rib [illegible] was more developed than the left. The boy has complete use of his right arm [illegible]

good expansion of the chest. The deficient side measured 12½ inches from the middle of the sternum to the spine at the nipple line as compared with 13¼ inches on the left side. There was slight lateral curvature of the spine in the upper dorsal region with the convexity on the right side and a compensatory curve in the lumbar region.

Chatham.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

KING'S COLLEGE HOSPITAL.

A CASE OF PRESSURE ON THE LEFT BRONCHUS; RECOVERY.

(Under the care of Dr. NORMAN DALTON and Dr. GREVILLE MACDONALD.)

COMPRESSION of the trachea by a gumma must be a condition of decidedly rare occurrence, and that in this case the gumma was external to the trachea and not in the substance of the wall is rendered almost certain by the signs of concomitant pressure on the aorta. Syphilitic disease of any form is rare in the trachea, and Morell Mackenzie[1] met with only three cases out of 1145 cases in which the pharynx, larynx, or trachea was affected. The fact that treatment with potassium iodide was followed by the disappearance of the swelling and of the symptoms and signs is very strongly in favour of the mass being gummatous, but several of the granulomata tend to diminish in size under the administration of this drug.

The patient was a man, aged 34 years. He was an old soldier and had been a prison warder for the last eight years. He had been quite well until six years before admission, when he began to suffer from a pain between the shoulders. This pain when present was continuous, but it was occasionally absent for two months at a time. It was sometimes so severe that he could not lie down. He was first seen in the out-patient room by Dr. Dalton. In addition to the above symptoms the patient complained of cough and difficulty of breathing and he said that for the last few days he had been bringing up blood through the nose. He was not aware of any alteration in his voice. The pain was now chiefly under the left shoulder-blade, but extended round the left side to the epigastrium. On examination it was found that there was considerable difficulty in breathing, the inspiration being forcible, while the chest did not expand freely. His distress was obvious, but still not so acute as in laryngeal obstruction. The only abnormal physical signs which could be detected in the thorax were as follows: (1) the air did not enter freely into the lower lobe of the left lung; (2) there was a sibilus to be heard over the left bronchus between the scapula and the vertebræ, at every inspiration, the breath sounds elsewhere being normal; (3) there was some tenderness over the spines of the dorsal vertebræ from the fourth to the eighth; and (4) the second sound over the aortic valves was accentuated. A provisional diagnosis of pressure on the lower branch of the left bronchus was made and on Dec. 14th, 1898, the man was admitted into the wards under the care of Dr. Dalton.

Further examination confirmed the presence of the physical signs which have been mentioned and, in particular, after repeated examinations it was certain that the air did not enter freely into the base of the left lung and that there was always a sibilus over the left bronchus. In addition it was thought that there was a slight diminution of resonance on percussion at the left base and that the left side of the chest did not expand so freely as the right, but the differences, if any, were extremely slight. No physical signs of an aneurysm could be detected, but from time to time a faint systolic murmur could be heard over the front of the chest, not at the apex but a little above the left nipple. This bruit could be best heard when the lungs were emptied as much as possible by a full exspiration. It was not audible over the back. During his first few days in the wards the patient's breathing continued [illegible] not sleep well. He did not complain of [illegible] it was noticed that he washed down any solid food which he was given with more fluid than is usual. The diagnosis of pressure on the left bronchus appeared to be confirmed but it was not possible to detect what the cause of the pressure might be. No history of syphilis was obtained but iodide of potassium was given from the first.

As a further help to diagnosis Dr. Greville MacDonald was asked to examine the larynx. He reported that the larynx was normal, but that he could distinctly see a bulging inwards of the trachea on the left side, just above the bifurcation. The projection was of about the size of a segment of a cherry and he was quite sure that it did not pulsate. This examination was made during the first week of the patient's stay in hospital and, although it is possible for an aneurysm filled by hard clot to cease to pulsate, the treatment by iodide of potassium was now pushed in the hope that the swelling might be a gumma. By Dec. 28th, a fortnight after admission, the breathing was much easier and the patient slept better. It may be mentioned that he did not bring up any blood while he was in the hospital. On Jan. 6th, 1899, he left the wards, but was kept under observation as an out-patient by Dr. MacDonald and Dr. Dalton. The patient continued to improve and when last seen there was no difficulty of breathing, the air entered the left base freely and the projection into the trachea had entirely disappeared. The faint bruit had become inaudible before he left the hospital and was probably due to pressure of the gumma on the aorta. The patient has now been lost sight of but it has been ascertained that in September, 1899—i.e., eight months after he left the hospital—he was well. It is clear that there was a growth at the root of the left lung, bulging slightly into the trachea as could be seen and compressing the lower branch of the left bronchus as shown by the physical signs. It must therefore have been rather a diffuse mass for which reason it might be supposed to have consisted of enlarged glands, but its disappearance under iodide of potassium suggests that the lesion, whether glandular or a diffuse infiltration, was syphilitic in its origin.

[1] Diseases of the Nose and Throat.

NEW YORK POST-GRADUATE HOSPITAL

A CASE OF ACUTE YELLOW ATROPHY OF THE LIVER.

(Under the care of Dr. STEPHEN SMITH BURT.)

OF the theories which have from time to time been advanced in explanation of the phenomena of acute yellow atrophy of the liver there is none which is more probable than that which ascribes the disease to a toxin absorbed from the alimentary canal by the radicles of the portal vein. The liver would certainly bear the brunt of such an attack, though other organs would also suffer, but in a less degree, as the poison would reach them in a more diluted condition. The changes produced in the liver-cells by phosphorus closely resemble those present in acute yellow atrophy, but with phosphorus the liver is enlarged in place of being diminished in size. Dr. Burt's case is of great value, because it was under observation from the very beginning.

A girl, aged 13 years, was admitted into the New York Post-Graduate Hospital on Oct. 29th, 1897. Her father was insane, but otherwise the family history was negative. The patient had an attack of measles when she was four months old and later suffered from diphtheria; she had cervical adenitis when she was a baby. Four years before admission she had facial erysipelas and soon afterwards suffered from chills and fever; she had never had rheumatism. For several years before admission she had had shortness of breath on exertion which had steadily increased. One year before admission the abdomen began to swell and it had continued gradually to grow larger. During the past year there had been puffiness under the eyes and the legs had been œdematous. The nose had bled a number of times and now and then bleeding from the ears and gums had occurred. The appetite was good, the bowels were regular, and she slept well. She had been slightly jaundiced for six or eight months; this yellow discoloration of the skin had recently increased. Examination of the urine showed that the

reaction was acid and that the specific gravity was 1015; the colour of the urine was red, the consistency was fluid, and the sediment resembled brick-dust. On chemical analysis of the urine a trace of albumin was found but no sugar. Microscopical examination revealed the presence of a large number of granular and epithelial casts, of renal epithelium, and of bacteria in large numbers. At the last examination of the urine made on Oct. 31st, 1897, there were blood-casts in abundance and a large amount of blood. There is no record of the presence or of the absence of leucin and tyrosin.

Physical examination of the patient, upon admission revealed the presence of mitral insufficiency; the area of cardiac dulness was increased with diffused apical impulse. The abdomen was distended with fluid, the liver was enlarged, and superficial veins were prominent. The spleen was not made out. The lower extremities were œdematous. On Nov. 7th 57 ounces of fluid were withdrawn from the abdomen by an aspirator. On the 17th a small incision under cocaine was made in the median line in the abdomen, a drainage-tube was passed into the abdominal cavity, and 54 ounces of fluid were removed. The tube was left in for permanent drainage. Later (on the 21st) it was removed. During this time notes were made recording the recurrence of frequent hæmorrhages from the mouth. There was vomiting on the 25th, 26th, and 27th. The temperature was normal, except from the 18th to the 21st, during the retention of the drainage-tube.

On Dec. 1st the patient came under Dr. Burt's care and observation. Physical examination revealed a systolic murmur, loudest at the apex and transmitted to the left; the apex beat was below and beyond the normal position with a fairly strong impulse. The diagnosis arrived at was mitral insufficiency with compensatory hypertrophy re-established. The lungs were examined with a negative result; the liver was decreased in size and the spleen was enlarged; the patient was deeply jaundiced. The ascites and œdema had disappeared; the temperature was normal. For the next three or four days the patient was up and about and even went down from the ward to the clinic. On Dec. 4th there was epistaxis and again on the 6th. The decrease in the size of the liver and the increase in the size of the spleen were more pronounced; the vertical measurement of the liver was three inches in the right mammillary line. The action of the heart was weak. She had in the meantime taken to her bed and her mental condition was reported as dull, stupid, and, finally, semi-comatose. On the 7th it was noted that she had vomited during the previous night and that she had been very restless and noisy. Again during that day she was continually rising and trying to get out of bed. Her pulse had risen to 116 per minute and her temperature ranged from 100° to 102° F. On the 8th she was exceedingly restless and irrational and noisy even to screaming. The liver measurement was not quite two inches in the right mammillary line. The tongue was dry and reddish brown in colour; sordes was on the lips and teeth. The heart was weak and rapid. On the 9th the heart was rapid, weak, and irregular, beating 140 per minute, the respirations were 40, and the temperature was 102°. The liver had decreased in size almost to the point of entire disappearance. The jaundice seemed to be even deeper than it was before. There were involuntary movements of the extremities, hæmorrhage from the mucous membrane of the mouth, and vomiting. The [illegible] 11 o'clock on the previous [illegible] and the pulse was almost [illegible]; at 8 P.M. Permission for a necropsy was requested but unfortunately was not granted.

Remarks by Dr. BURT.—Inasmuch as acute yellow atrophy of the liver is an exceedingly rare affection the above case is placed upon record. Up to this time about 250 instances of the disease have been reported. Murchison states that only one case occurred among 30,000 patients in the period of six years at the London Fever Hospital. There is no mention of this disease in Vols. I. VII of the Johns Hopkins Hospital Reports. Nor was a case published between 1890-99, including Vols. VI.-XIV., in the *Pathological* [illegible]. There is no memorandum of a particular case of acute yellow atrophy of the liver in the Post Graduate Hospital since its foundation. In the Transactions of the New York Pathological Society from 1873 to 1899 there are five cases reported. In the *Boston Medical and Surgical Journal* from 1893 to 1899, comprising Vols. CXV. [illegible], there are three cases published. Among the proceedings of the Pathological Society of Philadelphia from 1857 to 1899, including Vols. I.-XX., there are but two cases narrated, with, in addition, an account of the examination of a specimen of urine from another. It is stated that "this disease is characterised anatomically by a rapid diminution in the size of the liver as the result of a granular and fatty degeneration and disintegration of the liver-cells"; and also that "it would seem that there is an initial inflammatory period of short duration, from the frequently perceptible enlargement in the beginning." Delafield and Prudden state that "the cause of the disease is unknown and it is doubtful whether it is a disease primarily of the liver or a general disease with local lesions." My own observations incline me to the belief that it is a general disease with the liver as the chief seat of local manifestations. Some authorities consider it to be an infectious disease and others a species of auto-intoxication. Certainly its occurrence among a number of persons closely associated, and at the same time isolated, from the rest of the world, as were a number of sailors, leans with it a suggestion of infection. Likewise, several members of the same family have suffered from its blight consecutively. Yet it may be due, as Tyson says, "to the action of some virulent poison, possibly autogenetic, the nature of which is as yet undiscovered."

The disease is said to occur more commonly among women and to be more likely to appear as a complication of pregnancy. Nevertheless, it has been noted with frequency, relatively speaking, in men and among both sexes in childhood. Without doubt it is a disease of early life. Among the exciting causes are mentioned syphilis, pregnancy, intemperance, and, above all, great mental agitation. Notwithstanding this, in the history of the above case there was not a can ality of syphilis, pregnancy, or intemperance, nor yet of perturbation; but there is a possible connexion between the drainage tube which was inserted in the abdomen for ascites and an infection, in view of the presence of fever during the retention of this foreign substance.

Of the 11 examples, including my own, which I have collated, one succeeded criminal abortion, one came two months after childbirth, one occurred at the sixth month of pregnancy, one was thought to be due to infection from pyosalpinx during a surgical operation, one was possibly caused by injuries due to brutality, one followed disease of the abdomen, and of five the sequence was mentioned. There were males as frequently as females, and the sex of one was not given. The ages of the patients were as follows: one, 13 years; one, 21 years; one, [illegible] years; one, 24 years; one, 29 years; one, 30 years; one, "between 20 and 30" years; and one, 40 years; while the ages of three were omitted. In a case published by F. C. Shattuck of Boston the absence of fever and of leucin and tyrosin in the urine was especially remarked. Other authors state that these crystals are not distinctive of acute yellow atrophy of the liver. Of the 11 instances there did the presence of leucin and tyrosin was noted in two, their absence in one, and from being simply [illegible] in the remaining [illegible] to make the examination in eight [illegible] case, it practically [illegible]. In four patients the temperature was either normal or [illegible], in two of whom it suddenly rose to 105° F. just before death.

An interesting case published by A. F. H. [illegible] Cambridge, was called acute red atrophy of the liver. He makes the distinction that red atrophy is a more acute form of what is commonly designated as yellow atrophy. Delafield and Prudden make no [illegible] the liver] the cut surface may be of a little more of a lobular structure but presents an irregular mottling with grey, white, yellow, or red, in the above case, [illegible] and yellow, or red, in the above case, [illegible] and [illegible] proper details.

In the above case we have the history of a patient who came to the hospital for [illegible] [illegible] who died [illegible] of the disease, [illegible] by Dr. Burt. It had [illegible] the 9th. Contrary to the [illegible] [illegible] quite in accord with [illegible] there was [illegible] system. It was [illegible] made to the abdomen [illegible] in this instance. [illegible] last was [illegible] [illegible] of the disease [illegible] of the [illegible] of the [illegible]

disease." There were evidences of renal as well as nasal and buccal hæmorrhages. It is to be regretted that neither leucin nor tyrosin was looked for in the urine. The increased size of the spleen and the rapid decrease in the size of the liver were easily demonstrable owing to the freedom from gas in the intestines.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Excision of the Gasserian Ganglion for Trigeminal Neuralgia.—The Causes of the First Sound of the Heart.

A MEETING of this society was held on May 14th, Dr. FREDERICK T. ROBERTS, the President, being in the chair.

Mr. J. HUTCHINSON, Jun., read a paper on Excision of the Gasserian Ganglion for Epileptiform Neuralgia of the Fifth Nerve. He narrated briefly a series of cases in which he had performed this operation by the method of trephining through the floor of the temporal fossa and lifting up the dura mater and temporo-sphenoidal lobe. The first of these cases was operated on two and a half years ago and in all of them the neuralgia had been completely cured. Atrophy of the masticatory muscles on the affected side, which was a necessary sequence of the operation, caused very little inconvenience, but if the ophthalmic division had been completely divided (which the speaker believed to be unnecessary in many cases), there was some risk of the anæsthetic cornea undergoing ulceration, and this might happen at any date after the operation. In only one of the cases brought forward had this unfortunate result occurred, and this patient had suffered from conjunctivitis before the operation. Mr. Hutchinson urged that the temporal route (Hartley Krause method) was the only one by which the Gasserian ganglion could be really exposed, and mentioned that in one of his cases a prolonged attempt had been made previously by another surgeon to remove the ganglion from below after division of the zygoma, &c. The neuralgia had returned worse than ever and at the second operation Mr. Hutchinson found the ganglion and its branches quite intact He thought it probable that intracranial division of the superior maxillary nerve would supersede the so-called excision of Meckel's ganglion in cases of neuralgia confined to the upper maxillary division, and urged that excision of the Gasserian ganglion should be resorted to in cases of inveterate neuralgia of the fifth nerve in preference to a series of palliative operations on its branches, and before the patients were completely worn out by pain and want of rest. The deformity left after the operation was trifling, the scar being situated within the margin of the hairy scalp, and the relief appeared to be permanent.—The PRESIDENT remarked on the use of the word "neuralgia." He thought that a good many cases so called were in reality due to organic nerve lesions, though nothing very definite was found in the way of structural change. Sometimes, however, there might be a fibroid thickening, as in some of Mr. Hutchinson's cases He thought they ought to try to find out what the change was in neuralgic cases. The treatment of these cases of inveterate trigeminal neuralgia was very difficult and it was a great advantage to know that an operation such as this could be performed which would give relief to this most troublesome condition.—Dr. A. E SANSOM complimented Mr. Hutchinson on his admirable contribution. He would like to know what was the kind of case for which the operation was most suitable. He supposed that when the pain was exceedingly acute and exceedingly protracted the operation would be of great service. In such cases many remedies were tried without success.—Mr. HUTCHINSON, in reply, said it was unsatisfactory not to be able to assign a lesion to these cases. In one case he had seen reported a neuroma had been found and this tended to confirm the President's suggestion of fibrosis. As to which cases were suitable and when the operation was justifiable, in all of his cases the neuralgia had lasted at least five years, but he thought that two or three years would be long enough to wait These patients deteriorated, especially when they took to morphia, as they so often did In some cases the pain was confined to one branch, and these could be cured by a more limited operation. A free removal of the affected branch would suffice. But if the pain affected two divisions and had an epileptiform character, if it had lasted at least a year, and the patient was running down hill, then the operation should be performed. This operation left no stiffness of the lower jaw; other operations were much more elaborate and they left greater scars and more often failed.

Dr. ALEXANDER MORISON read a paper entitled a Clinical Study of the Causes of the First Sound of the Heart, which will be found *in extenso* on p. 1430 of the present issue of THE LANCET.—Dr. A. E. SANSOM remarked that a great many views had been suggested as to the causes of the heart sounds, especially the first. He thought it a very important and valuable fact that extensive disease of the cardiac valves could exist without any murmur at all. He could not agree that all the old views were disproved. Tension must, he thought, play an important part. There were a good many cardiac structures which could be thrown into a state of tension. In some of the most hypertrophied hearts he had seen there had been no first sound at all. In cases of mitral stenosis with very thick muscular walls he had sometimes wondered how a very sudden first sound could be produced. He could not believe that the condition of the blood had really much to do with the heart sounds. The impact of blood on solid structures might produce the sounds, but not blood against blood. Tension, whether of muscle or other tissue, might produce heart sound; and he believed tension was the cause of the first heart sound.—Dr. ROBERT MAGUIRE said he would confine his remarks to the cause of the first heart sound. He disagreed with Dr. Morison in some respects, but believed he was correct in the main. He believed that Sir Richard Quain was correct and that the first sound was produced by one column of blood shooting through another column of blood. He doubted if muscular action took any part in the production of the sound. Physiologists were apt to be dogmatic, but clinicians had opportunities of forming a judgment which was wanting in physiologists. The first sound of the heart was produced by one column of blood against another, or one bubbling through another, or by the impact of one column against another; and might not murmurs be due to the same thing modified?—Dr. MORISON, in reply, said that he had tried to show that the first sound was produced in the right ventricle. As to the precise manner in which it was produced some experimentalists were in favour of the arterial valves and some held that tension had something to do with the production of the sounds, but in his belief the main element was the blood. Sir Richard Quain had come in for a great deal of criticism, especially at the hands of physiologists, but in spite of Ludwig and his rabbits' hearts he (Dr. Morison) believed—nay, he was fully convinced—that Sir Richard Quain was right and that the first sound depended on the blood for its production.

At the annual meeting which was held previously to the ordinary meeting the following were elected as officers for the session 1900–1901:—President: Mr. John H. Morgan. Vice-Presidents: Dr. Samuel West, Mr. Howard Barrett, Dr. Isambard Owen, and Sir Wm. Mitchell Banks. Treasurer: Mr. David H Goodsall. Librarian: Dr. Sidney Martin. Honorary secretaries: Mr. Frederick C. Wallis and Dr. Arthur F. Voelcker Honorary secretary for foreign correspondence: Dr. William Ewart. Council: Dr. William H. Allchin, Mr. William H. Battle, Mr. James Berry, Dr. J. Mitchell Bruce, Dr. Henry A. Caley, Dr James Calvert, Mr. Dennis J. W. Dillaway, Dr. George E Herman, Dr. G. Washington Isaac, Dr. Robert Maguire, Mr. Alexander Morley, Mr. C W. Mansell-Moullin, Dr. J. Baldwin Nias, Dr. H. Campbell Pope, Dr. Frederick T. Roberts, Dr. Humphry D Rolleston, Dr. Frederick J. Smith, Mr. George R Turner, Dr. Herbert F. Waterhouse, and Dr. Edward G. Younger.

PATHOLOGICAL SOCIETY OF LONDON.

Laboratory Meeting.

A MEETING of this society was held in the Pathological Laboratory of King's College on May 15th, the Right Hon. Lord LISTER being in the chair.

Lord LISTER, on taking the chair, thanked Professor Crookshank and the Council of the College for their reception of him and remarked on the success of the laboratory meetings.

Professor E. M. CROOKSHANK made a communication, illustrated by lantern slides, on the Flagellated Protozoa of Field Rats. 14 years ago he had written a paper on this subject. These organisms were first observed by Evans in equines in India and subsequently by Timothy Lewis in the blood of rats. Steel described them as spirilla having a long, whip-like flagellum. Some had regarded them as amœbæ. But by the aid of a very high power—viz., an oil immersion lens $\frac{1}{12}$th inch—their structure could be made out, and Professor Crookshank had found them to be more highly organised than had been supposed. They had a torpedo-shaped body and a flagellum, or rather a tractellum, in front, a stiff spike-like process behind, and one or more nuclear structures in the body. They also had a delicate undulating membrane like a fin which was their most remarkable feature. This was the usual form, but there were other forms—e.g., amœba like without flagellæ and developmental forms. The organism found in South Africa seemed morphologically different, but it would be interesting to know if it had any relation to that found in this country. It was found in about 25 per cent. of rats in London sewers, and this had led to the suggestion that they were associated with some disease, though they displayed no symptoms. But he (Professor Crookshank) had now found it in field rats with completely healthy surroundings. It could not be found in every rat examined; he had examined 10 before finding it. It was found in young as well as old rats. He had not been successful in finding it in weasels or stoats.

Dr. GEORGE DEAN described a Convenient Method of Preparing and Preserving Tetanus Toxin. It was necessary to exclude the oxygen of the air in the process of growing the tetanus bacillus and maintaining its toxicity. Reducing substances were formerly used but there was a good deal of risk with stoppered bottles which might burst and were otherwise unsuitable. Dr. Dean then described the apparatus he had designed. The bottle had an inner and an outer neck, between which was a trough of mercury, and into this a cap was dropped. The flask was nearly filled, but not quite, so as to allow for the expansion.

Dr. R. T. HEWLETT and Mr SYDNEY ROWLAND demonstrated their New Quantitative Method of Serum Diagnosis. The blood was collected in vaccine tubes which were sealed in the usual way. In the laboratory the volume of the blood was calculated by measuring the length of the column of blood by means of a millimetre scale and the diameter of the tube by an eye-piece micrometer. The tube with its contents was then crushed with an iron-plunger in a thick-walled glass tube, the lower end of which rested in a hollowed-out block of glass. The requisite amount of the diluting fluid was measured into the hollow block and the blood washed out of the thick-walled tube by drawing up . The dilution could then be dal test.

[illegible] MOLAIRAN made a communication on the Passage of the Virus of African Horse Sickness through the Berkefeld and Pasteur-Chamberland filters. He first remarked that this disease had made tremendous ravages in South Africa. In one single epizootic in 1854-55 it was reported that over 60,000 horses died in the colony, at a loss of £500,000 sterling. The disease was regarded locally as a kind of malaria, but Mr. Lambert, of the Army Veterinary department, 20 years ago made a good many necropsies on animals dead from the disease, and he had regarded it as anthrax in horses. On the other hand, in 1857, Mr. Nunn concluded as the result of his experiments that it was not anthrax. It could not be transmitted to rodents or contracted by human beings as anthrax could; and he had failed to transmit it from horse to horse by inoculation. In 1894 Sander, a German naval medical officer, came to the conclusion that it was anthrax. It was to Edingham (1892-95), however, that they owed all their present knowledge. He decided that it was anthrax, from which disease it differed clinically and anatomically. He found an organism which took the form of spores and filaments. Professor McFadyean's experiments had been made with the blood from an animal which died from the disease in South Africa. He injected other horses from the blood of the first and so obtained a constant supply of infected and virulent blood. The animals received fever on the seventh or eighth day and mostly died on the ninth or tenth. One animal became infected by the administration of the virus by the mouth. The lesions found were characteristic. He passed various dilutions of the blood of infected animals through both the Berkefeld and the Pasteur-Chamberland filters and found that the filtrate was capable of producing the disease. Animals so treated died on the eighth or tenth day. The only organism which could be seen by the microscope and which would pass through a filter was the bacterium of bovine pleuro-pneumonia, and this required a magnification of 2000. These experiments were interesting as showing that the infective agency of this South African disease could pass these first-class filters without loss of virulency. Professor McFadyean suggested that the reason the attempt to discover the organism of a number of diseases failed was perhaps because it was not visible with the existing powers of the microscope. Filtration did not arrest the rinderpest.

Dr. W. BULLOCH and Dr W. HUNTER communicated a paper entitled, Preliminary Communication with Demonstration of the Existence of a Hæmolytic Poison in Pyocyanic Toxin, and an Anti-hæmolytic Body in the Blood Serum of Immune Animals. They first referred to the hæmolytic properties of the blood of animals with which the blood of other animals had been injected. In tetanus there were two kinds of toxins—a tetano-spasmin and tetano-lysin; and by injecting these into animals it was possible to produce an anti-spasmic and an anti-lysic body. Dr Bulloch and Dr. Hunter had investigated the properties of the bacterium pyocyaneum, which was occasionally, though rarely, pathogenic in man. The hæmolytic effects of three toxins on the red blood corpuscles of the horse, rat rabbit, and monkey were tried by means of Erhlich's methods. By inoculating a goat a material could be procured which protected the corpuscles from hæmolysis.

Dr. GEORGE NEWMAN had experimented with 29 different species of animals, testing their inoculability with tubercle. He found that guinea-pigs could always be inoculated with the tubercle of mammals, but never with that of birds. As regarded fishes and reptiles he had not yet succeeded in finding a bacillus which would answer all the tests of tubercle. Tubercle tended to attack different situations in the different species; thus in birds tubercle attacked the abdominal viscera, rarely the lungs, whereas in cattle chiefly the serous membranes were affected. A little flask of inoculated pseudo-bacillus was also shown.

Dr. R. T. HEWLETT demonstrated the Indol like Reaction given by Cultures of the Diphtheria and of the Pseudo-diphtheria Bacillus. The reaction was not obtained in cultures under four days but became marked in cultures from two to three weeks old. The substance giving the indol red reaction with a nitrite and acid was not, however, indol, for it was non-volatile. Attempts were being made to isolate the compound which was possibly skatol-carbonic acid.

Dr. J. H. DIVSDALE gave a demonstration on his researches into the Bacillus Capsulatus Aerogenes, the so-called post-mortem emphysema of cigars being due to this organism. He had found it most frequently in bodies of persons who had suffered loss of blood before death. He believed that to ascribe gangrene to this organism was going beyond the facts.

Mr. PRYCE JONES exhibited Three Members of the Group of Streptothrix Isolated from Horse dung, Drinking water, and Rum. It was often very difficult to grow. All the specimens existed as threads, beaded and non beaded.

Mr. S. G. SHATTOCK exhibited specimens Illustrating Infective Processes and Human Parenchymatous Pseudo-[illegible] case.

CLINICAL SOCIETY OF LONDON.

Acute Hydrophobic Insanity Influenza.—Operative Treatment of Gall-stones.—Pathological Cases in an apparently Healthy Man.

A MEETING of this society was held on May 11th. Dr BRODRICK SANDERS, the President, being in the chair.

Dr. M. PRICKETT and Dr. F. E. BATTEN read a joint paper on an account of a case of Acute Hydrophobic Insanity. [illegible] a boy, aged nine years, who, in January, 1899, first [illegible] a slight attack of [illegible] for a day. He rapidly recovered and [illegible] for [illegible] days. He played with the other children as usual. On the morning of the fourth day after the attack, when the [illegible] went to wake him for his bath, he spoke to them in French, [illegible] that he did not want his bath and [illegible] fright. It was then found that he was [illegible] He was very [illegible] at the boy was [illegible] at the boy was [illegible] at the boy was [illegible]

Dr. JAMES BRAITHWAITE (Leeds) read a paper upon two cases of Ventro-fixation in which subsequently pregnancy took place and both patients were delivered at full term. In one there was a good deal of pain in the line of the incision evidently from dragging of the enlarging uterus upon this fixed point. Nevertheless, all went well in the end, but there was inertia of the uterus towards the end of the labour and forceps had to be used. In the second case the patient was practically without symptoms referable to the operation. [illegible] following points in this ope[illegible] [illegible]n-interference with expan[illegible] during pregnancy. First, [illegible] be made down to, but not through, the peritoneum. Second, the peritoneum was to be opened in the upper part of the incision only. Third, the uterus was to be fixed to the peritoneum belonging to the lower half of the wound by about three catgut sutures. The point of attachment must be made as low down in the anterior surface of the uterus as possible so as just to avoid the bladder. The peritoneum in the living body was extremely moveable upon subjacent parts and the uterus was thus not anchored firmly but was allowed considerable [illegible] might be supposed that when the [illegible] this manner the adhesion would no[illegible] of about 30 operations in only one [illegible] become free.

Dr. WI[illegible] read a [illegible] Notes on the Treatment of Chronic Gout based on Experimental and Clinical Investigation. Dr. Bain, in discussing the modern views of the pathology of gout, said that the evidence, although contradictory, pointed to the likelihood that uric acid and the purin bases were derived from nuclein, and if it were established that nuclein was the mother substance of these alloxur bodies it would have an important bearing on the dietetics of gout. As gout was due in all probability to abnormal metabolism their aim should be in treating the chronic varieties of this disease to prevent the formation of abnormal proteid decomposition products, to prevent the accumulation in the system of nitrogenous or other waste substances, and to promote the elimination of these products. He emphasised the importance of paying particular attention to the digestive functions and any deviation from the normal should be counteracted by appropriate medicinal and dietetic treatment. In referring to diet he mentioned the results he obtained with experimental diets in a case of chronic gout and considered that those who advocated an exclusively vegetable diet in this affection did not take a sufficiently broad and comprehensive view of its pathology. Dr. Bain discussed the value of guaiacum, colchicum, iodide of potassium, quinine, and sodium salicylate in the treatment of gout, and spoke favourably of the Harrogate old sulphur spring, the beneficial effect of which he ascribed to its cholagogue action. Regarding biurate solvents he did not know of any superior to pure water. Dr. Bain criticised the inferences Sir William Roberts and Dr. Luff deduced from their experiments in relation to the supposed superiority of the potassium salts over the sodium salts in retarding the conversion of the hypothetical quadriurate in the blood into the gelatinous or crystalline biurate and stated that one of the most characteristic properties possessed by the blood was its remarkable uniformity of composition, and as it had been shown that the normal alkalinity of the blood could not be altered by the administration of alkalies it would be safer so far as particular alkaline salts were concerned in the treatment of gout to be guided by clinical experience.

Mr. W. H. BROWN (Leeds) read notes of a case of Unusual Complications following Gastro-jejunostomy.—Dr. T. CHURTON, Mr. H. LITTLEWOOD, Mr. B. G. A. MOYNIHAN, and Mr. R. L. KNAGGS discussed the paper and Mr. BROWN replied.

A number of cases and pathological specimens were shown, among which were the following:—

Dr. WARRINGTON GRIFFITH: A specimen of Duodenal Ulcer.

Dr. A. F. DIMOCK (Harrogate): A Calculus weighing 188 grains from a Female Bladder.

Mr. CONSTABLE HAYES: Dermoids of Both Eyes.

Mr. P. J. CANNIGGIA: Carcinoma of the Stomach and Liver.

Mr. R. LAWFORD KNAGGS: Submucous Lipoma of the Small Intestine, found and removed after the reduction of an entero-intestinal intussusception, of which it formed the apex.

Dr. CHURTON: A case of Juvenile Tabes Dorsalis.

Mr. SECKER WALKER: An Intra-ocular Growth.

Mr. LITTLEWOOD: (1) A Large Calculus removed from a child aged two years; and (2) Enlarged Bursa Patellæ from a man.

Dr. C. M. CHADWICK and Mr. SECKER WALKER: Specimen of Sarcoma of the Brain, Thyroid Body, and Kidney.

Mr. B. G. A. MOYNIHAN: Cystic Testis (specimen and patient).

Dr. E. F. TREVELYAN: (1) Paraplegia in a child, aged five years, said to have come on after typhoid fever; and (2) a case of Paroxysmal Hæmoglobinuria.

[illegible]: A Piston Recorder which takes the p[illegible] [illegible]our for physiological experiments.

At the annual meeting which was subsequently held the following officers were electe[illegible] year. President: Dr. Gordon Black. Vice[illegible] A. G. Barrs and Dr. W. L. Hunter. Treasurer: Dr. J. E. Eddison. Librarian: Dr. Barrs. Auditor: Dr. C. M. Chadwick. Committee: Dr. H. J. Campbell, Dr. J. Liddell, Dr. J. Allan, Dr. T. Johnstone, Dr. Wardrop Griffith, Mr. Edwin Lee, Dr. F. A. de T. Mouillot, Dr. H. J. Clarke, Mr. B. G. A. Moynihan, Mr. Secker Walker, Mr. C. J. Wright, Dr. F. Robinson, Dr. Gordon Sharp, Dr. S. Long, and Dr. Priestley Leech. Secretaries: Dr. E. F. Trevelyan and Mr. Lawford Knaggs.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF STATE MEDICINE.

Commercial Pepsin.—Asylum Pathology.—The Medico-Legal Relations of General Paralysis.

A MEETING of this section was held on April 27th, Sir C. A. CAMERON, the President, being in the chair.

The PRESIDENT read a paper on Commercial Pepsin.—Dr. J. W. MOORE said that it was astounding that drugs of such an inferior quality should be sent to the unions in Ireland.—The PRESIDENT here remarked that in many cases the substance under discussion was the only drug which was defective out of 30 or 40.—Dr. NINIAN FALKINER said that the last observation gave the key to the solution of the question. The process of preparation was excluded from the last Pharmacopœia, so that there was no definition of pepsin except that it was a substance that would dissolve a certain amount of coagulated egg albumen. It would have been better to have retained the descriptions of the manufacture of pepsin as found in the two previous Pharmacopœiæ.

Dr. W. R. DAWSON, in introducing the subject of Asylum Pathology, said that the modern conception of insanity as the mental manifestation of physical disorder pointed to the necessity for study of the morbid changes in the brain and nervous system which accompanied mental disease. In many of the English and Scottish asylums there was a resident pathologist who was responsible for the pathological work of the institution, but for the most part he was simply the junior assistant, and was expected to combine with his pathological duties a not inconsiderable amount of clinical and administrative work. This arrangement therefore did not fulfil the conditions requisite to an advance in knowledge, while in the bulk of the asylums it was, for financial reasons, impossible. The only alternative was that which was adopted by the London County Council, when, in 1892, they took steps for the establishment of a central laboratory for the seven asylums under their control. This laboratory they had splendidly equipped and placed under the direction of Dr. F. W. Mott, giving him an adequate salary. This experiment had been a complete success. Not only had most excellent work been done, as shown by the first number of the "Archives of Neurology" which emanated from the laboratory, but, as Dr. Mott stated, his "appointment appeared to have been an incentive to pathological work at other asylums." A special clause had been inserted in the new English Lunacy Bill, authorising the combination of asylums for the purpose of establishing similar laboratories. A number of the Scottish asylums had also united, in 1896, to start a conjoint laboratory in Edinburgh, under the control of Dr. Ford Robertson. This scheme which had now been joined by 17 of the Scottish asylums was from the first a success and numerous papers had been published from the laboratory. The magnificent Pathological Institute of the New York State Hospitals, with its eight departments, each under the charge of a specialist, showed the extent to which this principle of conjoint asylum laboratories had been pushed elsewhere. The annual expenditure of the Scottish

laboratory, which seemed to approximate almost exactly to Irish requirements, was about £600 a year. In Ireland there were 23 district asylums and several other public asylums, such as the Central Criminal Asylum, St. Patrick's Hospital, and the Stewart Institution, not to mention a number of private asylums . . . of them, were to . . . tions would be . . . was publicly mooted . . . in November, 1899, as President of the Dublin University Biological Association, on whi . . . approval of THE LANCET . . . the . . . the . . . of . . . FALKINER and seconded by Dr. . . .

Mr. CONOLLY NORMAN read a paper on the Medico-Legal Relations of General Paralysis. This disease, forming in itself an epitome of all mental affections, often brought its victims into conflict with the law. But besides the general tendency of all mental disease to cause maladjustment with the social environment, often expressing itself in the form of "crime," there appeared to him to be certain special features in the criminality of the general paralytic which made him of particular interest to the medical jurist. Mr. Norman proceeded to consider the general paralytic's offences under three heads. 1. Violence of a peculiarly brutish and irrational character. 2. Sexual impropriety, depending no doubt in part upon the lack of judgment which is the essential feature of the malady and partly upon the sexual irritability common in its earlier stages. 3. Theft. A number of cases were detailed, exemplifying each form, and some illustrating all. With regard to theft Mr. Norman pointed out that the common notion was quite erroneous—namely, that the thefts of the general paralytic were always *tels à l'étalage* and characterised by silliness and absence of purpose. On the contrary, in certain cases which he mentioned fraudulent acts of considerable subtlety had been the earliest overt symptoms of general paralysis.—Dr. DOYLE said that a tremulous mode of articulation was often observed long before the disease appeared, and he knew of one case in which a noted speaker, the father of a general paralytic, evinced this peculiar tremulous speech.—Dr. DAWSON, Dr. MARTLEY, and the PRESIDENT took part in the discussion.

BOMBAY MEDICAL AND PHYSICAL SOCIETY.

. . . of Typhoid Fever and Malta . . . Inflammation.—Sympathetic Ophthalmia.

THE annual meeting of this society was held in the University Library, Bombay, on Feb. 19th, Dr. T. B. NARIMAN . . . year:— . . . Lieu- . . . Colonel D. C. Davidson, I.M.S.; Major H. P. Dimmock, I.M.S.; Dr. Edaji Nashirvanji, Dr. T. B. Nariman, Major W. H. Quiche, I.M.S.; Major O. H. L. Meyer, I.M.S. Honorary Secretary: Major H. Herbert, I.M.S.

Dr. R. Row read a paper on the Action of Atropine in Plague. He said that since his paper on the action of atropine on the plague toxins was read before the society on August 25th, 1899,[1] he had tried the drug in the treatment of 97 cases of plague at Poona in August and September. To these he had to add the 231 cases of Major R. J. Windle, R.A.M.C., and 73 cases treated by Dr. A. Turkhud at Mediklana in November and December. The most prominent feature observed in the treatment was the condition of the bubo, which either subsided completely or remained as a hard nodule, which in some cases when cut into showed a mass of slough with hardly any pus. Dr. Row's own cases gave scarcely 14 per cent. of suppurations, and it was interesting to note that the smaller the dose of atropine administered the more frequently suppurations were found. Some cases not treated with atropine showed 84 per cent. of suppurations. The localisation of the bubo indicated a favourable termination of the disease. In some cases even where six drops of liquor atropinæ sulphatis were given the pupils remained contracted, and these cases as a rule ended badly. Some cases seemed to be scarcely influenced by atropine, and these generally were associated with hæmatemesis, the black vomit of the yellow fever type. However early these cases came under treatment they appeared to be beyond control. Of the 97 patients who were under Dr. Row's care in August and September 53 died and 44 recovered, the recoveries being therefore 45·3 per cent. Of the 53 deaths 15 occurred in from two to 12 hours after admission; eight of these patients were conscious and seven were unconscious; 14 patients died from the second to the fifth day of treatment; all of them rallied and were conscious on the second day of treatment but were carried off during a relapse. Seven died on the sixth and eighth days of treatment from chest complications. Three suffered from black vomit. Three suffered from septicæmia. 17 died in the ordinary course of the disease. Among the 44 recovered patients there were two pregnant women, one in the third and the other in the seventh month, neither of whom miscarried. In Major Windle's 291 cases there were 93 recoveries and 199 deaths, the recoveries being therefore 31·8 per cent. In these cases the mode of administration of the drug was a little different from that of Dr. Row. In Dr. Turkhud's 73 cases the recoveries were 33·4 per cent.; they were treated side by side with an equal number taken in an alternate order, but the latter had no atropine and gave only 18·7 per cent. of recoveries. The total of 466 cases treated with atropine gave an average of 34·6 recoveries. The toxin used by Dr. Row contained no peptone. It was prepared by making an emulsion with sterile normal saline solution and plague bacilli scraped off from the surface of large agar slants—a process not free from risks to the operator—and this emulsion when tested chemically did not give any albumose reaction.

Major H. Hunter, I.M.S., exhibited microcephalic skulls illustrative of some new facts in the Cellular Pathology of Chronic Inflammation.

Major T. E. Dyson, I.M.S., read notes of a case of Sympathetic Ophthalmia. The chief mischief was at the fundus and marked benefit was obtained by mercurialisation produced by the internal use of grey powder and inunction with unguentum hydrargyri.

Captain GEORGE LAMB, I.M.S., read a paper on Serum Sedimentation with special reference to the Diagnosis of Typhoid Fever and Malta Fever. After a historical sketch of the discovery of serum agglutination and its use in the diagnosis of disease he gave a fully detailed account of the method of serum diagnosis employed by Professor Wright of Netley, who makes use of dead bacterial cultures and capillary sedimentation tubes. In this way the whole apparatus of culture media and incubators, as well as the necessity for microscopic observation, are dispensed with. In typhoid fever the blood serum caused sedimentation of Eberth's bacillus typhosus in upwards of 97 per cent. of the cases, whilst in Malta fever the blood serum caused sedimentation of the micrococcus Melitensis. The microbes of Major C. Lee, R.A.M.C., and Captain Lamb in the serum diagnosis of Malta fever were published in THE LANCET Sept. 8th, 1899.[2] 721

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 26th, Dr. Pitchford, President, Mr. William Hancock, being in the chair. Dr. Sadgrove showed a specimen of a Pyosalpinx (left) and of a [illegible] showed the following specimens: (1) [illegible] (2) [illegible] from the same patient; (3) [illegible] (4) a Hernial Sac [illegible] and (5) [illegible] of the bones, the result of Tertiary Syphilis. Mr. T. Wilson showed a patient, aged [illegible] who was suffering from double [illegible] Mr. [illegible] showed a patient who had been recently [illegible] Dr. [illegible] showed a case of [illegible] operated for Pyosalpinx [illegible]

[1] THE LANCET, Dec. 9th, 1899, p. 1654.
[2] THE LANCET, Nov. 11th, 1899, p. 1311.

took place [illegible] were delivered at full term. In one there was a good deal of pain in the line of the incision evidently from dragging of the enlarging uterus upon this fixed point. Nevertheless, all went well in the end, but there was inertia of the uterus towards the end of the labour and forceps had to be used. In the second case the patient was [illegible] symptoms referable to the operation. Dr. [illegible] emphasised the following points in this [illegible] ensure the non-interference with [illegible] of the uterus during pregnancy. [illegible] incision must be made down to, but [illegible] peritoneum. Second, the peritoneum was to be opened in the upper part of the incision only. Third, the uterus was to be fixed to the peritoneum belonging to the lower half of the wound by about three catgut sutures. [illegible] must be made as low down in the [illegible] uterus as possible so as just to avoid [illegible] peritoneum in the living body was extremely moveable upon subjacent parts and the uterus was thus not anchored firmly but was allowed considerable [illegible] It might be supposed that when the [illegible] in this manner the adhesion would no[illegible] but out of about 30 operations in only one did the uterus subsequently become free.

Dr. WILLIAM BAIN (Harrogate) read a paper entitled Notes on the Treatment of Chronic Gout based on Experimental and Clinical Investigation. Dr. Bain, in discussing the modern views of the pathology of gout, said that the evidence, although contradictory, pointed to the likelihood that uric acid and the purin bases were derived from nuclein, and if it were established that nuclein was the mother substance of these alloxur bodies it would have an important bearing on the dietetics of gout. As gout was due in all probability to abnormal metabolism their aim should be in treating the chronic varieties of this disease to [illegible] tion of abnormal proteid decompos[illegible] prevent the accumulation in the syste[illegible] or other waste substances, and to pre[illegible] tion of these products. He emphasised the importance of paying particular attention to the digestive functions and any deviation from the normal should be counteracted by appropriate medicinal and [illegible] referring to diet he mentioned the [illegible] experimental diets in a case of chro[illegible] that those who advocated an exclu[illegible] vegetable diet in this affection did not take a sufficiently broad and comprehensive view of its pathology. Dr. Bain discussed the value of guaiacum, colchicum, iodide of potassium, quinine, and sodium salicylate in the treatment of gout, and spoke favourably of the Harrogate old sulphur spring, the beneficial effect of which he ascribed to its cholagogue action. Regarding biurate solvents he did not know of any superior to pure water. Dr. Bain criticised the inferences Sir William Roberts and Dr. Luff deduced from their experiments in relation to the supposed superiority of the potassium salts over the sodium salts in retarding the conversion of the hypothetical quadriurate in the blood into the gelatinous or crystalline biurate and stated that one of the most characteristic properties possessed by the blood was its remarkable uniformity of composition, and as it had been shown that the normal alkalinity of the blood could not be altered by the administration of alkalies it would be safer so far as particular alkaline salts were concerned in the treatment of gout to be guided by clinical experience.

Mr. W. H. BROWN (Leeds) read notes of a case of Unusual Complications following Gastro-jejunostomy.—Dr. T. CHURTON, Mr. H. LITTLEWOOD, Mr. B. G. A. MOYNIHAN, and Mr. R. L. KNAGGS discussed the paper and Mr. BROWN replied.

A number of cases and pathological specimens were shown, among which were the following:—

Dr. WARDROP GRIFFITH: A specimen of Duodenal Ulcer.

Dr. A. F. DIMMOCK (Harrogate): A Calculus weighing 183 grains from a Female Bladder.

Mr. CONSTABLE HAYES: Dermoids of Both Eyes.

Mr. P. J. CAMMIDGE: Carcinoma of the Stomach and Liver.

Mr. R. LAWFORD KNAGGS: Submucous Lipoma of the Small Intestine, found and removed after the reduction of an acute intussusception, of which it formed the apex.

Dr. CHURTON: A case of Juvenile Tabes Dorsalis.

Mr. SECKER WALKER: An Intra-ocular Growth.

[illegible] from a man.

Dr. C. M. CHADWICK and Mr. SECKER WALKER: Specimen of Sarcoma of the Brain, Thyroid Body, and Kidney.

Mr. B. G. A. MOYNIHAN: Cystic Testis (specimen and patient).

Dr. E. F. TRE[illegible] in a child, aged five years, said to [illegible] oid fever; and (2) a case of Paroxy[illegible]

Professor DE [illegible] order which takes the place of a recor[illegible] ogical experiments.

At the ann[illegible] subsequently held the following officers were elected for the ensuing year. President: Dr. Gordon Black. Vice-Presidents: Dr. A. G. Barrs and Dr. W. L. Hunter. Treasurer: Dr. J. E. Eddison. Librarian: Dr. Barrs. Auditor: Dr. C. M. Chadwick. Committee: Dr. H. J. Campbell, Dr. J. Liddell, Dr. J. Allan, Dr. T. Johnstone, Dr. Wardrop Griffith, Mr. Edwin Lee, Dr. F. A. de T. Mouillot, Dr. H. J. Clarke, Mr. B. G. A. Moynihan, Mr. Secker Walker, Mr. C. J. Wright, Dr. F. Robinson, Dr. Gordon Sharp, Dr. S. Long, and Dr. Priestley Leech. Secretaries: Dr. E. F. Trevelyan and Mr. Lawford Knaggs.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF STATE MEDICINE.

Commercial Pepsin.—Asylu[illegible] Medico-Legal Relations of [illegible]

A MEETING of this section was held on April 27th, Sir C. A. CAMERON, the President, being in the chair.

The PRESIDENT read a paper on Commercial Pepsin.—Dr. J. W. MOORE said that it was astounding that drugs of such an inferior quality should be sent to the unions in Ireland.—The PRESIDENT here remarked that in many cases the substance under discussion was the only drug which was defective out of 30 or 40.—Dr. NINIAN FALKINER said that the last observation gave the key to the solution of the question. The process of preparation was excluded from the last Pharmacopœia, so that there was no definition of pepsin except that it was a substance that would dissolve a certain amount of coagulated egg albumen. It would have been better to have retained the descriptions of the manufacture of pepsin as found in the two previous Pharmacopœiæ.

Dr. W. R. DAWSON, in introducing the subject of Asylum Pathology, said that the modern conception of insanity as the mental manifestation of physical disorder pointed to the necessity for study of the morbid changes in the brain and nervous system which accompanied mental disease. In many of the English and Scottish asylums there was a resident pathologist who was responsible for the pathological work of the institution, but for the most part he was simply the junior assistant, and was expected to combine with his pathological duties a not inconsiderable amount of clinical and administrative work. This arrangement therefore did not fulfil the conditions requisite to an advance in knowledge, while in the bulk of the asylums it was, for financial reasons, impossible. The only alternative was that which was adopted by the London County Council, when, in 1892, they took steps for the establishment of a central laboratory for the seven asylums under their control. This laboratory they had splendidly equipped and placed under the direction of Dr. F. W. Mott, giving him an adequate salary. This experiment had been a complete success. Not only had most excellent work been done, as shown by the first number of the "Archives of Neurology" which emanated from the laboratory, but, as Dr. Mott stated, his "appointment appeared to have been an incentive to pathological work at other asylums." A special clause had been inserted in the new English Lunacy Bill, authorising the combination of asylums for the purpose of establishing similar laboratories. A number of the Scottish asylums had also united, in 1896, to start a conjoint laboratory in Edinburgh, under the control of Dr. Ford Robertson. This scheme which had now been joined by 17 of the Scottish asylums was from the first a success and numerous papers had been published from the laboratory. The magnificent Pathological Institute of the New York State Hospitals, with its eight departments, each under the charge of a specialist, showed the extent to which this principle of conjoint asylum laboratories had been pushed elsewhere. The annual expenditure of the Scottish

laboratory, which seemed to approximate almost exactly to Irish requirements, was about £600 a year. In Ireland there were 23 district asylums and several other public asylums, such as the Central Criminal Asylum, St Patrick's Hospital, and the Stewart Institution, not to mention a number of these, [illegible] eme th insigni ss deliv nt of [illegible] ich occasion it met with the approval of THE LANCET[1] in its notice of the meeting. Resolutions in favour of the scheme were passed by that association, and also by the Irish division of the Medico-Psychological Association of Great Britain and Ireland at its meeting on April 10th.—After some discussion it was proposed, by Dr. NINIAN FALKINER and seconded by Dr. F. C. MARTLEY:

That the project of establishing a central laboratory in connexion with the Irish lunatic asylums for the study of the pathology of nervous and mental disease is deserving of the support of the Royal Academy of Medicine in Ireland, and that the General Council be asked to communicate with asylum boards throughout Ireland on the subject.

Mr. CONOLLY NORMAN read a paper on the Medico Legal Relations of General Paralysis. This disease, forming in itself an epitome of all mente [illegible] victims into conflict with the l [illegible] tendency of all mental disease [illegible] the social environment, often [illegible] of "crime," there appeared [illegible] features in the criminality of [illegible] made him of particular interest to the medical jurist. Mr. Norman proceeded to consider the general paralytic's offences under three heads. 1. Violence of a peculiarly brutish and irrational character. 2. Sexual impropriety, depending no doubt in part upon the lack of judgment which is the essential feature of the malady and partly upon the sexual irritability common in its earlier stages. 3. Thefts. A number of cases were detailed, exemplifying each form, and some illustrating all. [illegible] pointed out that the comm [illegible] namely, that the thefts of [illegible] *vols à l'étalage* and characterised by silliness and absence of purpose. On the contrary, in certain cases which he mentioned fraudulent acts of considerable subtlety had been the earliest overt symptoms of general paralysis.—Dr. DOYLE said that a tremulous mode of articulation was often observed long before the disease appeared, and he knew of one case in which a noted speaker, the father of a general paralytic, evinced this peculiar tremulous speech.—Dr. DAWSON, Dr. MARTLEY, and the PRESIDENT took part in the discussion.

BOMBAY MEDICAL AND PHYSICAL SOCIETY.

Atropine in Plague.—Diagnosis of Typhoid Fever and Malta Fever.—Pathology of Chronic Inflammation.—Sympathetic Ophthalmia.

THE annual meeting of this society was held in the University Library, Bombay, on Feb. 18th, Dr. T. B. NARIMAN [illegible] year:— [illegible] Lieutenant-Colonel H. W. B. Boyd, I.M.S.; Lieutenant-Colonel D. C. Davidson, I.M.S.; Major H. P. Dimmock, I.M.S.; Dr. Edaljí Nasbirvanji, Dr. T. B. Nariman, Major W. H. Quicke, I.M.S.; Major C. H. L. Meyer, I.M.S. Honorary secretary: Major H. Herbert, I.M.S.

Dr. R. Row read a paper on the Action of Atropine in Plague. He said that since his paper on the action of atropine on the plague toxins was read before the society on August 25th, 1899,[2] he had tested the drug in the treatment of 97 cases of plague at Poona in August and September. To these he had to add the 231 cases of Major R. J. Windle, R.A.M.C., and 78 cases treated by Dr. A. Turkhud at Modithana in November and December. The most prominent feature observed in the treatment was the condition of the bubo, which either subsided completely or remained as a hard nodule, which in some cases when cut into showed a mass of slough with [illegible] suppurations were found. Some cases not treated with [illegible] showed 64 per cent. of suppurations. The localisation of the bubo indicated a favourable termination of the [illegible] In some cases even where six drops of liquor atropinæ sulphatis were given the pupils remained contracted, [illegible] cases as a rule ended badly. Some cases seemed to be scarcely influenced by atropine, and these generally were associated with hæmatemesis, the black vomit of the yellow fever type. However early these cases came under treatment they appeared to be beyond control. Of the 97 patients who were under Dr. Row's care in August and September 53 died and 44 recovered, the recoveries being therefore 45.3 per cent. Of the 53 deaths 15 occurred in from two to 12 hours after admission; eight of these patients were conscious and seven were unconscious; 14 patients died from the second to the fifth day of treatment; all of them rallied and were conscious on the second day of treatment but were carried off during a relapse. Seven died on the sixth and eighth days of treatment from chest complications. Three suffered from black vomit. Three suffered from septicæmia. 17 died in the ordinary course of the disease. Among the 44 recovered patients there were two pregnant women, one in the third and the other in the seventh month, neither of whom miscarried. In Major Windle's 231 cases there were 62 recoveries and 169 deaths, the recoveries being therefore 31.6 per cent. In these cases the mode of administration of the drug was a little different from that of Dr. Row. In Dr. Turkhud's 78 cases the recoveries were 33.4 per cent.; they were treated side by side with an equal number taken in an alternate order, but the latter had no atropine and gave only 18.7 per cent. of recoveries. The total of 466 cases treated with atropine gave an average of 34.6 recoveries. The toxin used by Dr. Row contained no peptone. It was prepared by making an emulsion with sterile normal saline solution and plague bacilli scraped off from the surface of large agar slabs—a process not free from risks to the operator—and this emulsion when tested chemically did not give any albumose reaction.

Major H. HUNTER, I.M.S., exhibited microscopical slides illustrative of some new facts in the Cellular Pathology of Chronic Inflammation.

Major T. E. DYSON, I.M.S., read notes of a case of Sympathetic Ophthalmia. The chief mischief was at the fundus and marked benefit was obtained by mercurialisation produced by the internal use of *grey powder* and inunction with unguentum hydrargyri.

Captain GEORGE LAMB, I.M.S., read a paper on Serum Sedimentation with special reference to the Diagnosis of Typhoid Fever and Malta Fever. After a historical sketch of the discovery of serum agglutination and its use in the diagnosis of disease he gave a fully detailed account of the method of serum diagnosis employed by Professor Wright of Netley, who makes use of dead bacterial cultures and capillary sedimentation tubes. In this way the whole apparatus of culture media and incubators, as well as the necessity for microscopic observation, are dispensed with. In typhoid fever the blood serum caused sedimentation of Eberth's bacillus typhosus in a dilution of 97 per cent. of the cases, whilst in Malta fever the blood serum caused sedimentation of the micrococcus Melitensis. The researches of Major C. Birt, R.A.M.C., and Captain Lamb on the serum diagnosis of Malta fever were published in THE LANCET of Sept. 9th, 1899, p. 731.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 25th, the President, Mr. William Hemsley, being in the Chair.—Dr. Isaac [illegible] showed a specimen of a Fibroid (?) [illegible] Ovarian [illegible] showed the following [illegible] (1) [illegible] Cysts from the [illegible] (2) [illegible] (3) a Hernial Sac [illegible] and (4) [illegible] of the Tongue, the result of Tertiary syphilis.—Mr. T. W. [illegible] showed a patient, aged [illegible] years, who was suffering from Angina [illegible] for Pertussis. [illegible] operation [illegible]

[1] THE LANCET, [illegible]
[2] THE LANCET, [illegible]

Each of these tables exhibits an "array," and each array is, as we understand, typical of the growth of its tree (p. 382). The subtlety of this method of discrimination will at once be obvious.

But it is not in subtlety and descriptive power alone that this method excels, it is also a true analysis and lays bare the essential and recondite physical facts underlying the phenomena with which it deals. Readers who recall their algebra will observe in the above numbers and their arrangement an unmistakeable resemblance to the "functional" forms of certain very familiar binomial expressions, and such as have retained any acquaintance with the higher mathematics will recognise at once that Mr. Pearson's materials are being steered into the route along which the physical sciences have carried their priceless cargoes into port. The author is, perhaps, a little exuberant, but scarcely extravagant, when he suggests (p. 500) that the readers who take the trouble to master these two chapters will "arise from their perusal with the conviction that biology is almost as exact as any branch of physical science."

These two chapters contain what is incomparably the most valuable part of Mr. Pearson's work, but they do not explain the title of the book, which is directed rather to the more speculative doctrine that forms the subject matter of the remaining chapters. In these remaining chapters Mr. Pearson discusses transcendental matters such as Cause and Effect, Space and Time, Matter, the Laws of Motion, and the like. An author of Mr. Pearson's rank ought not to have been led into the unpolished acerbity of the footnote on page 16, which asserts that although the word "metaphysician" cannot be satisfactorily defined it is used in this book to denote "a class of writers of whom well-known examples are Kant in his later uncritical period and the post-Kantians (notably Hegel and Schopenhauer) and their numerous English disciples who explain the universal without having even an elementary knowledge of physical science." We think this part of Mr. Pearson's work is wanting in vigour and discernment. We take his definition of cause by way of example (p. 130). "Whenever," says Mr. Pearson, "a sequence of perceptions D, E, F, G is invariably preceded by the perception C, or the perceptions C, D, E, F, G, always occur in this order, that is, form a routine of experience, C is said to be a cause of D, E, F, and G, which are then described as its effects." And again: "Causation, says John Stuart Mill, is uniform antecedence and this definition is perfectly in accord with the scientific concept" (i.e., with "cause" as scientifically understood). It would be difficult to imagine a definition faultier than this. For in truth mere antecedence in time or the order of perception, which is what Mr. Pearson means—and not antecedence in the order of thought—does not in any sense correspond to the idea of a cause. The radial pulse is observed thousands of times every day in thousands of patients and never was there a radial pulse taken yet but it was immediately preceded in the order of perception by heart sounds. No antecedence could be more uniform, no routine of experience more invariable. Yet who ever imagined that the heart's murmur was the cause of the radial pulse? In fact, antecedence in point of time is incompatible with the true and intimate relation of cause and effect between two phenomena. If one precedes another it may be a *causa sine qua non* but cannot conceivably be a *causa causans*. The reasoner may say to himself, If I see a bicyclist in motion I may observe two concurrent motions—a motion of translation by which the bicyclist and his machine travel bodily over the ground and a motion of rotation by which the wheels turn about their axes without moving away from them, and I know that one of these motions is the cause of the other, but no consideration, however refined, of their order in time will enlighten me as to which is which. If the bicyclist is going up hill I conclude that the motion of rotation is the cause, the motion of translation the effect; if he is coming down I invert the relationship, but in either case I know full well that cause and effect must begin and end together. Antecedence in the routine of experience is here inconceivable.

We have instanced in this specimen what seems to us a fair sample of the bulk of this division of the work. We hope that at some future date the author will give us his analytical theory in a more fully elaborated form and winnowed from the transcendental "grammar" which is linked with it in ill-assorted marriage between the covers of this book.

A Manual of Zoology. By the late T. JEFFERY PARKER, D.Sc., F.R.S., and WILLIAM A. HASWELL, M.A., D.Sc., F.R.S. London: Macmillan and Co. 1899. Pp. 550. Price 10*s.* 6*d.*

SOME time ago we had the pleasure of reviewing the Textbook of Zoology by the authors of this work and many of the remarks which we made on that occasion apply equally to the present The great diminution of size between the textbook and the manual is obtained not by condensing and epitomising information but by leaving out altogether certain classes of animals, by omitting all descriptions of extinct groups, and by dealing only very briefly with embryology. The result is that the greater part of the space is devoted to the more familiar representatives of the large Phyla of the Animal Kingdom. The arrangement adopted is to take one or more animals of each group as types and to describe them in some detail, accompanying the description with plentiful illustrations and diagrams. Other animals not so common or so characteristic are treated more cursorily or are merely mentioned. To the medical student the book will prove a distinct boon and we think will supply a want, since it contains good descriptions of the types mentioned in the synopses of almost every examining board in Elementary Biology.

There is no intention on the part of the authors that the book should replace laboratory work, but it is undoubtedly an assistance to a teacher that his students should have a reliable handbook in which they can read up their types before dissecting them. There are 300 illustrations and diagrams, most of them reproduced from the authors' textbook; they are of the greatest assistance to anyone reading about an animal which he has not yet examined. If they have a fault it is that of giving the impression that the parts of an animal have a clearness and definition which will often be looked for in vain in the laboratory. The style is perfectly satisfactory; simple terms are used whenever possible, and there is remarkably little small print. At the end of the book is a useful index.

The work seems quite to serve the purposes for which it was intended, and it is likely to become popular among students.

Leçons de Clinique Médicale. (Lectures on Clinical Medicine.) Par M. LE Dr. VIRES. Six plates. Montpellier: Coulet et Fils. Paris: Masson et Cie. 1900. Imp. 8vo, pp. 245.

IN a series of 12 clinical lectures Dr. Vires deals with the subjects of Graves's disease, facial paralysis, paralysis agitans, syphilitic myelopathies, myxœdema, and gastric crises. In each instance the lecture is illustrated by clinical cases. Graves's disease is very fully described, including its history and pathology. In one of the author's cases of otherwise typical Graves's disease the enlargement of the thyroid gland was limited to one side. Dr. Vires accepts the thyroid origin of the disease, but adds that we are ignorant of the nature and mechanism of the thyroid lesion. The treatment is very fully given, except perhaps the electrical

treatment. The author would account for the diverse opinions upon the action of thyroid feeding in Graves's disease by recognising two periods in the disease—one of hyper- and the other of hypo-thyroidisation. The various surgical procedures recommended and carried out are mentioned, but nothing is added to the present state of the controversy in respect to the ultimate value of operative treatment. Dr. Vires himself appears to look upon these procedures as of doubtful expediency.

Under peripheral facial paralysis the differential diagnosis between the various forms of facial paralysis is discussed at length. In the lectures on Parkinson's disease the disturbance of equilibration receives a good deal of attention, whereas the paresis so frequently noted is but little emphasised. The few lines given to the treatment are unfortunately, perhaps, strictly in proportion to the little that can be done at any rate for the severer cases. The lectures on syphilitic myelopathies are interesting but the views put forward by the author are somewhat too dogmatic; thus he tells us that syphilis is found in 50 per cent. of affections of the spinal cord even if tabes and congenital syphilis are excluded. The morbid anatomy as given here cannot be said to support that view, for of the six morbid processes referred to only one (gumma formation) can be stated to be definitely syphilitic. Erb's syphilitic spinal paralysis is not looked upon by the author as a distinct morbid entity. The account of myxœdema in Lecture X. is short but interesting. In his excellent description of gastric crises Dr. Vires says that these crises represent a syndroma which occurs not only in various affections of the nervous system but also in lesions of the stomach. This represents rather a wider view of the subject than is usually taken. The book closes with an interesting chapter on Morbid Antagonism by Dr. Salager. Notwithstanding that there may be some ground for differences of opinion in regard to some of the author's views yet these lectures provide some very instructive reading and are written in a fluent and taking style.

A Book of Whales. By F. E. BEDDARD, M.A., F.R.S. With 40 Illustrations. London: John Murray. 1900. Pp. 320. Price 4s. 6d. net.

This book is one of the Progressive Science Series of which Mr. Beddard is editor, and forms a good type of the kind of work which the series is intended to place before the public. In pronouncing judgment it is important to bear in mind that the author's intention was to give in a comparatively small compass a general account of this group of mammals with a selection of the literature which relates to the group, and at the same time to steer a course between too much exposition of technical facts and a too popular account of whales. Technical details there are in some abundance, but they are carefully explained and so contrasted with similar arrangements in other animals that the work never becomes dry or tiresome to a reader who is no specialist on the subject of whales; indeed, it could hardly fail to interest any educated person whether he had made a study of natural science or not.

There are 13 chapters in the book, of which the first five treat of whales in general, while the last seven are devoted to a systematic description of the different forms. Perhaps one of the most interesting chapters in the whole work is that on the hunting of whales, with its quaint quotations from early records of the subject, but all the earlier part of the book is interesting and attractive. The later chapters will be of less interest to the general reader and at times do not aim at being more than a mere catalogue, but they bring the classification of the orders well up to date and will be of special value to many by the careful way in which the numerous synonyms have been sorted out. The value of the work is increased by the illustrations, many of which are original. We can confidently recommend this book to anyone wanting an up-to-date account of the external appearance of whales, together with an introduction to their internal anatomy and their position in the animal kingdom.

LIBRARY TABLE

Aids to Pharmacy. By A. CAMPBELL STARK. London: Baillière, Tindall, and Cox. Pp. 170. Price 2s. 6d.—"Aids to Pharmacy" is one of the "Student's Aids" series and is written as a guide for students presenting themselves for the examination in pharmacy of the Conjoint Board. A syllabus of the examination is bound up with the book. Any student who masters Mr. Stark's information should have no difficulty in satisfying most boards of examiners.

The Experiment of Dr. Nevill. By EMBRIC HOLME BEAMAN. London: John Long. 1900. Pp. 317. Price 6s.—Wilfrid Carsdale receives a severe injury to the brain from an accident in the hunting field. He recovers with complete loss of memory. Dr. Nevill, to bring back the memory, replaces the injured part of Carsdale's brain by a portion taken from the brain of a murderer. Carsdale recovers, not his own memory, but that of the murderer, and, said to say, not only his memory, but also his tastes, which included burglary, a "housekeeper," and playing the violin. A second operation not only removes these acquired variations but also in some way gives back Carsdale his own proper memory and tastes. The book will do well enough to while away half an hour but bears evidence of being somewhat carelessly written, and the physiological and surgical absurdities spoil it for the medical reader. Mr. Beaman upon two occasions—namely, pages 159 and 270—confuses Frankenstein with his monster, and shows, also, that he has not mastered the principles upon which titled persons are addressed or sign their letters.

Analytical Records

FROM

THE LANCET LABORATORY.

TABLOID QUININE HYDROBROMIDE

(BURROUGHS, WELLCOME AND CO., SOLE MANUFACTURERS, LONDON, U.S.A.)

THE association of hydrobromic with quinine appears to modify the action of the alkaloid in the one respect that when administered in the form of hydrobromide the disturbing effects known as cinchonism are not produced. Doubtless the presence of the bromine radicle serves as a sedative. Tabloids are prepared containing three and five grains respectively of the pure salt. It would be interesting to know the pharmacology of the naturally occurring salts of the alkaloids and to note the different effects which these produce in contrast with the administration of the artificially prepared salts, such as the chlorides and sulphates.

ANTI-DIPHTHERIA SERUM.

(THE WELLCOME PHYSIOLOGICAL RESEARCH LABORATORIES, LONDON.)

The approximate analysis of this preparation was as follows: moisture, 57·04 per cent.; inorganic salts, 15·21 per cent.; organic solids, 27·75 per cent. The total [illegible] based on the amount of nitrogen and assuming the factor 6·25, amounted to 21·75 per cent., and by twenty-four hours were precipitated by [illegible] [illegible] to show that the [illegible] [illegible] It contained [illegible] [illegible] It is stated that [illegible] [illegible] [illegible] [illegible] [illegible]

circulated among the dispensary committees "that each medical officer shall be allowed an annual vacation not exceeding four weeks, and the guardians shall pay to the medical practitioner employed temporarily to discharge the duties of the medical officer for that period such reasonable remuneration for his services as the Local Government Board shall approve or direct." The wording of this rule led to constant wrangling as to two points—(1) the duration of the holiday, and (2) the amount of remuneration to be paid to the locum-tenent. The medical officers contended that they were entitled to four weeks at least, and were supported in this view by the Irish Local Government Board; while, on the other hand, the guardians said that the rule meant that a period of four weeks was not to be exceeded, but that they who appointed the dispensary medical officers had a right to curtail this period—say by two weeks. As to the remuneration of the locum-tenents, men could not be found in many cases to do the work for less than three guineas per week, which the guardians in most cases declined to pay. The Belfast guardians were willing to allow a month's holiday provided that their medical officers paid their own deputies, but only a fortnight if they—the board of guardians—had to find the remuneration. And other guardians were still less disposed to be generous, while no universal scheme could be put forward as long as the law remained doubtful.

In order to get some decision on a question of considerable importance it was decided to put forward two test cases in the Court of Queen's Bench, and judgment in these cases was given on May 10th and will prove a great disappointment to Irish dispensary medical officers. In the first case Mr. J. L. TORRENS applied on August 9th, 1899, to the Antrim guardians for three weeks' vacation, nominating Dr. M. HENRY as his locum-tenent. On the same day the guardians passed a resolution sanctioning two weeks' holiday and it was stated they informed Dr. HENRY of this on August 11th. This he has contradicted. The Local Government Board, however, approved of Mr. TORRENS having a vacation of three weeks and fixed the remuneration of his locum-tenent at two guineas weekly. Dr. HENRY discharged the duties for three weeks and was paid four guineas by the guardians for the two weeks which they had allowed Mr. TORRENS. Dr. HENRY brought a successful action against the Antrim guardians for the two guineas, but on an appeal before Mr. Justice GIBSON at the Belfast assizes that judge decided to state a case for the superior court. Finally, in giving judgment the Lord Chief Baron PALLES (with whom two other judges agreed) said that although the amount of money in dispute was small an important question was raised as to the rights of guardians of the poor and those of the Irish Local Government Board. The right decision depended largely upon the construction to be given to the rule to which we have referred and which was drawn up by the Local Government Board. The Lord Chief Baron held that the words "that period" clearly referred to the period allowed for the vacation, which was not "four weeks" but "not exceeding four weeks." These latter words, he said, were not sufficient to determine the length of the vacation. It was plain that there must be an act which should define that leave. What, he asked, was the external authority that was to "allow"? Was it the guardians or was it the Local Government Board? It seemed to him that a temporary medical officer during the vacation of the permanent officer must be appointed by the guardians. To obtain his annual vacation the medical officer must submit an application to the guardians specifying the time for which he sought to be allowed a vacation and nominating a substitute; then there must be the consent of the guardians to the application, and by such consent the guardians allowed the vacation and appointed the temporary officer. The guardians, in order to make the rule legal, must have authority to approve or disapprove of the proposal of the medical officer, to determine whether the period for which the vacation was to extend was reasonable under the circumstances, and lastly, whether the nominated medical practitioner was a person whom they desired to appoint. Reading the Article in that way, the Lord Chief Baron gave it as his opinion, and his brethren on the Bench concurred, that Dr. HENRY was not entitled to be paid the two guineas for the third week, and that Mr. TORRENS was not entitled to the third week's vacation. As to the costs, considering that Dr. HENRY had actually performed the duties during the week in question, that he did so under the sanction of the Local Government Board, and as the case, in fact, involved a contest between two public bodies (the guardians and the Local Government Board), the court decided that each party should bear their own costs in that case.

In the second test case—DILWORTH *v.* the Fermoy Guardians—the plaintiff claimed four guineas salary per week for his locum-tenent, and absented himself for a month on the ground that that was the period to which he was entitled as a vacation. The guardians proposed to pay the salary of a locum-tenent at three guineas a week for two weeks only. Plaintiff claimed £30, which the defendants paid into court and counter-claimed for six guineas, being two weeks' salary to Mr. J. ROCHE as locum-tenent for Dr. T. DILWORTH. The Lord Chief Baron made the same rule as in Dr. HENRY'S case and the court entered judgment for the defendants upon their counter-claim for six guineas, each party to pay their own costs. The decision in these test cases must be, as we have said, a great disappointment to the dispensary medical officers, who are among the hardest worked and worst paid medical men in Ireland. And it is a distinct slight to the legal judgment of the Irish Local Government Board, but we doubt whether any attempt will be made to raise the question again. Chief Baron PALLES is by universal consent one of the ablest judges on the Bench, and his *confrères*, Mr. Justice JOHNSON and Mr. Justice BOYD, concurred entirely in his judgments. It was clearly fair, by the way, not to make the losing parties pay their costs, for they were acting upon the interpretation put upon their orders by the Irish Local Government Board, and the real parties to the suit were that Board and the guardians of Antrim and Fermoy respectively.

THE case of ANDERSON and FENNER *v.* MOELLER, upon which we briefly commented last week, is full of interest to medical practitioners, and perhaps the wonder is, disease and human nature being what they are, that such cases do not arise oftener. Disease is often capricious and

insubordinate; the personal equation in it is powerful and very variable. The relation of the medical man to the patient is a delicate one, and mutual trust and forbearance are very generally necessary if the latter is to benefit fully by the ministrations of the former. To do human nature justice this is the common case in medical practice. As a rule, practitioner and patient work together well. They give and take; they treat each other generously and graciously. But when a carping view of medical treatment comes to be taken and there is necessity for the law to vindicate the claims of medicine the practitioner is to be congratulated who finds himself before a judge so capable and discriminating as the Lord Chief Justice of England.

The case of ANDERSON and FENNER v. MOELLER is one in point. Mr. MOELLER, the defendant, was a clerk in a stockbroker's office and in receipt of an income of from £700 to £900 a year. The plaintiffs were two medical men in partnership. On April 5th of last year Mr. MOELLER became ill and applied for advice and treatment to Dr. W. M. A. ANDERSON, in whose absence he saw Mr. ROBERT FENNER, Dr. ANDERSON's partner. Mr. MOELLER then had a temperature of 103° F. and his right ankle-joint was swollen. With his own consent he was sent to 23, Devonshire-street, a nursing home, and there was attended till June by Dr. ANDERSON. Endocarditis was then found to exist, and later phlebitis in the other leg and a clot in the femoral vein complicated the case. The evidence showed that the patient was nervous and hysterical, frequently crying, and at times even "childish," as the Lord Chief Justice said. Much of this may have been due to the nature of the case, but some of it apparently was due to the nature of the patient, making him intolerant of suffering and fearful of the means used to alleviate it, such as soda baths, the hot-air bath, and the occasional administration of anæsthetics. In the course of a month it became necessary to straighten one of the legs, the muscles of which had become contracted. This was done on two occasions, on the first occasion by Dr. ANDERSON and on the second occasion (June 16th) by Mr. FENNER, who had been repeatedly requested by the patient to straighten his limb. On the last occasion the patient became most excited and objected to the use of the anæsthetic unless Dr. (now Sir THOMAS) LAUDER BRUNTON were present. Dr. BRUNTON had seen the patient repeatedly, but could not attend on that day. The anæsthetist, however, testified to the hysterical state of the patient and to his refusal to have the anæsthetic, which, he said, would not have been necessary in the case of a patient of ordinary fortitude. The defendant in his evidence said that on this occasion, after refusing his consent to the employment of anæsthetics, Mr. FENNER seized his leg when the pain was so great that he fainted, but that when he recovered the leg was tightly bandaged and in great pain. The next day Mr. FENNER called and said he would make the leg easier for him. He told Mr. FENNER that he would not see him any more and desired to see Dr. ANDERSON. From that time till June 26th Dr. ANDERSON attended the defendant, who complained of the pressure of the tight bandage. On June 26th Dr. ANDERSON, finding that the patient was prescribing antipyrin for himself, withdrew from the case. Dr. EDWIN HOLLIS saw the patient thereafter with Sir T. LAUDER BRUNTON. He found phlebitis of the left leg and an ulcer below the right knee which "might have been caused by a splint considering the condition of the patient." Dr. LEWIS LEWIS, medical officer in charge of the electrical department of St. Bartholomew's Hospital, saw the patient in April of this year and testified to a scar and indications of wasting of the leg and loss of muscular power in the area of the leg supplied by the peroneal nerve which might last for a considerable time, while Mr. CHRISTOPHER HEATH and Sir THOMAS SMITH spoke to the necessity for straightening the limb.

Medical men will readily understand the trouble which such a case as this might give, the pain in which it would involve such a patient, and how easily the assistance of law might become necessary to vindicate the position of the original medical attendants whose services had been withdrawn. Dr. ANDERSON and Mr. FENNER brought an action to recover £144 16s. for medical and surgical attendance on the defendant. The defendant retorted by pleading that the services of the plaintiffs were of no value or benefit to him owing to the plaintiffs' negligence and want of professional skill and counterclaimed for damages for the alleged negligence. The counsel for the defendant, with the freedom allowed to the advocate, abused the plaintiffs, disparaged their diagnosis because in the description of it to friends it did not give bacteriological details, and attributed to their treatment what was mainly due to the hysteria of the patient and the nature of his disease. This line of action on the learned counsel's part was completely unsuccessful. The diagnosis and the treatment were easily demonstrable as being in the main entirely in the lines of sound medical practice. The straightening of the limb was imperatively called for, was desired by the patient, and was justified by authorities such as Mr. HEATH and Sir THOMAS SMITH. The untoward results of the bandage might easily have been avoided or corrected had the patient been a little more reasonable and amenable to the authority of his medical advisers, who took every means to alleviate his sufferings. And we may be sure that the temporary inconvenience that followed was a much less evil than the permanent lameness which would have resulted without the measures taken by Dr. ANDERSON and Mr. FENNER. These obvious and essential points of the case were thoroughly grasped by the Lord Chief Justice, who set them forth in a full and masterly way to the jury, who found for the plaintiffs on the claim for £144 [illegible]. They also found for the plaintiffs on the counter-claim, adding the rider to their verdict: "We are of opinion that the plaintiffs treated the defendant with all reasonable care and skill and we attribute no blame to them whatever."

The one point in which the plaintiffs did not have all their claim succeeded was in respect of the [illegible] of their fees. They were allowed £[illegible] instead of £144 16s. In the matter of fees the Lord Chief Justice was [illegible] and he was [illegible] by the [illegible] profession. "There are [illegible] fees, [illegible] general [illegible] fee of any [illegible] that [illegible] in the [illegible] case [illegible] the [illegible] case.

case, however, no such agreement was made, and therefore the plaintiffs were entitled only to make fair and reasonable charges, taking into consideration both the professional position of the plaintiffs and the position in life of the defendant." The jury reduced the fees to what they considered fair and reasonable upon grounds that we do not appreciate, but the scale of fees charged by the plaintiffs was perhaps a little high. It was, at any rate, higher than that of the general practitioner is as a rule, but they were acting in partnership and in the manner of general practitioners, calling in consultants frequently. We are certain, however, that if the defendant could have shown to his medical men that there were good reasons for his asking to have their charges reduced they would have met him in this respect and saved him heavy legal expenses and public exposure of his frailties.

THE disabilities under which provincial medical officers of health labour by virtue of the somewhat precarious nature of their appointments have recently attracted considerable attention and a Bill is now before Parliament, as we said last week, "backed" by Dr. FARQUHARSON, Sir WALTER FOSTER, and others, purporting to remedy this state of affairs and to place the medical officer of health in a position in which without fear or favour he may be able to perform his duty to the State and receive at least a competence as a pension when his work is done. The subject is one which is naturally of intimate concern to the members of the public health service, but we are agreeably surprised to find that the medical profession generally is evincing a tendency to interest itself in the matter. From a copy of a petition which is to be presented to the President of the Local Government Board by the Hon. A. R. D. ELLIOT, M.P. for Durham City, we gather that 73 medical practitioners are petitioning Mr. CHAPLIN in these terms:—

We, the undersigned medical practitioners, humbly petition the Local Government Board to use its best efforts to obtain security of tenure of office for all medical officers of health throughout the United Kingdom of Great Britain and Ireland. Security of tenure has already been granted to the medical officers of health of London, and your petitioners feel that, without such security, an injustice is often inflicted on the medical officers of health of the provinces, as well as some limitation placed on the usefulness of the Public Health Acts.

We appreciate the spirit which prompted this action on the part of the medical practitioners of Durham, led, we believe, by Dr. E. JEFSON of that city, and we trust that the petition may be favourably considered by Mr. CHAPLIN, with the limitation which we feel bound to indicate. It would perhaps, however, have been better had the petition referred only to such officers as devote their whole time to public health work of one or another kind. This question must eventually be decided by the elect of the people in the House of Commons, and this being the case we have, in order to ensure as great a measure of success as possible, to look at the matter not solely in its professional aspects but also to ask how far such a general proposal as this is likely to prove beneficial to the public health and to the public health service. Moreover, we must have regard to what has a reasonable prospect of passing into law, and petitions in favour of legislation which no Government will ever give are to be deprecated. The ideal which has, to our thinking, to be aimed at, is that of whole-time appointments—i.e., the creation of a public health service the members of which shall be specially qualified to practise that branch of their profession which they have elected. We question whether it is in the interests of this ideal that medical practitioners receiving perhaps the paltry salary of some £10 to £50 yearly shall have their offices converted into permanent appointments; indeed, we see in this proposal a serious obstacle to the development of whole-time appointments carrying salaries commensurate with the dignity of the office of a specially qualified medical officer of health. And further, we have little hesitation in expressing the opinion that a measure such as this would have little chance of success in either Chamber of the Legislature. We speak plainly because we are anxious for reform in the present condition of affairs and are desirous that the prospect of reform shall not be obscured by proposals which we fear will carry with them no little condemnation in the eyes of the local sanitary authorities. To ask these authorities to pay for the services of an officer over whom they will have but limited control and whom they will be unable to dismiss, however incompatible with his surroundings the officer may be, without the consent of the Local Government Board, is a somewhat far-reaching demand, and unless it is proceeded with cautiously defeat may be invited. The promoters of this measure would do well to introduce some differentiation into their scheme—to limit the fixity of tenure, if not to whole-time officers, at least to those who do not engage in private practice, and any future petitioners would be wise to take this line. It is, moreover, perhaps, desirable that before fixity of tenure is ensured to any officer some period of probation, say one to three years, should be stipulated for and that a diploma of public health shall be a *sine quâ non* in all appointments of permanence. Some provisions such as these would, it seems to us, make the measure more acceptable to Parliament.

Annotations.

"Ne quid nimis."

THE LORDS AND THE LICENSING LAWS.

A VERY sharp collision occurred on Tuesday, May 8th, in the House of Lords between the Bishops and the Prime Minister on the subject of the duty of the Government in connexion with the report of the Royal Commission which was appointed by the present Government to inquire into the operation and administration of the laws relating to the sale of intoxicating liquors. The Government only escaped a defeat by a majority of three. The Bishop of Winchester proposed: "That it is desirable that legislative effect be given to such of the recommendations contained in the final report of the Royal Commission on Liquor Licensing Laws as are common to the majority report and the minority report of the Commissioners." This was obviously open to the easy objection of Lord Salisbury that it was a new mode of legislation to accept off-hand the findings of any Royal Commission even when those findings were unanimous. But in opposing it Lord Salisbury abandoned himself to arguments against all interference with the trade "without due

consideration," characterising the legislation proposed as "paternal," as not being demanded, and as being instigated by the "cellared" portion of the community against the "cellarless." His speech led Viscount Peel to say that it was evident that the Government had paid no attention whatever to a question which excited the deepest interest among the earnest-minded people of the country. Lord Kimberley followed in a similar strain. But the blows which fell most heavily on the Premier were those of the Archbishop of Canterbury who only failed by three to carry the following resolution: "That it is desirable that Her Majesty's Government should on an early day lay before Parliament proposals founded on such of the recommendations contained in the final report of the Royal Commission with regard to the liquor-licensing laws as are common to both the minority report and the majority report of the Commission." There is no doubt that the attitude of the Government towards this question, expressed with cynical candour by Lord Salisbury, is distressing and discouraging to a very large section of the public and of their own supporters. The submission of politicians to the liquor trade must have gone far indeed if so strong a Government as the present dare not attempt legislation based on the admissions and suggestions of the members of the Royal Commission—who were either neutral or represented the trade—a Commission appointed by the Government itself. Nobody believes that drunkenness will be cured by Acts of Parliament, but the legislature of this country has recognised for centuries that it has duties on this subject of the gravest kind, and when the tension of the present military situation is over it will find ways and means of making this evident to any Ministry that may be in power. We are on the side of the Bishops here and will be no party to the pessimistic and discouraging doctrine that the expenditure of £161,000,000 a year on drink calls for no attention and no seriousness at the hands of the Government. The wards of our hospitals and post-mortem rooms save us from such views.

THE RISK TO OUR SEASIDE RESORTS FROM JETTISONING DISEASED CATTLE.

THE practice of throwing the carcasses of diseased cattle into the sea within a few miles of the foreshore is obviously open to the severest possible condemnation. Yet it would appear that such is the case, for it is stated that recently the entrails of cattle have drifted ashore in large quantities at certain of our seaside resorts on the East coast. The possibilities of risk to public health and to the health of domestic animals under these circumstances are great. In answer to a question on this subject put in the House of Commons on Monday last Mr. Long confessed that he was unable to say in the case of a steamer arriving with a cargo of diseased cattle from Argentina at what particular stage the carcasses were thrown overboard or whether or not any breach of the law had taken place, but inquiries were pending. We trust that the provisions of our laws against such a source of contamination are carried out satisfactorily. Surely the master of a ship should not be allowed to discharge a cargo or part of a cargo of diseased animals into the sea within comparatively easy distance of the shore. If the carcasses are brought near shore they should be landed and dealt with by the only rational method of disposal of such a contaminated cargo—viz., heat. It is well known that apparatus is constructed which will effectually deal with offal, bad or indifferent, by means of superheated steam. Not only in this way are all pathogenic organisms destroyed, but an actual gain is made by the yield of fat as well as other products which can be converted into excellent fertilizers material for the soil. We trust that our port sanitary authorities will keep a sharp eye on the disposal of diseased cattle at sea, and that any such cargo will be treated by the sanitary and profitable method which we have indicated.

THE DANGER FROM SMALL-POX.

THAT the danger from small pox has still to be reckoned with is strikingly shown in the report of a case which reaches us from Bolton, where a man named Beech is now an inmate of the Infectious Diseases Hospital. In company with another man who was supposed to be suffering from influenza Beech travelled from Russia—where small pox has been prevalent—*viâ* Queenborough, St. Pancras, and Manchester; and in the railway carriage from London were four other persons. At Stalybridge, the patient's destination, he was found to be suffering from small-pox of such a malignant type that he died there next morning. The man Beech was afterwards found to be suffering from small-pox and was taken into the Bolton Infectious Diseases Hospital, but thanks to the promptitude and energy of the measures taken by Dr. J. E. Gould, medical officer of health there have been no other cases reported in the borough. But it has been ascertained that all the people who travelled in the same railway carriage to Manchester with Beech and the deceased are now suffering from the disease.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

THE Pharmaceutical Society of Great Britain held their annual dinner at the Hôtel Métropole on May 15th, the chair being taken by Mr. G. W. T. Newbolme, President. Sir Howard Vincent, M.P., in replying to the toast of "The Imperial Forces," referred to the extreme interest taken by Lord Roberts in the medical arrangements for his forces. Dr. W. S. Church (President of the Royal College of Physicians of London) in responding to the toast of "The Medical Profession," said that there was no section in the profession of medicine which was not greatly indebted to the Pharmaceutical Society for the good which it had widely had done during the last generation. He had heard with pleasure of the action of the Council of the Pharmaceutical Society during the last few days. Certain questions had been placed before them by the Government in the same way that they had been placed before the Royal Colleges with regard to the standardisation. He could not say what might be the answer of the Royal Colleges, because the questions had not yet been considered by them but he had read with satisfaction the answer that society had returned to the Home Office. He saw no probability of there being any difficulty in regard to the standardisation of drugs and there was no reason why a solution of that question should not be made in a way which would form a reasonable and workable arrangement between the Government and the medical profession. In regard to the Pharmacopœia he felt sure that the scheme now settled on between the General Medical Council which might be looked upon as representing the medical profession and the Council of the Pharmaceutical Society would give satisfaction to both bodies and would also lead to the satisfaction of the whole community. Mr. T. Bailey Saunders, secretary of the London University Council, in proposing the toast of "The Pharmaceutical Society," said that he had been told that in the course of the present year that society was to introduce a new and [illegible] preliminary arts examination and that would [illegible] would not have patient men and would have [illegible] were not changed by custom to be [illegible] of other [illegible] [illegible] of the Pharmaceutical Society [illegible] of the [illegible] society had [illegible]

professors in the School of Pharmacy—namely, Dr. J. N. Collie, F.R.S., Dr. J. R Green, F.R.S., and Professor H. G. Greenish. Sir J. Crichton Browne, in returning thanks for the guests, regretted the prevalence of enteric fever, pneumonia, and dysentery in South Africa. He said that enteric fever was now increasing out of all proportion to deaths from wounds. Every death from enteric fever represented four cases of that disease. No doubt it was endemic in South Africa, but he suggested that an inquiry by eminent sanitary authorities who might suggest precaution, and would at any rate collect information, would be useful on future occasions. The idea abroad that medical treatment was of no avail in enteric fever was mere folly; they might have no specific, but there was no disease in which skilled medical treatment could do more to ward off death and to alleviate suffering. In the course of the evening reference was made as to whether a limited liability company should not be considered to be a "person" under the Pharmacy Act of 1868, and Mr. Remnant, M.P., promised to give the matter his best attention if it came before the House of Commons.

FLORENCE NIGHTINGALE.

ON Saturday, May 12th, on the occasion of her eightieth birthday, Miss Nightingale was presented with a basket of beautiful flowers and a handsome album, containing the names of over 650 nurses, past and present, who received their training in her schools at St. Thomas's Hospital and at St. Marylebone Infirmary, and the following illuminated address:—

DEAR MISS NIGHTINGALE,—We, as your nurses, speaking for ourselves and many others who have been trained in your schools and are proud to bear the name of our dear chief, trust that you will allow us to offer you our hearty congratulations on this your eightieth birthday.

We rejoice that you are still able to see some of us from time to time, and to take a lively personal interest in our work.

We feel grateful to you, not only for the benefits which you have conferred upon us individually, but also for having by your example and wise direction created a noble calling for women generally.

We beg that you will accept this book, containing our names, and a basket of flowers as our birthday offering.

Names were received from nurses in Australia, various parts of India, South and West Africa, Egypt, Palestine, Algiers, North and South America, Russia, Finland, Denmark, and other continental countries, besides Great Britain and Ireland.

A FALSE ALARM OF PLAGUE IN SMYRNA.

LETTERS written from Constantinople state that on May 8th the Conseil Supérieur de Santé of that city received a telegram from Dr. Mizzi, Médecin Sanitaire at Smyrna, reporting that a case suspected to be one of plague had occurred in the practice of Dr. Amado of Smyrna. The patient was a Jew, 60 years of age, a dealer in brushes and very poor. Dr. Amado first saw him on May 5th when his symptoms included headache, high fever, and slight bronchial catarrh. On the 6th he was found to have in his right groin a hard painful bubo of the size of an egg. On the 7th he was seen by Dr. Mizzi, five members of the Health Commission, and Dr. Leoni (médecin Conah). The patient, who had never been out of Smyrna, was then slightly delirious, with high fever, and had rose spots like those of enteric fever all over his body. There was no bubo other than the one already mentioned. A definite diagnosis was not made, but the man was isolated outside the city and all sanitary precautions were taken. The director of the Pasteur Institute at Constantinople was immediately sent to Smyrna to make an investigation. It was announced on May 8th that passengers from Smyrna to Constantinople would be medically examined, firstly on board ship at Smyrna, then in the Dardanelles, and finally on their arrival at Constantinople. Reuter's agent telegraphed from Constantinople on May 13th that it had been established by a bacteriological investigation that there had been no death from plague at Smyrna, and that the sanitary precautions enforced in Constantinople against arrivals from that city would probably be relaxed.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Mr. John H. Morgan, one of the senior surgeons at Charing-cross Hospital, at the election to be held in July, will be a candidate for one of the vacant seats on the Council of the Royal College of Surgeons of England. Charing-cross Hospital has not been represented on the Council since Mr. Hancock's election in 1863. Mr. J. Bland-Sutton of Middlesex Hospital will also be a candidate for a seat on the Council. It is understood that Sir Thomas Smith will not seek re-election.

THE DIAGNOSIS AND TREATMENT OF PNEUMOTHORAX WITH A VALVULAR PERFORATION OF THE PLEURA.

AT the meeting of the Société Médicale des Hôpitaux of Paris held on April 6th Dr. A. Béclère read a very important paper on the Diagnosis and Treatment of Pneumothorax with a Valvular Perforation of the Pleura. M. Bouveret has pointed out that cough is necessary in order that air might accumulate in the pleura at pressure greater than that of the atmosphere. Only during the efforts of coughing, when the intra-bronchial pressure is greater than that of the atmosphere, can air be introduced into a pleural cavity to a point beyond the atmospheric pressure. As the intrapleural pressure increases so do the dyspnœa and the signs of pressure on the adjacent viscera, such as depression of the liver when the pneumothorax is on the right side and displacement of the heart to the right when it is on the left side. The most important and the earliest sign of pneumothorax with a valvular opening is the presence of intrapleural pressure greater than that of the atmosphere. Dr. Béclère has invented a very simple instrument which enables the intrapleural pressure to be measured, and a valvular pneumothorax to be diagnosed with certainty and at the earliest period, and also to be treated in the best way. It consists of a hollow needle, such as is used for hypodermic injections, which is connected by an indiarubber tube with a glass tube about six inches long and one-fifth of an inch in bore. The glass tube is half plunged into a vessel containing water. The instrument having been sterilised and the usual antiseptic precautions having been taken, the needle is inserted (preferably obliquely) in an intercostal space. If the intrapleural pressure exceeds the atmospheric pressure gas will pass through the apparatus and escape through the water in bubbles, until the intrapleural pressure becomes equal to the atmospheric pressure. By this instrument also the patency of pleural perforation in a case of a pneumothorax may be ascertained. When the patient coughs gas will be driven through the apparatus and the water in the tube will be depressed below the level of that in the vessel. If, when he has finished coughing the column rises again to the level of the water in the vessel the air driven out of the pleural cavity must have been replaced and the perforation must be patent. If, on the contrary, the level in the tube rises above that in the vessel the air has not been replaced and the perforation is closed. Dr. Béclère claims that this "capillary puncture" of the pleura is the best treatment of valvular pneumothorax, as the use of the ordinary trocar is more likely to lead to generalised subcutaneous emphysema. If

the air re-accumulates in the pleura the puncture can be repeated several times in the same day if necessary. If the patient's cough persists Dr. Béclère suggests that the needle might exceptionally be kept in position for part of the day. It should then be surrounded with sterilised wool and the patient should be kept under constant supervision.

THE CHEMISTRY OF THE NEW HALFPENNY POSTAGE-STAMP.

IN THE LANCET of May 5th (p. 1299) we had occasion to publish the results of a chemical examination of the new halfpenny postage-stamp, and we then said that from the *point of view of the chemistry of the new stamp* there was no reason to suppose that it contained injurious substances and therefore licking would be harmless. We found, in fact, that the green colouring consisted of a mixture of Prussian blue and chrome, and that objectionable mineral colourings were absent. This analytical note was largely quoted by the Press, but in many instances the construction put upon our conclusions was misleading and indeed dangerous. One paper wrote, for instance, that "it is a comfort to know that the new halfpenny stamp may be licked without fear of the consequences." Articles appeared in other papers under such headings as follows: "A Stamp that may be Licked," "May be Licked with Impunity," "Stamps that can be Swallowed," and so on. These headings and comment are a distinct, and, we think, dangerous, misrepresentation of what we said. We pointed out as clearly as language could possibly indicate that from the point of view of chemistry the new stamp was harmless but that this fact did not warrant the nasty habit of licking postage-stamps, because instances were known in which without doubt the gum must have been infected with pathogenic organisms. Instances of blood-poisoning set up in this manner have been established.

FIRST INTERNATIONAL CONGRESS OF MEDICAL ETHICS OR DEONTOLOGY.

THE Committee of the International Congress of Medical Ethics and Medical Deontology, which will be held in Paris from July 23rd to 28th, have again sent out circulars to announce to the medical profession that a reduction of 50 per cent. on the rates of French railways and of 30 per cent. on the rates of the Transatlantic Company's steamers will be allowed to all members of the Congress who have sent in their subscriptions before June 20th, 1900. The documents necessary to obtain this reduction will be drawn up at the same time as the cards of admission to the Congress. The railway ticket will be available for one month, from July 20th to August 20th. With regard to housing in Paris the committee have made special terms with various agencies. Some of the agencies have rendered similar services to the members of previous scientific congresses. Detailed memoranda dealing with the proposals made by these agencies are now in the hands of the presidents and secretaries of the Committees of Patronage and of the foreign National Committees, to whom members of Congress desirous of obtaining further information are requested to apply. Those who intend to join the Congress should send in their subscriptions—members 15 francs, associates 10 francs—accompanied by their cards, or the application forms detached from the circular of invitation, to the Treasurer of the Congress, M. Pierre Masson, 120, Boulevard St. Germain, Paris. Associates (medical students and wives of members) are eligible for the reduced railway rates. They will, however, have no right to the publications of the Congress nor can they take part in the discussions. Several of the foreign railway companies have also shown a disposition to grant reductions similar to those accorded by the French railway authorities. This should increase the number of members attending from distant countries.

END OF THE DISPUTE BETWEEN THE STOCKPORT AND DISTRICT MEDICAL SOCIETY AND THE LOCAL BRANCH OF THE ST. JOHN AMBULANCE ASSOCIATION.

THE differences between the Stockport and District Medical Society and Mr. A. E. Ferns, the late honorary secretary of the Stockport Centre of the St. John Ambulance Association, have now been arranged. Mr. Ferns has addressed to the chairman of the local centre a letter in which he stated that as he (Mr. Ferns) knew it was the wish of the president (Earl Egerton) that he should continue to be connected with the centre and "acting in what he conceived to be the spirit of the award, he was prepared in any part he might take in ambulance matters in the future to work amicably with all concerned in promoting the best interests of the Order," &c. This letter was considered at a recent meeting of the Stockport and District Medical Society, and in a spirit of conciliation it was resolved that, provided Mr. Ferns inserted the words "the members of the medical profession in Stockport and" before the words "all concerned," the medical society would not oppose his re-election. Mr. Ferns inserted these words and at a subsequent meeting of the Stockport Centre Mr. Arthur Briggs was elected secretary and Mr. Ferns was appointed chairman. We congratulate the members of the Stockport and District Medical Society on the course of action which has put an end to this unhappy dispute, and at the same time we feel sure that their forbearance and magnanimity will be appreciated and reciprocated by Mr. Ferns, who, it cannot be denied, in the discharge of his duties as secretary gave not a little cause of offence to various medical men in the town. However, that is happily a thing of the past, and we do not doubt that in the future Mr. Ferns and his medical colleagues will work together with that spirit of harmony which should always distinguish those engaged in rendering service to their fellow creatures.

THE SANITATION OF DUBLIN.

CLOSE at the back of Fitzwilliam-place there is a noisome den where a child died from tuberculosis during Her Majesty's gracious visit to her Irish capital. Seven other children were allowed to keep up a wake for three days round the corpse which was already in a state of decomposition. One of the children, a twin baby, was in a dying condition. The surrounding insalubrious state of the dwellings equalled some of the worst descriptions of the foulness prevailing at Dublin given by our Special Commissioner, and yet Fitzwilliam-place stands socially on the same level as Upper Brook street in London. It is a very fashionable and one of the most elaborately decorated quarters of the town. There are laws in Ireland which sanction the application of the much-needed sanitary measures, but where are the administrators who have the capacity and the desire to apply these laws? Sanitary administration should of course be independent of all political and theological controversy. That this is not the case in Dublin is the cause of a negligence which has cost thousands of lives. Fifteen years ago a Royal Commission was held at Dublin on the housing of the Poor and yet to this day, as we have fully showed, the town remains a disgrace to modern civilisation. The [illegible] to be apparently [illegible]

[illegible]

average for the first quarter of the present year is 39 6 per 1000, that of London during the same period being only 23 4, and that of Edinburgh 23 8.

MR. VICTOR HORSLEY ON THE MEDICAL ACTS.

OUR attention has been called to the fact that at the conference on Medical Organisation held at Manchester on May 1st, Mr. Victor Horsley stated in his address on "The Medical Acts" that Mr. E W. Alabone had been struck off the Register for infamous conduct and that this statement is incorrect. Technically it is incorrect. Mr. Alabone's name and qualification were erased from the Register on Nov. 16th, 1886, because his name had been removed from the list of Members of the Royal College of Surgeons of England.

THE MIDWIVES BILL AND THE BRITISH MEDICAL ASSOCIATION.

THE interest of the medical profession in the progress through Parliament of the Midwives Bill will not be destroyed by the fact that the Bill has been passed unaltered by the Grand Committee on Law. It was in consequence of the failure of efforts to secure certain amendments during this stage of events that a deputation from the British Medical Association waited upon the then Solicitor-General on May 3rd. The speeches of the deputation and the remarks which they drew from Sir Robert Finlay are reported at length in the *British Medical Journal* of May 12th and it will be seen that the alterations suggested in the Bill were in the main such as would be desired by those of our readers who admit the necessity for some legislation. As to the defects of Mr. Egerton's Bill, in the opinion of those who allow that some legislative regulation of midwives is bound to come, they are chiefly related to the question of efficient control of the midwives by the medical profession, and particularly to the question of the adequacy of the Central Midwives Board, as constituted by the Bill, to ensure such control. That the control secured by the Bill left much to be desired was the point urged on behalf of the British Medical Association by Dr. S. Woodcock, who advocated making the board representative of different districts in the country. An allied point also urged by Dr. Woodcock is the question of local supervision. Undoubtedly, as he suggested, the medical profession should be represented in the body that exercises local supervision. We agree also with the contention that the failure of a midwife to summon medical aid in cases of difficulty or of disease of, or danger to, the mother or the child should be regarded as misconduct within the meaning of the Bill. As it stands at present the Bill merely states that the "certificate shall not confer upon any woman any right or title .... to assume any name, title, or designation implying that she is qualified ..... to attend cases of abnormal labour or of disease or danger to the mother or the child." This is, of course, a very different thing from stating that by so attending she is guilty of misconduct. The point is inherently not an easy one to settle because of the different opinions as to what constitutes danger. Many thick and thin opponents of the Bill would doubtless declare every midwifery case one of danger, and as this is true potentially who is to contradict them? Dr. T. A. Helme, who formed one of the deputation to the Solicitor-General, stated his opinion that though natural labour could not be defined positively it could very well be defined negatively, and held that the Midwives Board could frame regulations which should exclude the attendance of licensed midwives on non-natural cases. The Bill, of course, makes safety in this matter to depend upon the degree to which competency and intelligence are ensured by the examination to which midwives will be subjected before receiving their certificates from the Board. But the midwife who relies upon having passed an examination may err either through confidence or diffidence. It has been generally assumed that she will be ready on all occasions to act as though she were a fully qualified medical practitioner. Still, if one may judge from the behaviour of medical students when they are learning midwifery, the danger is not only that midwives will fail to seek medical aid when in the presence of a case of difficulty. They may, on the other hand, be constantly sending for medical men when they have to do with what is really a case of natural labour. Dr. Helme drew attention, also, to a defect in the Bill's definition of "midwife" by which it did not require her to give attendance after labour. She would thus, he thought, be able to disclaim responsibility for fever when the patient had been relegated by her to other hands, the origin of the fever having been very probably her own person. This is a matter that clearly requires attention. Mr. Horsley raised the question of applicants for admission to the Midwives Roll producing evidence not of efficiency only but also of character, and objected to the recognition of the certificates of the Obstetrical Society of London as that body is "merely a private society and not recognised by the medical profession as a proper body to be given statutory authority." The Obstetrical Society's statutory authority will be of limited duration. However, there is a strong feeling in the profession in favour of Mr. Horsley's view. Another point which Mr. Horsley described as very critical was this, that no Board would care to assume authority not specifically laid down in the statute, and that the Bill provided no statutory prohibition of the midwife continuing to take charge of a case after she had recognised that a difficulty or danger had arisen. The [illegible] that the full consideration of [illegible] should be given to the amendments considered desirable by the deputation.

THE RELIEF OF THIRST.

A CORRESPONDENT writes to us upon a matter which undoubtedly comes home to the heart of every one of us. He says that—

Everyone is constantly hearing of the terrible thirst which our soldiers in South Africa have to endure and we who have friends there are receiving requests for "thirst-quenching tablets" or anything which will afford relief. Many of us would be only too grateful to know of something which could be sent out, as also for any hints as to methods of quenching thirst, even temporarily, in the absence of unpolluted water. Such information would reach great numbers of men—it would lead to the saving of much suffering and probably of not a few lives.

Whilst fully sympathising with the writer of this letter in his desire to be informed of some means by which the terrible thirst experienced by our soldiers in action or lying wounded on the field of battle can be relieved, we fear that such means are not to be looked for in thirst-quenching tablets, or in fact in any other means than the supply of water. Thirst is the expression or cry of the system for water. It is a want that is felt in all other parts of the body—in the blood which becomes thicker, in the skin which becomes hot and dry, in the nervous system as is indicated by headache and delirium, in the muscular system which is enfeebled, and in the glandular organs as shown in the costive bowels and high-coloured and dense urine. The want of water is referred especially to the fauces as thirst, and is perhaps really felt in that region more acutely than elsewhere because, in addition to the want of action of the salivary glands, the whole mucous membrane of the mouth is rendered very dry by the passage of air over it through the open mouth and by the great interference that such dryness causes in speech and in swallowing. But what relief can be

expelled from tablets? Tablets themselves require moisture to dissolve them, and to enable them to act. Pastilles might possibly prove of service, but how is that to be obtained in the exigencies of war? Even if a few minutes' relief were afforded by such means the imperative desire for water would not be abolished and would probably only be intensified. We must regretfully admit that we know of no means but water to relieve the feeling of thirst that proceeds from violent exertion under a tropical sun, either with or without the additional misery of those bodily injuries which so materially increase its intensity.

INOCULATION OF TYPHUS FEVER.

A Russian physician, Dr. [illegible], has inoculated himself with the blood of a typhus patient with the result that after feeling no ill-effects for 17 days he had a severe rigor on the 18th day with fever, delirium, and a [illegible] condition lasting for a fortnight. The rash appeared on the fifteenth day of the disease and desquamation began 11 days later, he being convalescent on the [illegible] day after the initial rigor. This interesting experiment appears to prove that the virus in typhus fever resides in the blood. It should, however, be mentioned that Dr. [illegible] had previously attempted to inoculate himself with the blood of typhus fever patients no less than seven times unsuccessfully.

EXPERIMENTAL REPRODUCTION OF DENTAL CARIES.

M. J. [illegible] has recently made some experiments on the propagation of dental caries by direct inoculation of healthy teeth with the carious microbe and the results of his observations were read before the Academy of Sciences in Paris at the meeting held on April [illegible]. That dental caries is due to a micro-organism has been established by the labours of several investigators, but its reproduction by direct experiment has not as yet been demonstrated. From three stopped teeth, the stopping of which had remained intact for periods varying from three to seven years, he succeeded in isolating five species of microbe. Of one of these he was able to obtain pure cultures. The characters it presents are that it is short, [illegible], [illegible] when growing in extract of meat, and incapable of liquefying gelatin. [illegible]

[illegible]

[illegible] will be [illegible] cases will be [illegible]. The [illegible] Dr. [illegible], professor of [illegible] New York Post-Graduate School and Hospital [illegible]; [illegible] Vice-President, Dr. [illegible] Medical School, [illegible] of New York; Treasurer, Dr. [illegible]; Secretary, Dr. [illegible]; Corresponding secretary and [illegible], Dr. [illegible] [illegible], Brooklyn, U.S.A.

Dr. Frank [illegible] has been appointed [illegible] to the late Dr. [illegible] [illegible] Constantinople.

THE annual [illegible] of the [illegible] Society of London will be held [illegible] [illegible]

AT the meeting of the Royal Medical and Chirurgical Society to be held on [illegible] [illegible]

[illegible]

THE WAR IN SOUTH AFRICA.

WHEN writing last week we said that the advance of the British troops had begun in earnest and that what was understood to be very much the original plan of the campaign was being prosecuted with great vigour and celerity; that the overwhelming strength of the British forces advancing rapidly in a concerted movement as a big encircling wave was inevitably having the effect of driving the Boer forces from all their positions towards those at which they had determined on making a defensive stand; and we added that it was quite within the range of possibility that the fighting power of the Boer forces might suddenly and unexpectedly exhibit signs of collapse. The rapid progress of events since then has certainly been in that direction, for the Boers have abandoned position after position with little or no fighting—cleverly drawing off their forces, however, with their guns, munitions of war, and foodstuffs, so as for the most part to elude their capture, on the one hand, and avoid the risk of any general engagement on the other. Whether they have a motive, which they are sedulously concealing, in withdrawing from their positions towards some point where they intend to make their final stand and in the hope of lengthening and weakening our lines of communication or not remains to be seen; but their tactics have all the appearance of being the result of rapidly failing strength to maintain the struggle, of loss of confidence in the success of their cause, and probably also of internal dissensions and demoralisation among themselves.

Sir Redvers Buller, after having given his army a long rest, has made an important and successful movement, the result of which has been that the Boers were completely outflanked and practically the whole of their strong defences in the Biggarsberg taken. The Boers, when they come to realise the effect of General Buller's movement, will most probably fall back. This will be followed by a further advance on the part of the British, while a part of General Buller's force will still hold and safeguard for a time the passes of the Drakensberg. So that it comes to this, that whichever way we look the campaign is being carried on with a speed and success that seem eminently satisfactory. The march of General Buller's force was rendered trying owing to the fact that their foe had fired all the grass on the top of the Berg during their retreat and the blinding smoke was carried by the wind in the faces of the British troops. Lord Dundonald's cavalry made a fine and successful march in pursuit of the retreating Boers. Sir Redvers Buller has since captured and occupied Dundee and Glencoe—an important matter. Su h is the military situation at the present time. Mafeking is the great blot in the picture and public anxiety is focussed upon its fate. We wonder whether the Government fully realises the feeling that exists in this country in regard to that little garrison? Should it unhappily fall by assault or have to yield from starvation and disease the Government will, politically speaking, sustain a great blow, and even Lord Roberts's popularity will be prejudicially affected. But we refuse to believe that the relief of Mafeking will fail to be accomplished.

We have read with interest the account of an interview between the special correspondent of the *Standard* and General Turr at Vienna on Saturday last. What the general had to say about the publication of the Spion Kop despatches and about General Buller's services struck us as eminently just. General Buller, he declared, had been most valuable in Natal, keeping the Boers from overriding the south of the colony and from destroying the railway down to Durban and that at a time when everything depended upon it. Speaking of the war the general said:—

"Such a war never was waged before, since equal distances have never had to be traversed, nor have such difficulties of ground, climate, and supply ever had to be surmounted." And he added: "The South African war is a school for the soldiers of the whole world and the best armies (including the most scientifically trained) will derive a lesson from it. I as a soldier follow it, map in hand, day by day with burning interest, and so every officer in Europe is likely to do, or at least ought to do, because the South African war is the starting-point for new tactics, a new strategy, new equipment, new formations—in fact, it revolutionises all our ideas about warfare and the proper preparation both for defence and offence."

Among the changes which the war [illegible] will bring about will be the re-organising [illegible] the various medical services at the disposal [illegible] the creation of some kind of national army medical service with a big medical reserve, the reduction and simplification of all clerical work on field service, and the greater division and specialisation of medical duties by the selection and appropriation of medical officers to particular kinds of duty.

We were glad to notice that Sir William Mac Cormac received quite an ovation on the occasion of the thirty-second annual dinner of the French Hospital. M. Paul Cambon, the French ambassador, was the chairman and was particularly happy and tactful in his allusions to this country and France and in his remarks about the services of the medical profession. Sir William Mac Cormac in his speech referred in grateful terms to his pleasant sojourn in Paris as a medical student and his labours with the French army in 1870. Of his recent experience he said that never before had the sick and wounded been treated with such assiduity and skill. His only regret was the absence of medical men from other countries, who had thereby lost a valuable professional and scientific experience.

Although there is, unhappily, a great deal of enteric fever among the troops in South Africa, as well as dysentery (which is, however, mostly of the catarrhal type and easily curable by rest, appropriate diet, and sulphate of magnesia), the army is healthy and the troops are in high fettle, excellent form, and undaunted, as far as their enthusiasm and courage are concerned. There is what may be termed "an enteric fever age," and soldiers are mostly at that time of life, but it is fresh arrival in a hot climate, and not youthful age, that is the great factor in predisposing to attacks of this fever. The hospital service is working well and the military and civil elements cooperate together in their labours and vie with one another in the common object which they have in hand. We notice, by the way, that some mischievous correspondence of a controversial character has been occupying the columns of a daily journal in regard to the Herbert Hospital. The statements are of a curiously contradictory character. The truth or otherwise of the adverse allegations, which are of an anonymous kind, relate to matters of fact and can be either verified or disproved. Knowing how easy it is to argue from the particular to the general, and how frequently statements are made which cannot be substantiated or are susceptible of satisfactory explanation, we must say that we are usually inclined to discredit such complaints. The honest and straightforward course in all such cases, and that most in the interest of everybody, it seems to us, is to report the circumstances at once to the local hospital authorities with a view to their being investigated and dealt with promptly and on the spot. It is time enough to write to the papers when this has been done and failed.

(FROM OUR SPECIAL CORRESPONDENT AT THE BASE.)

Notwithstanding the lull in active operations at the front the number of sick coming down shows very little diminution—in fact, I hold it as an axiom that the more Mr. Atkins and his officers are employed the less time they have to think of their bodily ailments. Not that the class of cases which come down can all be catalogued as "repairable," but still, there are undoubtedly a few patients who, given active employment and some chance of excitement, would have almost forgotten that they had any aches or pains.

There are about 70 sick officers at present in the wards of No. 1 General Hospital at Wynberg and about a dozen at No. 3 General Hospital, some of whom are likely to be able to go up again shortly, but others will have to be invalided. The transports have been taking a fair complement home every week and the hospital ships are generally pretty well filled. There is a rumour that No. 3 General Hospital is to be sent up the country next week, and as our hospitals on arrival have been sent up there ought to be no dearth of accommodation on the lines of communication. We have already had a foretaste of the winter rains here and the impossibility of treating cases under canvas is very apparent.

The telegram announcing that Major W. Babtie, R.A.M.C., had been awarded the Victoria Cross has given general satisfaction, as from all accounts he richly deserved it.

I am sorry to say that there are no signs of decrease in the number of cases of enteric fever, several fatal cases being added to the list every week. This scourge is almost as

[illegible] in India. I am also [illegible] [illegible] [illegible] years that I have [illegible] [illegible] [illegible] the age of 20 years [illegible] [illegible] But the fact remains that a great number of these cases [illegible] [illegible] [illegible] at present I have only seen two cases of [illegible] [illegible]

The [illegible] at [illegible] [illegible]

[illegible]

THE [illegible] ROYAL [illegible] MEDICAL [illegible]

[illegible]

spoke kindly words to all the men in the wards and with her own gracious hands distributed bunches of choice flowers which she had brought with her from the Royal gardens at Frogmore. Her Majesty specially noticed Sergeant Bosley of the Royal Field Artillery, whose left arm and leg were blown away by a shell at Ladysmith. The Queen inquired specially for the men of the colonial troops and the 13 men of these forces who are at present [illegible] hospital were brought to her notice. One of the wound[illegible] men made a petition to the Queen saying that he h[illegible] not received his box of the Queen's chocolate; and Her Majesty was gracious enough to promise that a box should be sent to him. The Queen asked the number of men in hospital who had lost limbs in South Africa and ordered that a list of all those requiring artificial limbs should be sent her on the morrow. In the surgical division Major Ottley, of the Yorkshire Regiment, who has had his leg amputated as the result of a wound received at Ladysmith, was presented to the Queen, and to him she addressed a few words. After the tour of the surgical wards the Queen descended in the lift to the medical division of the hospital, where Colonel W. E. Webb, R.A.M.C., explained the nature of the cases. There also the Queen visited seven wards. She remarked on the nature of the service pillows supplied for hospital use and said that pillows of a more comfortable kind should be supplied for the sufferers. Soon after her arrival the Queen expressed her satisfaction at the new station and passage for reaching the hospital, and spoke of the excellence of the decorations; she also announced the occupation of Glencoe by the army under Sir Redvers Buller. At the time of the Queen's visit there were 846 men under treatment in hospital. Never in this great base hospital has a longer roll of serious cases been brought to the notice of the Queen. Since the invaliding commenced from South Africa no less than 3426 men have been admitted and have received treatment in the wards of the hospital, and thence have been drafted away—many to go to their homes restored to health and strength, and not a few fit and ready for their return to the front, others, again, to convalescent homes so freely provided by generous sympathisers; but in the hospital there are left behind a growing accumulation of those who are grievously injured, many of whom will be incurable sufferers, and by these men especially—sons of her mighty empire—the visit of the venerable Queen-Empress will ever be remembered and cherished as an act of thoughtful affection. The Royal train left Netley at 5.30 P.M. on its return journey to Windsor.

LORD CROMER'S ANNUAL REPORT ON EGYPT.

ALTHOUGH at the present time the southern portion of Africa naturally claims the lion's share of attention the affairs of the principality which occupies the north-eastern corner of the whilom "dark" continent can never be wholly devoid of interest to the British public, and the man in the street—to use the phrase of the day—would be seriously disappointed if the repertory of Egyptian information which he has grown accustomed to expect each spring with undeviating punctuality were from any cause not to be forthcoming.

In his tenth consecutive annual report on the finances, administration, and condition of Egypt Lord Cromer is, happily, able to chronicle a continuance of the wonderful fiscal prosperity which ever since 1887, when first the annually recurring budgetary deficit was replaced by a surplus, has rewarded the untiring efforts of the British administrators. During the four years 1883-86 the aggregate excess of expenditure over income came to £E 2,761,000, whereas the aggregate surplus of the following thirteen years has amounted to £E 6 809,000, or considerably more than half a million per annum. That the financial system which has been imposed upon Egypt by the force of circumstances could not well be more complicated or intricate is well known, but, thanks to Lord Cromer's lucid exposition, it becomes intelligible. Owing to what his lordship with happy euphemism calls the "anomalies" of that system the comparatively enormous sum of £E 7,000,000 has accumulated in the hands of the Debt Commissioners, where it remains locked up out of the reach of the Egyptian Government. The fault, however, as Lord Cromer is careful to observe, does not lie with the Commissioners, either individually or collectively, but with the International [illegible] So far from proving [illegible] in question have done what [illegible] the injurious effects [illegible] the above-mentioned [illegible] ve agreed to devote no [illegible] projects of public ut[illegible] shows an admirable spirit, but the [illegible] could accomplish the apportioning of its own funds at least equally as well, and the time, as Lord Cromer suggests, has certainly now come to put an end to an expensive system of control for which there [illegible] htest necessity.

When the estimates [illegible] the revenue was cautiously appraised [illegible] but the actual receipts came to £E 11,415,000, or £E 815,000 more than was hoped for. The expenditure also exceeded expectations, but instead of a modest surplus of £E 40,000, as was foreseen, the actual amount in hand is £E 402,000 and that notwithstanding the payment during the year of £E 422,000 on account of the Soudan deficit.

But apart from finance, upon which reform of every description is more or less dependent, there is much in Lord Cromer's report for 1899 which possesses special interest for medical readers. Writing under the head of "Medical Administration" the Consul-General says:

> During th[illegible] rendered e[illegible] General of [illegible] An able suc[illegible] the course [illegible] hospitals, as against 21,676 cases in 1898. About 357,000 successful vaccinations were made during the year ending Nov. 1st, 1899, as against 346,000 during the corresponding period in 1897-98. The Vaccine Institute supplies calf lymph regularly to 53 of the principal towns in Egypt, besides sending special consignments to any locality where an outbreak of small-pox may occur. A new hospital has been completed at Chibin-el-Kom. That [illegible] occu[illegible] lent [illegible] mad[illegible] I am informed that researches are in co[illegible] of certain species of mosquitoes to malaria, a subject which has lately attracted a good deal of public attention.

Under a number of sub-headings, such as Prisons, Cairo Lunatic Asylum, the Water-supply of Provincial Towns, Rabies, the Cattle Plague, Municipalities, &c., Lord Cromer's remarks indicate, on the whole, a fair amount of progress, but the larger question of Sanitation is dismissed in a few lines:—

> No step of any special importance in the direction of improved sanitation has been taken since my last annual report, but some further progress has been made in the work [illegible] of improving the sanitary condition of the mosques and removing old burial-grounds.

The scheme for the drainage of Cairo, so long in abeyance, is not even mentioned; but with regard to the project for Alexandria it is satisfactory to learn that "designs and estimates for a portion of the work have been prepared," and that "there is, therefore, every prospect that before long the construction will commence." With reference to the Cairo School of [illegible] that in consequence of Dr. Cooper Perry [illegible] a great change for the better has taken place throughout the establishment. Lord Cromer adds that he "was recently informed on very high independent authority that save on one point the system of instruction now in force at the school left nothing to be desired," the exception being "the important branch of anatomy." 18 students, of whom two were Germans, joined the school last October.

The manner in which the outbreak of plague at Alexandria was dealt with is set forth at some length in an appendix, but Lord Cromer's observations may be quoted *in extenso*.

> I annex a very interesting memorandum prepared by Mr. Pinching descriptive of the recent outbreak of plague at Alexandria and of the measures which were taken to prevent the spread of the epidemic. The manner in which this difficult question was treated reflects the greatest credit on the authorities of the Sanitary Department. So far as can at present be judged they have been successful in stamping out the disease. Moreover, in spite of the notorious difficulties to be encountered in carrying out a series of measures, which are in most cases irksome and in some cases singularly apt to excite opposition amongst Orientals, the whole of the operations were conducted with such judgment that no serious complaints were made by any class of society, whether European or native.

The final third of the report is devoted to the Soudan, but for the present space to notice it adequately is lacking. In summing up his remarks relating to Egypt proper Lord

Cromer is able to place on record that "the past year was marked by features of a specially favourable nature." In the first place the Dervish power, so long a dead weight, was removed. Secondly, "the skill and energy of the officials of the Sanitary Department averted the danger from plague"; while in the third place—and Lord Cromer "dwells on this point with special pleas[illegible] were the relations between the Egyptian [illegible] English officials so thoroughly cordial in [illegible]

[illegible] dread [illegible]

THE TENTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

IT is officially announced that the tenth International Congress of Hygiene and Demography will be held in Paris this year from August 10th to 17th under the presidency of Dr. Brouardel, Dean of the Faculty of Medicine of Paris. The subjects which will be discussed at the Congress are classified as follows:—I—Hygiene: (1) Microbiology and Parasitology as applied to Hygiene; (2) Alimentary Hygiene, Chemical and Veterinary Science, as bearing upon Hygiene; (3) Public Health, Engineering and Architecture as bearing upon Hygiene; (4) [illegible] Exer- [illegible] ustrial [illegible]) Mili- [illegible] Inter- [illegible] seases, [illegible] ygiene of Transport, Railways, Ships, Omnibuses, Tramways, Motor Cars. II.—Demography. The price of a member's ticket is 20s. Programmes and forms of application for membership can be obtained from the Secretary of the British Committee, Dr. Paul F. Moline, 42, Walton-street, Chelsea, S.W. Special arrangements for travelling will, it is hoped, be made. Further particulars will be announced shortly.

(FROM OUR SPECIAL CORRESPONDENT.)

If the British members o[illegible] al Congress of Hygiene and [illegible] e- pared to take part in this [illegible] ot be, for want of timely [illegible] on May 13th, 1899, they coul[illegible] a lengthy description of the Congress, the sections into which it will be divided, and many of the subjects that would be discussed. It only remains now to add some supplementary details. As already stated on several occasions the Congress will commence on August 10th and conclude on the 17th, thus following immediately after the Congress of Medical Ethics, [illegible] General Medical [illegible] from 20 francs, [illegible]

concerned in matters relating to the preservation of public health and sanitation generally. The families of members, wives, or daughters, or other near relatives, who are not thus qualified, may attend the meetings of the Congress and participate in the receptions and excursions on the payment of an entrance fee of 10 francs or 8s., but they cannot take part in the discussions or votes. The same rules apply to the division of Demography which deals with vital statistics. In the first account published last May it was stated that the division of Hygiene comprised seven sections. This has now been altered and there will be eight sections as follows:—(1) Microbiology and Parasitology as applied to Hygiene; (2) the Hygiene of Food, including the Chemical and Veterinary Sciences in their relations to Hygiene; (3) Sanitation—i.e., Engineering and Architecture as applied [illegible] Individual and of [illegible] Hospitals, Prisons, [illegible] and Professional [illegible] Military, Naval, [illegible] International [illegible] eases, Sanitary [illegible] e Means of [illegible] Motor-cars, [illegible] ography, is [illegible]

[illegible] Executive Committee is particularly desirous that the discussions should not be left to the hazard of the moment but that the members should have time to prepare what they propose to say, or at least to refer to facts and evidence bearing on the points at issue. Therefore a number of carefully prepared reports will be published beforehand and forwarded as soon as they are printed to those members who have paid their subscriptions. This does not preclude the introduction of other questions; but as the members will be able to read a considerable number of the opening papers before the Congress meets, it is hoped that some appropriate and carefully prepared criticisms will be forthcoming and that these may be more instructive than remarks made on the spur of the moment. Up to a month previous to the holding of the Congress other subjects may be suggested. The authors of such papers should send the titles and the summaries or conclusions to the general secretary, Dr. A. J. Martin. The Executive Committee reserves to itself the right of judging whether such papers can find a suitable place within the limits of the programme of the Congress.

meetings of the entire Congress, [illegible] ceremonies. Sunday, August [illegible] August 15th, will be devoted to special excursions. Speeches may be delivered in any language, and efforts will be made to provide interpreters. The resolutions carried in the sections will be submitted to the final and general assembly of the Congress. This is what was done with somewhat unsatisfactory results at the Budapest Congress. The final and general meeting of a congress as a rule is but a formal and complimentary affair. The time is taken up with congratulatory speeches from the representatives of the various nationalities. A discussion on a scientific problem is altogether out of question [illegible] that can be done is to re[illegible] in the sections, and they are [illegible] members nine-tenths of whom [illegible] which led to their adoption in the sections. This is not fair to the sections or to the movers of the resolutions. In the earlier congresses, especially those that were held in Paris, matters were better managed. A resolution carried in a section did not go any further than the section, but the sections only met in the mornings. Every afternoon there was a general assembly of the entire Congress to discuss subjects of more general, if less specific, interest, on which [illegible] When all [illegible] entire a re[illegible] l such Cor[illegible] atures. res[illegible] would It [illegible] 1878. rev[illegible] At this, the Second Congress of Hygiene, the sections met in various localities in the morning and the entire Congress assembled in the afternoon in the great hall of the Trocadéro. The debates which then took place were most [illegible] a resolution [illegible] hygienists, [illegible] there will be [illegible] too many members to render general discussions possible; and, indeed, the fact that it is no longer so many hundred, but so many thousand, members who attend these congresses, makes it very difficult to organise such general assemblies.

T[illegible] the Division of [illegible] r of May 13th last [illegible] therefore it is only [illegible] more recently created section. It might be called the Travellers' Section. M. Cuvinot is President and M. Chevallereau is secretary. The report deals with:—firstly, the prevention of transmission of diseases by railway travellers or railway servants; what measures should be taken at the moment of departure, during the journey, and on arrival; and how the sick and the carriages in which they are found

are to be isolated, and the carriages cleaned and disinfected; secondly, the minimum standard of acuteness of eyesight admissible for service on railways or at sea; thirdly, the internal arrangements of ships from the sanitary point of view; fourthly, the cleansing and disinfection of ships and the goods which they contain; fifthly, the ventilation, warming, and lighting of vehicles used for transport, such as railway carriages, omnibuses, &c.; sixthly, the hygiene of the traveller by motor-car; and seventhly, the sanitation of hotel rooms.

All the principal countries have formed national committees to organise a proper representation at the Congress. Professor W. H. Corfield, 19, Savile-row, London, W., is the general secretary for the British section. There is every reason to believe that a very large number of Germans will attend this Congress. The Austrians have three committees—Austrian, Hungarian, and Czech. There are committees formed in Norway, Sweden, Denmark, Holland, Belgium, Germany, Bulgaria, Roumania, Italy, the United States, Mexico, and Japan. In China a committee is being formed. There is no news as yet from Turkey, nor do the Spaniards seem to be particularly active, though the last International Congress of Hygiene met at Madrid. As there are so many congresses being held this year it is probable that there will not be so large an attendance at any one of the congresses as on previous occasions. Nevertheless, there are many and special attractions and therefore preparations are being made for the reception of numerous guests.

Paris, May 13th.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on May 10th, Sir WILLIAM MAC CORMAC, Bart., K.C.V.O., the President, being in the chair.

Surgeon-General W. R. HOOPER and Mr. FREDERICK PAGE were introduced and after signing the by-laws and making the required declaration were admitted Fellows of the College.

Dr. HARRY LAMBERT LACK, F.R.C.S., was introduced and the PRESIDENT handed him the Jacksonian Prize, together with a document declaratory of the award.

Mr. JOHN HOWARD MUMMERY was introduced and the PRESIDENT handed him the John Tomes Prize, together with a document declaratory of the award

The SECRETARY reported the death of Mr. John Neville Colley Davies Colley, late member of the Council and of the Court of Examiners of the College.—A vote of condolence with Mr. Davies-Colley's family was passed.

The proposed alterations of several by-laws relating to the Fellowship were again advanced a stage and were signed by members present.

The PRESIDENT reported that he had received a telegram from H.R.H. the Prince of Wales expressing "sincere thanks for kind congratulations" in reply to the resolution adopted by the Council at their last meeting.

The PRESIDENT reported that he had chosen Mr. John Langton as the Bradshaw lecturer for the ensuing collegiate year.

The PRESIDENT stated that he accepted the nomination of the Council to represent the College at the Thirteenth International Medical Congress in Paris

A letter was read from the Lord Provost of Aberdeen stating that by invitation of the corporation the Annual Congress of the Royal Institute of Public Health will be held in Aberdeen in August, and inviting the College to send delegates.—Mr. Alfred Cooper and Dr. Robert W. Reid were appointed delegates.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6770 births and 3968 deaths were registered during the week ending May 12th. The annual rate of mortality in these towns, which had declined from 23·0 to 19·6 per 1000 in the five preceding weeks, further fell last week to 17·3. In London the rate was 19·4 per 1000, while it averaged 18·7 in the 32 provincial towns. The lowest death-rates in these towns were 11·5 in Cardiff, 11·6 in Birkenhead, 11·8 in Norwich, and 11·9 in Croydon; the highest rates were 23·9 in Liverpool, 24·0 in Birmingham, 25·0 in Wolverhampton, 25·5 in Blackburn, and 29·1 in Plymouth. The 3968 deaths in these towns included 441 which were referred to the principal zymotic diseases, against 472 and 429 in the two preceding weeks; of these 166 resulted from measles, 116 from whooping-cough, 61 from diphtheria, 40 from diarrhœa, 28 from scarlet fever, 28 from "fever" (principally enteric), and two from diarrhœa. No fatal case of any of these diseases occurred last week either in Croydon or Birkenhead; in the other towns they caused the lowest death-rates in Portsmouth, Swansea, Preston, and Gateshead; and the highest rates in Plymouth, Wolverhampton, Manchester, Salford, and Oldham. The greatest proportional mortality from measles occurred in Plymouth, Bristol, Cardiff, Wolverhampton, Derby, and Blackburn; and from whooping-cough in Wolverhampton, Liverpool, Manchester, and Oldham. The mortality from scarlet fever and "fever" showed no marked excess in any of the large towns. The 61 deaths from diphtheria included 29 in London, six in Sheffield, three in Birminghan, three in Leicester, three in Liverpool, and three in Blackburn. One fatal case of small-pox was registered last week in London and one in Liverpool, and five small-pox patients were under treatment on Saturday last, May 12th, in the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 1693, against 1647 and 1660 on the two preceding Saturdays; 203 new cases were admitted during the week, against 165, 170, and 176 in the three preceding weeks. Influenza was certified as the primary cause of 26 deaths in London. The deaths referred to diseases of the respiratory organs in London, which had been 411 and 417 in the two preceding weeks, declined again last week to 300, and were 15 below the corrected average. The causes of 63, or 1·6 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Cardiff, Salford, Oldham, Newcastle, and in eight other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Preston, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 21·7 and 20·5 per 1000 in the two preceding weeks, further declined to 17·7 per 1000 during the week ending May 12th, and was 0·1 per 1000 below the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 9·9 in Leith and 12·2 in Aberdeen to 20·2 in Perth and 21·3 in Paisley. The 546 deaths in these towns included 22 which were referred to whooping-cough, 16 to measles, nine to diarrhœa, seven to scarlet fever, six to diphtheria, and three to "fever." In all 63 deaths resulted from these principal zymotic diseases, against 75 and 66 in the two preceding weeks. These 63 deaths were equal to an annual rate of 2·0 per 1000, which corresponded with the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of whooping-cough, which had been 23 and 24 in the two preceding weeks, declined again last week to 22, of which 16 occurred in Glasgow and four in Aberdeen. The deaths from measles, which had been 24 and 15 in the two preceding weeks, rose again to 16 last week, and included nine in Glasgow, two in Edinburgh, and two in Paisley. The fatal cases of diarrhœa, which had been 13 in each of the two preceding weeks, declined last week to nine, of which five were registered in Glasgow and four in Edinburgh. The deaths from scarlet fever, which had been six and two in the two preceding weeks, rose again to seven last week, and included four in Glasgow and two in Edinburgh. The fatal cases of diphtheria, which had been three, five, and six in the three preceding weeks, were again six last week, of which two were recorded in Glasgow, two in Edinburgh, and two in Aberdeen. The three deaths from "fever," showed a marked decline from the number in the preceding week and were all registered in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 145, 141, and 120 in the three preceding weeks, further declined to 91 last week, and

were slightly below the number in the corresponding period of last year. The causes of 23, or more than 4 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 22·9 and 22·7 per 1000 in the two preceding weeks, declined again to 20·3 during the week ending May 12th. During the past four weeks the death-rate in the city has averaged 23·3 per 1000, the rate during the same period being 15·9 in London and 19·4 in Edinburgh. The 173 deaths registered in Dublin during the week under notice were 23 below the number in the preceding week, and included five which were referred to the principal symotic diseases, against 13, eight, and 11 in the three preceding weeks; of these, three resulted from diarrhœa, one from whooping-cough, one from "fever," and not one either from small-pox, measles, scarlet fever, or diphtheria. These five deaths were equal to an annual rate of 0·7 per 1000, the symotic death-rate during the same period being 1·0 in London and 1·7 in Edinburgh. The fatal cases of diarrhœa, which had been three, three, and one in the three preceding weeks, rose again to three last week. The deaths from whooping-cough, which had been two and four in the two preceding weeks, decreased to one last week. The mortality from "fever" showed a marked decline from that recorded in recent weeks. The 173 deaths in Dublin last week included 33 of infants under one year of age and 45 of persons aged upwards of 60 years; the deaths of infants showed a decline, while those of elderly persons slightly exceeded the number recorded in the preceding week. Six inquest cases and four deaths from violence were registered, and the causes of 10, or nearly 6 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

The following appointments are notified:—Surgeons: H. R. Gardner, lent to Pembroke Dockyard, and E. T. Burton to the *Sandpiper*.

CONNAUGHT RANGERS.

Major John F. Bateson, from Royal Army Medical Corps, to be Surgeon-Major, vice A. C. A. Alexander, deceased.

ROYAL ARMY MEDICAL CORPS.

[illegible]

[illegible]

[illegible]

1000 men employed in 1898) remained the same as it was in 1855—viz., 12·1 per 1000. The Director-General's reports show that in the early 'sixties' some ships of the Channel squadron had more than 100 men of their crews at a time laid up and unfit for duty when at sea, mostly from the consequences of excesses when on shore; whilst the wards of the naval hospitals were crowded with patients from the fleet, a state of things which has long ceased to exist amongst men-of-war's-men. Since the early 'sixties' .. ... the spiritual tone of the Queen's service has undergone a change for the better, with the result that, through moral as well as sanitary causes, the health report of the Royal Navy displays year by year a corresponding improvement, and the death-rate a corresponding diminution."

ROYAL MILITARY TOURNAMENT.

The Royal Military Tournament opened to-day (Friday), May 18th, for the twenty-first time, when its programme at the Royal Agricultural Hall contained all the items which are so familiar and popular with the public. The grand historical pageant is entitled "Defence not Defiance," and the combined display represents the attack and defence of a bridge.

DEATHS IN THE SERVICES.

Surgeon-General Nesbitt Heffernan, A.M.S. (retired), on May 3rd, at Cheltenham, in his eighty-sixth year. He joined the service in 1841, became surgeon in 1851, and surgeon-major in 1861. In 1867 he reached the rank of deputy surgeon-general, and retired in 1876 with the rank of honorary surgeon-general.

The *Kildonan Castle* arrived at Southampton on May 14th. She brought 310 invalids who were admitted to the Royal Victoria Hospital, Netley.

Mr. F. H. Hardy, M.R.C.S. Eng., L.R.C.P. Lond., of Guy's Hospital, who has been serving under the Foreign Office in Central Africa, has been nominated by the Secretary of State for War as a Surgeon-on-Probation for the Royal Army Medical Corps and has joined the Army Medical School at Netley.

Mr. Charles Gibbs, F.R.C.S. Eng., assistant surgeon to Charing-cross Hospital and lecturer on Practical Anatomy in its medical school, has been appointed senior surgeon to the Langman Field Hospital, South Africa.

Correspondence.

"Audi alteram partem."

"THE INTERNATIONAL CONGRESS OF GYNÆCOLOGY AND OBSTETRICS."

To the Editors of THE LANCET.

SIRS,—We are directed by the Council of the British Gynæcological Society and by the Organisation Committee of the International Congress of Gynæcology and Obstetrics to request your kind insertion of the following reply to the letter appearing under the above heading in THE LANCET of May 12th.

In the letter signed by the past and present teachers of gynæcology and obstetrics in the metropolitan medical schools and in the covering letter of Dr. W. S. Playfair two reasons are assigned for the inability of the signatories to take any share in promoting or joining this Congress. 1. That those who have issued this invitation have assumed a representative position to which they are, in the opinion of the signatories, not entitled, and which they, the signatories, find themselves unable to recognise. 2. That the signatories object to the manner in which Professor A. R. Simpson was elected President of the Congress.

With regard to the first point, the British Gynæcological Society, which issued the invitation, is not concerned to defend itself against the opinion held by the signatories, that it "has assumed a representative position to which it is, in their opinion, not entitled." If a glance through the list of Fellows of the Society were not sufficient to correct such an opinion, the fact that the permanent committee of the International Congress of Gynæcology and Obstetrics, representing the leaders of these branches of medicine on the Continent and in America, requested the Society to repeat the invitation which it issued first in 1899, testifies to the opinion of the Society's representative character which is at least held abroad. In accordance with this request, the invitation was repeated at Amsterdam in 1899, being personally [illegible] Barnes, honorary President of [illegible] Society, and an ex-President of the Obstetrical Society of London.

As to the manner in which Professor Simpson was elected, he was nominated at a meeting of the Council of the British Gynæcological Society, on whom the duty necessarily devolved. Professor Simpson was mentioned on the grounds, firstly, that he was an ex-President of the Society and one of of its most honoured Fellows; secondly, that before the Society's invitation was accepted his name was suggested by members of the Permanent Committee on the continent and in America as that of a man who would be acceptable to all the members of the Congress. In conclusion, we can only express our regret that our [illegible] of gynæcology and obstetrics at the [illegible] al schools should have found themselves [illegible] to come to the decision expressed in their letter.

We are, Sirs, yours faithfully,

W. J. SMYLY,
President British Gynæcological Society.

H. MACNAUGHTON-JONES,
Chairman Organisation Committee of the International Congress of Gynæcology and Obstetrics.

ARTHUR E. GILES,
Honorary Secretary of the British Gynæcological Society and of the Organisation Committee of the Congress.

May 15th, 1900.

THE CAUSATION OF SCURVY.

To the Editors of THE LANCET.

SIRS,—Having read the interesting account by Mr. F. G. Jackson and Dr. Vaughan Harley of their experimental inquiry into the causation of scurvy in THE LANCET of April 28th (p. 1184), there is one point which struck me and must have struck many others. How does the theory that the disease is due to the poison of the ptomaines of animal meat explain its development in infants reared on a diet which contains no meat at all? Or how does it account for the appearance of scurvy in patients who submitted to the Schrothian treatment—a *régime* which entailed a purely vegetable diet? In fact, at Schroth's own establishment fatal cases of scurvy were recorded and in consequence an addition of fresh meat was found necessary for its prevention.[1]

I am, Sirs, yours faithfully,

ERIC PRITCHARD.

THE PRESIDENCY OF THE ROYAL COLLEGE OF SURGEONS IN IRELAND.

To the Editors of THE LANCET.

SIRS,—Inclosed please find a circular letter by means of which it is proposed to get up a congratulatory testimonial to a very distinguished member of our profession—Dr. Thomas Myles. I write to ask if you will notice the matter in your widely circulated journal amongst whose readers over the world there would be a large number of Dr. Myles's pupils and friends.—I am, Sirs, yours faithfully,

W. J. GREER, F.R.C.S. Irel.

Chepstow road, Newport, Mon., May 12th 1900.

[INCLOSURE.]

DEAR SIR,—You are probably aware that Dr. Thomas Myles will attain the Presidential chair of the Royal College of Surgeons in Ireland in June next. At a private meeting of a few friends and admirers of the President-elect it was decided to give his old pupils [illegible] owledging their indebtedness to him [illegible] him on achieving the leadership of [illegible] profession in Ireland.

With this object in view a subscription list has been opened and any donation which you may feel inclined to send to the undersigned will be duly acknowledged. It is earnestly hoped that each subscriber will endeavour to make the movement as widely known as possible.

The list will be closed at the end of June and subscriptions should be forwarded immediately to—

R. LANE JOYNT,
84, Harcourt-street, Dublin.
W. J. GREER,
2, Chepstow-road, Newport, Mon.
R. F. MACCRAITH,
2, Langdale road, Sefton Park, Liverpool.
A. B. MITCHELL,
4, College-square, N., Belfast.
} Hon. Secs.

W. J. CORRIGAN,
Cardiff.
} Treasurer.

Dublin, May, 1900.

[1] Th. Jurgensen. Deutsches Archiv fur Klinische Medicin, Vol. L, 1893. Von Ziemssen's General Therapeutics, vol. i, p. 325.

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SIRS,—We shall be

of the late Mr. A. Bour
Mrs. Bourne, with six
and sudden death of her husband at the age of 37 years, has

THE LANCET by the undersigned.
We are, Sirs, yours faithfully,

WM. BOVILLE, Northallerton.
Northallerton, Yorkshire, May 9th, 1900.

"SEPTIC THROMBOSIS OF THE CAVERNOUS SINUS."

To the Editors of THE LANCET.

5th of last year a
department of the
of toothache with
swollen face of two weeks' duration. She looked ill, there was a large tender swelling over the left side of the lower jaw, and she was unable to open her mouth. Under chloroform anæsthesia the mouth was opened with a gag and two very carious loose lower molars were removed from the left side, a large quantity of very fœtid pus escaped into the mouth, and as the abscess was apparently freely opened an incision into the swelling from the outside was purposely avoided. The girl was given a ... ply to her cheek. At ... en; there was no propt... I thought she had only a large alveolar abscess which would soon get well and allowed her to go home. Two days later, on June 7th, the girl came back. She was exceedingly ill, the temperature was 104° F., spondingly rapid. There was the right eye with œdema o and fixidity of the eyeball. had subsided and pus was mouth. She complained of incision was made through th and a pair of sinus forceps was passed to the back of the orbit, but only a little thin pus escaped. She was given anti-streptococcic serum. Next day she was very much worse; her temperature was 104° and there were retraction of the neck and vomiting, with a very marked menin cry. An abscess over the left ascending ramus of the was opened; the upper and lower jaw-bones were felt t quite bare. The patient got rapidly worse and died day (June 9th) with a temperature of 104 6°. She had no rigors and there were no signs of cavernous thrombosis on the left side. At the post-mortem examination there were marked septic basal meningitis and septic thrombosis of both cavernous sinuses; on the right side the orbital veins were thrombosed and there was orbital cellulitis on the left side; the orbital contents were healthy; both lateral sinuses were filled with septic clots. The left pterygoid region was filled with necrosed septic tissue and pus had found its way into the skull through both the foramen ovale and foramen rotundum. There was a good deal of pus in the left temporal muscle sheath, and the periosteum was entirely stripped from both upper and lower jaws on the affected side. I have now little doubt that when the girl came to the Infirmary first she was much more seriously ill than I then supposed her to be. Apart from the practical importance of the case as illustrating an unusual cause of an unusual condition it is difficult to explain why the

allowed to publish this note.
I am, Sirs, yours faithfully,
G. GREY TURNER.
oyal Infirmary, Newcastle-on-Tyne, May, 1900.

"DEATHS UNDER CHLOROFORM."

To the Editors of THE LANCET.

SIRS,—Dr. G Mowat's letter in THE LANCET of March 24th (p. 884) requires a few words of answer. The fact which he now intimates for the first time—namely, that death occurred during the stage of excitement—is the strongest possible proof of my contention that his original description of the case was so meagre as to be useless. Possibly he carries the same principle—the principle of sketchiness—yet further, for he seems to imagine that the clinical observation of a patient under chloroform close enough to ensure the subsequent unity of a full and accurate report of his symptoms places his life in danger. Can one argue with such an one? The question is a much wider one than Dr. Mowat appears to conceive. Experiments on the lower animals have failed to produce any unanimity on the subject in the profession. The publication of full and accurate clinical descrip-
n chloroform appear to afford
ment; and I am not alone in
er departments of medicine,
bring general confidence and
nong those who imagine that
the saving of many lives yearly is a matter of purely

CLAYTON LANE, M.D. Lond.,
Captain, I.M.S.
Lucknow, N.W.P., India, April 25th, 1900.

"A PARASITIC CRUSTACEAN AS A FOREIGN BODY ON THE CORNEA": A CORRECTION.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of April 7th, p. 1002, a very interesting condition is described by Dr. Rayner Batten of a fishmonger who had a peculiar growth on the cornea of the left eye. From this he removed a small scale-like parasite, of which a very careful and accurate drawing is given. This parasite was referred to Dr. Harmer, F.R.S., who stated it to be one of the caligidæ, probably *Caligus*
te, which has kindly
Though it belongs
the genus *Lepeoph-*
aligus by the entire
n the frontal plates.
lis, Müll, found very
plaice and flounders.
These I have kept alive for hours in water in a watch-glass, but though for years in constant communication with men
fresh fish I have never before met with one who
parasites. Dr.
pecies for publi-
es with me that

I am, Sirs, yours faithfully,
P. W. BASSETT-SMITH, R.N., F.Z.S.
May, 1900.

THE HOT SPRINGS OF BATH.

To the Editors of THE LANCET.

SIRS,—I wish to bear testimony to the magnificent efficacy of a course of these baths. The whole system of treatment is so rational and so perfectly managed and the attention and care shown so universally good that I am certain that there is no other treatment (except it may be the Tallerman hot-air process), combined with the drinking of the Bath hot mineral water, half so efficacious for lumbago and sciatica generally of a gouty nature.

It is unnecessary for me to enter into particulars how the douches of a temperature of 106° F. with a force of 16 pounds and of the hot mineral baths with massage are used,

I can only say that although I am only able to spare a fortnight to the treatment I am leaving Bath feeling in every respect pounds better. This spring, from all accounts, sciatica appears to have been epidemic. Let me say, too with regard to this complaint, having twice suffered from it, that, to my mind, there are two forms, the lower and the upper. The first time I had the lower form, when the sciatic nerve from its notch down the back of the thigh gave the most agonising pain, and the outer leg and ankle were also very painful. This time I have suffered from the upper form, when the first point of pain was in the upper part of the buttock. To name rightly the nerve branch affected I should have to refer to the anatomical work of my good old teacher, Professor Vyner Ellis (so recently dead), which is at my home. From the buttock the pain has been distributed through the groin, and down the iliofemoral band to a short distance below the knee, the knee often being particularly painful.

The lower form, though the pain was continuously intense, only incapacitated me from work for ten days. The upper form of sciatica kept me in bed three weeks and three days, and then when I tried for some days to work I had to give up, the pain being too severe for me to keep up against; and now after a fortnight's treatment in Bath, though returning to work, I am still at times somewhat crippled by the pain.

For these reasons I am of opinion that there are two kinds of sciatica, upper and lower, and that the upper kind is by far the worse of the two. When the lower form attacked me I do not remember that my leg lost at all in size. In this attack after the first month the upper part of my thigh lost two inches in circumference.

I am, Sirs, yours faithfully,

Burrepont-street, Bath, May 15th, 1900. PUGIN THORNTON.

M.D. DURHAM FOR PRACTITIONERS.

To the Editors of THE LANCET.

SIRS,—Kindly allow me to answer through your columns some questions respecting the above degree. Intending candidates who have the files of THE LANCET by them will find a letter signed "M.D." on Oct. 15th, 1898, containing some sound advice. I, for one, am grateful to him for it. For those who have not the letter by them I would say: write to Dr. Howden, the courteous secretary of Durham University, for a copy of the last Calendar, which gives the text-books advised and some of the recent papers given. Get the latest editions. *Either* the Latin or Professional may be taken separately or first. Unless Latin is an easy subject I advise taking it first and *alone* so as to be free for purely professional subjects. Get up *thoroughly* urine and urinary microscopic and pathological and histological work. If possible do some clinical work and go over a good museum once or twice. Those near London will get much help in hygiene by going over the Parkes Museum. The examination is thorough, but perfectly fair and just. The clinical work *must* be done well. Do not go up with the idea that the degree is given away or you will regret it. Remember that you are again a student undergoing examination. To those who have few opportunities I would advise them to go up eight or nine days before the examination and attend a special class for this degree which is given. They will be taken over all the work, particularly the pathological and microscopical work, which is so essential. I wish success to all intending candidates and hope they will have as much pleasure in going over the old ground as I had. After an interval of 20 years it was a great treat to be again examined by one of the kindest and most eminent of London surgeons. Operative surgery has made great strides since the day when last we met.

I am, Sirs, yours faithfully,

May 14th, 1900. M.R.C.S. ENG.

BRISTOL LUNATIC ASYLUM.—The thirty-ninth annual report of this institution, which has just been issued, shows that on Dec. 31st, 1899, there were 778 patients—namely, 379 males and 399 females—in the asylum. The highest number resident at any one time in the year was 799. The extension of the asylum buildings, with the exception of the isolation hospital, will shortly be completed and will be ready for occupation early this summer. The committee, in concluding the report, expressed their high appreciation of the manner in which the medical superintendent and the other officers and staff of the asylum had performed their respective duties during the year.

THE PARIS EXHIBITION.

(FROM OUR OWN CORRESPONDENT.)

THE name remains though the substance has gone. The Gallery of Machines is still known by that name though, as already explained, it no longer contains any machinery, for in its centre there is the Hall of Festivals and on each side are arranged alimentary and agricultural products. The gallery which is parallel and next to this vast and magnificent iron and glass structure does contain machinery in motion, huge boilers, power-producers, and electrical machinery. This is the most backward part of the Exhibition. Here chaos reigned supreme long after the Exhibition was opened. There was bare earth where there should be carpeted boards, some portions were absolutely impassable, and the visitor was constantly turned back, first at one point and then at another, by attendants whose duty it was to prevent sightseers from incurring the risk of accident. Yet even here, by going upstairs to the galleries, there is a good deal to be seen, for Class 112 has nearly all its exhibits in order. This class deals with poor relief and is situated close to the Hall of Festivals, and a portion of it was officially inaugurated last week. Here all private and public organisations and charities for the relief of the poor display drawings, charts, maps, models, statistical tables, &c., that may serve to illustrate their work. Then, again, in the gardens of the Champ de Mars facing the monumental Château d'Eau the [illegible] railway goods station rather than that [illegible] The railway lines have not been covered up and numerous railway trucks are still there, though the process of unloading them is postponed till after the grounds are closed to the public. Nor is there any immediate need to clear this space till the Château d'Eau which it faces is itself finished. This, however, is approaching completion. Nearly all the scaffolding has been removed and the sculptors are giving their final touches to the nymphs who are gracefully poised over and about the waterfalls. That the largest structure, the principal architectural feature, of the Exhibition should consist of a succession of cascades issuing from within a monumental arch is certainly a very original conception. Above and around, the gilding and the white statuary, and at night the blaze of electric light, will produce a most impressive effect; and it is only right that in front a vacant space, large enough to hold thousands and thousands of people, should have been left free of all encumbrance. This space, which at present constitutes the principal goods station of the Exhibition, will soon be clear, and when all is complete it will attract visitors who may be counted by the million.

On the westerly side of the Eiffel Tower there are still a good many buildings which are not yet finished, and here dust or mud and cobbles and sharp stones still prevail, but on the opposite side better progress has been made. Indeed, the mason and the plasterer and scaffolding and rubbish-carts are now confined to a few corners and localities and genuine progress towards completion has been made. Every day some new section or pavilion is finished which very often forms of itself a sufficient motive for a visit to the Exhibition. Thus, in the Avenue of Nations the vast Italian Pavilion opened its doors the week before last. Under the gilt cupola reproduced from St. Mark's of Venice and within walls that imitate those of the palace of the Doges the artistic glass-work, ceramic arts, sculpture, and mosaics, &c., of Italy are exhibited, while in a gallery running round the building the technical schools, the universities, and the municipalities display drawings, and charts, and specimens that explain what has been done to improve the health and education of the people. Immediately behind this palace Denmark shows a model middle-class dwelling to which the public are now admitted and which illustrates the home life of that country. The Hungarian Pavilion is also completed and forms a sort of synopsis of the history and avocations of the Hungarian people. On one side there is a reconstruction of the Abbey and the Church of Jaak, and on the other side the frontage of the Vajda-Hunyad mansion and the fortress of Koermoeczbanya, together with other specimens of Hungarian architecture; while inside the arts and sciences, and the industrial progress of that interesting people are illustrated by numerous exhibits. The Finland Pavilion is also open and here the visitor may appreciate

[illegible] cation among the [illegible] Finnish exhibits [illegible] be interested in a [illegible]

a journey to Paris. On the whole, though it is still advisable to postpone going to Paris for a week or two, if this cannot be done conveniently the Exhibition to-day is so far advanced as not [illegible] above description of [illegible] tion may not be cons[illegible] borne in mind that we are still only in the middle of the month of May and that the last exhibition held in 1889 was not opened before the 6th of that month.

Great capital has been made in certain quarters out of every miscalculation, delay, or accident. Thus the report is very generally spread abroad that a considerable number of lives have been lost in the bui[illegible] few Frenchmen go about [illegible] lost per week through th[illegible] Fortunately, the chief of the Exhibition medical service (Dr. Gilles de la Tourette, Professor at the Faculty of Medicine) has kept a careful record of these casualties. According to his statement there were nine deaths due to accident during the process of building in 1896, during 1897 there were only two deaths, and in 1898 also only two deaths, while in 1899 there were seven deaths, including those of two men who fell into the Seine and were drowned. This is far from being one death per week. All these men died on the spot or in a few hours, and all those who were injured have recovered under treatment. Considering the dangerous character of some of the work and the great height to which many of the scaffoldings were raised the number of accidents is below and not above the average. Further, the injured workmen received, not only their insurance money, but half their salaries during the whole time of their treatment. There are fully installed ambulances, or medical posts, on the Champs de Mars, the Trocadéro, the Invalides, and the Champs Elysées, and a fifth post is about to be organised. A surgeon and a staff of trained nurses are always present at these posts. They are connected with each other and also with the neighbouring hospitals by telephone. There is a large stock of bandages, splints, &c., at hand, and further outside help can be immediately obtained by telephone. Full provision has been made, not only to meet the accidents which under normal conditions are likely to occur, but also to cope with a panic or some altogether exceptional disaster.

Thus, in answer to the complaint that the Exhibition is not ready it may be said that no other similar undertaking was so far advanced at so early a period of the year. With regard to the statement that the Exhibition is dangerous on account of the number of accidents which occur, it may be urged that the number of fatal accidents has been below the average and that the only casualties in which members of the general public suffered occurred outside the Exhibition grounds in the Avenue de Suffren, which is under the control of the Municipality and not of the Exhibition authorities.

Paris, May 13th.

GERMAN SURGICAL CONGRESS.

(FROM OUR BERLIN CORRESPONDENT.)

(*Continued from p. 1402.*)

Operations for Contusions of the Abdomen.

PROFESSOR VON ANGERER (Munich) read a paper upon this subject, in the course of which he said that in abdominal contusions the prognosis and treatment differed according as the cases were attended or not attended by perforation of the intestines. Contusions without injury of the intestines scarcely required treatment, because they were usually recovered from spontaneously within a short time. It was, however, sometimes difficult to say whether a perforation of the intestine had occurred or not, as the symptoms of this condition were very like those of severe shock. Unconsciousness, vomiting, and weakness of the pulse were symptoms of shock as well as of perforation of the intestines. It was, however, characteristic of shock that these symptoms were of short duration, whilst in perforation of the intestine signs of peritonitis generally made [illegible] ppearance in a few hours. If the vomiting continued [illegible] eral hours and became worse, perforation was almost [illegible]. Also the pulse-rate, the respiration, the tempera[illegible] nd the tension of the abdominal muscles must be [illegible] into account. The presence of gas in the abdominal cavity could be ascertained only when a considerable quantity of it had penetrated through the intestines. With regard to the treatment Professor von Angerer strongly recommended early operation—laparotomy, and suture of the intestinal wounds. He had collected histories of 159 cases where no operation had been performed, the result being that 149 died and 10 had to be operated on eventually, because an intestinal fistula had developed. The operation ought to be performed as early as possible, even before the symptoms of shock had quite disappeared, so as to avoid the complication of peritonitis.—In the discussion Dr. STOLPE (Breslau) showed the difficulty of an exact diagnosis of intestinal perforation by mentioning a case where an injury of the spinal cord had produced paralysis of the intestines and where the diagnosis of perforation had been made.—Professor HAHN said that in traumatic rupture of the intestines sutures alone were not sufficient; he advised that the injured part should be resected previously to being sutured, especially when the intestine was severely contused.

Growths of the Omentum.

[illegible] r on Solid [illegible] operations.

Gr[illegible] in consisted of chronic infiltrations of the omentum and might appear several months after the operation. They might disappear spontaneously, or suppurate or continue to persist in the state of chronic infiltration. They were caused by mechanical injury of the omentum during the operation. Sometimes they had to be removed by a second operation.—Dr. FRIEDRICH (Leipsic [illegible] occurring in animals a[illegible] He had found that in [illegible] produced small necroses in the stomach and the liver, whilst the kidneys and the spleen were left intact. In rabbits these necroses were seldom observed and in dogs and cats never. It was possible that gastric ulcers following abdominal contusions were caused also by traumatic lesions of the omental vessels.

Osteoplasty of the Tibia.

Dr. GROSSE (Halle) showed a child with Congenital Absence of a Large Portion of the Tibia, for which he had performed a successful plastic operation. Taking advantage of an amputation of the leg which had to be performed on another patient he removed from the amputated tibia a [illegible] deficiency and inserted it into [illegible] aphy showed that the implanted [illegible] piece, which was two inches long, had become firmly united, and presented the appearance of normal bone. The leg thus operated on, although smaller than the other one, was now a useful limb.

Disinfection of the Hands.

Dr. SARVEY (Tübingen) stated that absolute sterility of the hands of the surgeon was not obtained by any of the various methods recommended for that purpose. The relatively best results were got by the use of hot water and alcohol (Ahlfeld's method) or by the use of spirit of soap (Mikulicz's method). Mere mechanical treatment of the hands with marble soap was not sufficient, disinfection with chemical agents being indispensable.—Dr. VOLLBRECHT (Düsseldorf) recommended a solid compound which contained spirit of soap and might be used in the form of tubes.—The use of indiarubber gloves as employed by Mikulicz was strongly recommended by Professor SPRENGEL.

A Disease of Pianists.

Professor DARLUDOWSKI (Berlin) read a paper on cases of Nervous and Muscular Affections observed by him in Pianists. By the excessive stretching of the tendons, joints, and ligaments of the hand especially in young players. This condition might become chronic if the patient continued to play, and in course of time the nerves were injured

were involved. Neuralgic pains of the nerves of the arms might occur and were liable to extend to the shoulder and the back. Atrophy of the muscles might be a result of the disease in severe cases. The disease was caused by the circumstance that the ordinary keyboard of pianos was too long for the hands of young players. A child when learning to play the violin used a small instrument, and in like manner pianoforte-makers ought to construct instruments with a keyboard adapted to the hands of children. The patients must abstain from playing for a certain time, and massage combined with electricity and bandaging was advisable.

Surgical Applications of Metallic Magnesium.

Dr. PAYR (Graz) has devised a new method of joining the ends of injured blood-vessels. Very small tubes of metallic magnesium are put into one end of the divided vessel, the other end is then drawn over the tube, and both ends are united by ligatures. The magnesium tube is ultimately absorbed. Divided nerves might be joined in the same way. Dr. Payr recommended metallic magnesium as a material for Murphy's buttons. Magnesium wire was not flexible enough to be used in the usual way for sutures; but perhaps the efforts to produce a more flexible metal would be successful, so that the method (which had hitherto been tried only in animals) might become useful for the human subject also. Magnesium was said to be an excellent material for sutures, because it was easily dissolved in the tissues.

Gangrene of the Lower Extremities.

Professor BUNGE (Königsberg) read a paper on the Different Forms of Gangrene of the Lower Extremities. He had found by numerous microscopical researches that in diabetes as well as in senile gangrene there was a hypertrophy of the intima of the arteries by which coagulation of the blood was caused. The deficient circulation produced the gangrene. On the first appearance of the symptoms the administration of iodine was useful. The acute intermittent limping of the patient was (according to Erb) a characteristic symptom by which the surgeon ought to be led to make a careful examination of the blood-vessels of the extremities.

Among the other papers which were read mention may be made of those by Dr. VULPIUS (Heidelberg) on Scoliosis, by Professor VON BERGMANN (Riga) on Gastro-enterostomy, and by Dr. LEXER (Berlin) on Teratoid Growth. Professor Czerny (Heidelberg) was elected president of the Congress to be held next year.

PLAGUE IN AUSTRALIA.

(FROM A SPECIAL CORRESPONDENT.)

THE returns of plague in Sydney for the week ending April 7th show the following figures: remaining, 36; admitted, 29; died, nine; remaining, 56. The total number of cases at this date was 83, and the total number of deaths 26. Discharged, one; total "contacts" isolated, 424; and cases among "contacts," five. Several patients are now fit for discharge; several others are fit for removal from the acute to the convalescent wards. Deaths before discovery continue to be recorded and these as before noted are recorded as admissions.

The want of evidence that the disease is directly communicable from the sick continues; no more than five cases have arisen among "contacts" subsequently to their removal from home and all fell ill before the fifth day from removal. The term of detention for "contacts" has been reduced to five days. The Government will not approve of medical supervision at home and no doubt removal for a short term has advantages with regard to disinfection, laborious and embarrassing as it may become when the daily number of cases increases. In any case power to remove all should be retained, and, when it appears that the infection was taken at the house where the patient lay, should, of course, be exercised. It may be remembered that the first case of all was judged to have been infected by a flea-bite. Since then the bleb which usually attends this mode, according to Simond, has been observed in four cases altogether. In two the bleb had been broken, as in the case of the one discharged patient, but in the fourth it was still entire and the bacillus was found in the serous contents in rather [illegible] tion occurred in the sa[illegible] the circumstances it ha[illegible] observations with exact regularity, yet the record shows that this is hardly the common way, unless, indeed, the bleb is often wanting in other than septicæmic cases. The death-rate continues low and probably is rather less than 33 per cent.; but the treacherous nature of the disease has become evident, many patients having died unexpectedly.

The course of the epidemic is quite [illegible] began at the line of wharves already [illegible] houses immediately adjacent thereto; it spread to parts of the city adjoining that portion; outlying cases could be connected with one or other locality for a rather long time; then outlying cases which could not be so connected began to occur. And that the infection is spread by or with the migration of rats is just as clearly established. The presence of diseased rats has been demonstrated in some of the [illegible] "indigenous" cases have [illegible] gards other cases on i[illegible] Death to rats has been [illegible] of season, from the l[illegible] or no practical effect. In connexion with this part of the subject it is necessary to explain that the City Council has for many years dumped its garbage on an area of 30 or 40 acres of land lying outside the city limits, and forming part of a public recreation reserve for which it is trustee, but still in a thickly populated neighbourhood. This faulty method, which, moreover, is carried out with the crudest apparatus and gross carelessness, has been subject of remonstrance by the Department of Public Health, by Governments, by citizens, and by [illegible] the corporation [illegible] about every five years, and has received reports from its officers on destructors. But erection of destructors has clearly been regarded as a waste of money, so long as the dump could possibly be used, for nothing practical resulted. The place is, of course, infested with rats and is the resort of large numbers of rag-pickers; children also go there and hunt for condemned bananas and other fruits, of which they choose the best to eat. Sussex-street wharves are in the city and the corporation removes more or less of the garbage which accumulates there to the refuse-tip just mentioned. It cannot be denied that for several weeks before the beginning of March infectious matter, partly or wholly in the shape of the bodies of dead or dying rats, must have been taken to the refuse-tip. In the meantime quarantining and cleansing of large areas of the worst parts of the city continue. The work is very thoroughly and rapidly done; about 2000 men are thus employed at 7*s.* a day and their keep. They are managed by a contractor specially engaged and are supervised by the chief sanitary inspector and a staff of 30 trained inspectors of nuisances.

The Government of Victoria has summoned a conference of the principal medical officers of the several Governments, to be held at Melbourne. This necessarily excludes New South Wales, since neither the chief nor any other member of the staff can, of course, be spared at this time. Remonstrance has been made by some of the other Governments; it seems to be thought by them that the only city in which plague is present would be the best in which to hold a plague conference. On the whole matters are now pretty well organised, but the way in which almost everyone, from the inhabitants of villages 800 miles away to the corporation of the city of Sydney itself, relies upon the central Government and its departments to execute everything, and to find, not merely money, but actual labour and material, is enough to paralyse the most active administration.

April 10th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Alleged Adulteration of Sugar.

SUGAR forms a very large element of food consumption in daily life and a very considerable trade in the country. It is important, therefore, that anything contributing towards its adulteration or deterioration should be carefully watched

[1] See THE LANCET, April 14th and 28th, 1900.

and guarded against. What is Demerara sugar? was the subject of an extended and close inquiry at the Birmingham police-court on May 11th. A local grocer was summoned for selling Demerara sugar which was not of the nature, substance, and quality of the article demanded, inasmuch as it contained 100 per cent. of dyed sugar crystals. The prosecuti alth Committee of the town and Drugs Act. A large the trade and a number of grocers and chemistry experts were called as witnesses. It was stated that the sugar was stained with some aniline dye engaged in the trade a that Demerara sugar mea grown in Demerara For dyeing did not constitute a alter the nature, substance, section of the Act it was an article of food in such a way as to make it injurious to health. This sample was what was commercially known as Demerara sugar, and there was no proof to the contrary. There was no intent to defraud. A number of witnesses were examined the magistrates "specific finding dyed, but they b and quality of Demerara sugar. Thus the question remains as it was before the trial.

The University of Birmingham.

The Chancellor of the new University, the Right Hon. Joseph Chamberlain, has given directions for a special meeting of the Court of Governors of the University to be called for May 31st; the business will be to receive the charter of incorporation of the University and to elect certain officers. Slowly but surely the scheme of the University is attaining definite and substantial form.

"The Long Pull."

Of some interest to temperance advocates is the subject of "the long pull," by which is meant an additional quantity of ordered. In view of the x on beer the Brewers' licence-holders requesting should be discontinued or modified. The proposals are that for outdoor trade not more than 25 per cent. over measure be given and for indoor trade the exact measure and no more. If this is loyally adhered to one incentive to drinking will be considerably mitigated, and consequent benefit accrue to the trade and to the individual drinker.

May 15th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Organization in Manchester.

the opening comment of your e late Conference on Medical that it showed the need of n; and also that this should have been the chief subject of discussion, while the airing of grievances might have been left for some other occasion. Nor is his somewhat sarcastic severity greatly to be

This attempt to make a beginning should not be stifled or discouraged but rather encouraged, as your Special Commissioner puts it, "to plan some specific action."

Lead-poisoning in Manchester.

At the Manchester County Court on May 14th an action was brought by a man against his employers to recover damages for lead-poisoning.[1] He had worked for them for some years until September last in a room in which brass fittings were made. He was then sent to another department where the fittings were put together, and was taken ill there in November, and had not been able to work since. The case is interesting as showing some of the ways in which lead-poisoning occurs. In the room where these fittings were put together a number of men worked and in the process white lead had to be used. To ensure that the fittings were air-tight the workman had to suck them with his mouth, a pretty obvious source of possible poisoning. For large work an air-pump was provided, but "if used for small work it would have involved such a waste of time as to be out of the question." The air of the room "was much deteriorated by the use of a lead burning machine," which was another bad point. Under the Factory Act suitable washing appliances ought to have been provided, but no such provision had been made. "There was only a bucket" which was provided by the men themselves, water had to be carried from another part of the premises, and, though soap was provided, the foreman discouraged washing. The plaintiff said that the foreman had distinctly stated, that "washing was a waste of time and that he would not have it." The remarkable thing not poisoned. The c with his clients, was has Honour thought, at a cause of the pol con- venience they would pay whatever damages his Honour thought right, which had the appearance of being generous. Mr. W. Ferriday, who had attended the plaintiff, thought the want of washing accommodation even more important than the sucking of the tubes, while Professor J. Dixon Mann could not say which was the main cause of the lead-poisoning. His Honour Judge Parry did not think suitable washing conveniences had been provided, but he "thought that it had merely escaped the defendants' attention and they had since put themselves right in the matter. They had always been ready to meet the plaintiff's claim in a fairly reasonable spirit." It seems from the evidence that this utterly indefensible state of things had "escaped the defendants' attention" for a good many years as if they had all been "sleeping partners." Judgment was given for the plaintiff for £45 and costs, which seems easy for the defendants when we are told that the unfortunate plaintiff "was now advised that he would never be able to go back to the work which inflicted the injury upon him and it was doubtful whether he would be able to go back to brass finishing at all."

Chorlton Union Workhouse.

Dr. Frederick Hoyle and Dr. Peter Joseph Burke have been appointed respectively senior and junior medical officers at the Withington Workhouse at salaries of £130 and £120. The question was asked why there was only one application for the senior appointment and the questioner presumed that if they offered a better salary they would have had more candidates. Dr. J. M. Rhodes thought that so many surgeons were attracted by service in South Africa that local appointments did not attract the former number of applicants, while Dr. O'Doherty thought the position at the workhouse was not sufficiently good. "It was not a question of salary. At the Royal Infirmary there was no falling off in applications for appointments in which no salaries were paid." Yet workhouse appointments offer a wide field for useful observation.

Salford Board of Guardians.

At the meeting of the Salford Board of Guardians on May 11th the following resolution was carried: "That the scheme for the building of a new workhouse be abandoned." The mover drew attention be brought face to face wi for children which would that when the children were removed from the workhouse there would be room for the adults for many years to come. Cottage homes to accommodate 400 children are to be built at Clifton. They will there have somewhat purer air and brighter surroundings than at the Salford workhouse and to some extent be freer from the workhouse tone and atmosphere, but it is unfortunate that so many children have to be kept together instead of being more widely distributed. They will be taught, it is to be presumed, at their own special schools, where they will meet with none but pauper children and must always suffer from the association. No doubt the

[1] THE LANCET, May 12th, 1900, p. 1382.

were involved. Neuralgic pains of the nerves of the arms might occur and were liable to extend to the shoulder and the back. Atrophy of the muscles might be a result of the disease in severe cases. The disease was caused by the circumstance that the ordinary keyboard of pianos was too long for the hands of young players. A child when learning to play the violin used a small instrument, and in like manner pianoforte-makers ought to construct instruments with a keyboard adapted to the hands of children. The patients must abstain from playing for a certain time, and massage combined with electricity and bandaging was advisable.

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THE returns of plague in Sydney for the week ending April 7th show the following figures: remaining, 36; admitted, 29; died, nine; remaining, 56. The total number of cases at this date was 83, and the total number of deaths 26. Discharged, one; total "contacts" isolated, 421; and cases among "contacts," five. Several patients are now fit for discharge; several others are fit for removal from the acute to the convalescent wards. Deaths before discovery continue to be recorded and these as before noted are recorded as admissions.

The want of evidence that the disease is directly communicable from the sick continues; no more than five cases have arisen among "contacts" subsequently to their removal from home and all fell ill before the fifth day from removal. The term of detention for "contacts" has been reduced to five days. The Government will not approve of medical supervision at home and no doubt removal for a short term has advantages with regard to disinfection, laborious and embarrassing as it may become when the daily number of cases increases. In any case power to remove all should be retained, and, when it appears that the infection was taken at the house where the patient lay, should, of course, be exercised. It may be remembered that the first case of all was judged to have been infected by a flea-bite. Since then the bleb which usually attends this mode, according to Simond, has been observed in four cases altogether. In two the bleb had been broken, as in the case of the one discharged patient, but in the fourth it was still entire and the bacillus was found in the serous contents in rather small numbers. It may be that infection occurred in the same way in [illegible]. Under the circumstances it has not been [illegible] such observations with exact regularity, yet the record shows that this is hardly the common way, while, indeed, the bleb is often wanting in other than [illegible] cases. The death-rate [illegible] probably is rather less than 33 per cent.; [illegible] nature of the disease has become evident, many patients havin[illegible].

The course of the [illegible] bar. It certainly began at the line o[illegible] and the houses immediately [illegible] spread to part of the city adjoining that portion; outlying cases could be connected with one or other locality for a rather long time; then outlying cases which could not be so connected began to occur. And that the infection is spread by, or with the migration of rats, is just as clearly established. The presence of diseased rats has [illegible] ome of the outlying neighbourhoods [illegible] cases have occurred and is safely presumed as regards other cases on indirect evidence of the usual kind. Death to rats has been steadily preached, in season and out of season, from the beginning, but unfortunately with little or no practical effect. In connexion with this part of the subject it is necessary to explain that the City Council has for many years dumped its garbage on an area of 30 or 40 acres of land lying outside the city limits, and forming part of a public recreation reserve for which it is trustee, but still in a thickly populated neighbourhood. This faulty method, which, moreover, is carried out with the crudest apparatus and gross carelessness, has been subject of remonstrance by the Department of Public Health, by Governments, by [illegible], and by private individuals for many years past; the corporation itself has a committee of inquiry about every five years, and has received reports from its officers on destructors. But erection of destructors has clearly been regarded as a waste of money, so long as the dump could possibly be used, for nothing practical resulted. The place is, of course, infested with rats and is the resort of large numbers of rag-pickers; children also go there and hunt for condemned bananas and other fruits, of which they choose the best to eat. Sussex-street wharves are in the city and the corporation removes more or less of the garbage which accumulates there to the refuse-tip just mentioned. It cannot be denied that for several weeks before the beginning of March infectious matter, partly or wholly in the shape of the bodies of dead or dying rats, must have been taken to the refuse-tip. In the meantime quarantining and cleansing of large areas of the worst parts of the city continue. The work is very thoroughly and rapidly done; about 2000 men are thus employed at 7s. a day and their keep. They are managed by a contractor specially engaged and are supervised by the chief sanitary inspector and a staff of 30 trained inspectors of nuisances.

The Government of Victoria has summoned a conference of the principal medical officers of the several Governments, to be held at Melbourne. This necessarily excludes New South Wales, since neither the chief nor any other member of the staff can, of course, be spared at this time. Remonstrance has been made by some of the other Governments; it seems to be thought by them that the only city in which plague is present would be the best in which to hold a plague conference. On the whole matters are now pretty well organised, but the way in which almost everyone, from the inhabitants of villages 800 miles away to the corporation of the city of Sydney itself, relies upon the central Government and its departments to execute everything, and to find, not merely money, but actual labour and material, is enough to paralyse the most active administration.

April 10th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Alleged Adulteration of Sugar.

SUGAR forms a very large element of food consumption in daily life and a very considerable trade in the country. It is important, therefore, that anything contributing towards its adulteration or deterioration should be carefully watched

[1] See THE LANCET, April 14th and 28th, 1900.

and guarded against. What is Demerara sugar? was the subject of an extended and close inquiry at the Birmingham police court on May 11th. A local grocer was summoned for selling Demerara sugar which was not of the nature, substance, and quality of the article demanded, inasmuch as it contained 100 per cent. of dyed sugar crystals. The prosecution was undertaken by the Health Committee of the town council under the Food and Drugs Act

interested in the trade and a
emistry experts were called as
that, the sugar was stained
and it was alleged by those

health This sar
Demerara sugar and there was no proof to the contrary. There was no intent to defraud A number of witnesses were examined and in the end the case was dismissed by the magistrates They announced on application for "specific findings" that they were agreed that the sugar was dyed, but they believed that it was of the nature, substance, and quality of Demerara sugar. Thus the question remains as it was before the trial.

Birmingham

The Jniversity, the Right Hon
Josep a directions for a special
meeting of the Court of Governors of the University to be called for May 31st; the business will be to receive the charter of incorporation of the University and to elect certain officers. Slowly but surely the scheme of the University is attaining definite and substantial form

"The Long Pull."

Of some interest to temperance advocates is the subject of "the long pull," by which is meant an additional quantity of

that this custom of overdrawing should be discontinued or modified. The proposals are that for outdoor trade not more than 25 per cent over measure be given and for indoor trade the exact measure and no more If this is loyally adhered to one incentive to drinking will be considerably mitigated, and consequent benefit accrue to the trade and to the individual drinker.

May 15th

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester

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discouraged but rather encouraged, as your Special Commissioner puts it, "to plan some specific action."

Lead-poisoning in Manchester.

At the Manchester County Court on May 18th an action was brought by a man against his employers to recover damages for lead-poisoning. He had worked for them for some years

until September last in a room in which brass fittings were made He was then sent to another department where the fittings were put together, and was taken ill there in November, and had not been able to work since The case is interesting as showing some of the ways in which lead-poisoning occurs.
fittings were put together a
and in the process white lead h
that the fittings were air tight the workman had to suck them with his mouth, a pretty obvious source of possible poisoning For large work an air pump was provided, but "if used for small work it would have
ch a waste of time as to be out of the question."
he room "was much deteriorated by the use of a
g machine," which was another bad point. Factory Act suitable washing appliances ought to
provided, but no such provision had been made
s only a
water h
nd, the
discouraged washin
had distinctly stated, th asto
of time and that he The
remarkable thing is that all not
poisoned The defendants' with
his clients, was magnanimous enough to say that "if his Honour thought, after hearing the medical evidence, that a cause of the poisoning was the absence of lavatory convenience they would pay whatever damages his Honour thought right," which had the appearance of being generous Mr W Ferriday, who had attended the plaintiff, thought the want of washing accommodation even more important than the sucking of the tubes, while Professor J Dixon Mann could not say which was the main cause of the lead-poisoning. His Honour Judge Parry did not think suitable washing conveniences had been provided, but he "thought that it had merely escaped the they had since put themselves
had always been ready to meet
irly reasonable spirit" It seems from the evidence that this utterly indefensible state of things had "escaped the defendants' attention" for a good many years as if they had all been "sleeping partners" Judgment was given for the plaintiff for £45 and costs, which seems easy for the defendants when we are told that the unfortunate plaintiff "was now advised that he would never be able to go back to the work which inflicted the injury upon him and it was doubtful whether he would be able to go back to brass finishing at all."

Chorlton Union Workhouse.

Dr Frederick Hoyle and Dr. Peter Joseph Burke have been appointed respectively senior and junior medical officers at the Withington Workhouse at salaries of £130 and £120 The question was asked why there was only one application for the senior appointment and the questioner presumed that if they offered a better salary they would have had more candidates Dr J. M. Rhodes thought that so many surgeons were attracted by service in South Africa that local appointments did not attract the former number of applicants, while Dr. O Doherty thought the position at the workhouse was not sufficiently good It was not a question of salary At the Royal Infirmary there was no falling off in applications for appointments in which no salaries were paid Yet workhouse appointments offer a wide field for useful observation

Salford Board of Guardians

At the meeting of the Salford Board of Guardians on May 11th the following resolution was carried "That the scheme for the building of a new workhouse be abandoned" The mover drew attention to the fact that they would shortly be brought face to face with the provision of cottage homes for children which would involve a large outlay, and further, that when the children were removed from the workhouse there would be room for the adults for many years to come Cottage homes to accommodate 400 children are to be built at Clifton They will there have somewhat purer air and brighter surroundings than at the Salford workhouse and to some extent be freer from the workhouse tone and atmosphere, but it is unfortunate that so many children have to be kept together instead of being more widely distributed They will be taught, it is to be presumed, at their own special schools, where they will meet with none but pauper children and must always suffer from the association. No doubt the

difficulty of distributing these workhouse children amongst the non-pauper population is very great; but it is none the less desirable, if the little unfortunates are to have anything like a fair start in life, that their range of experience should not be limited to the pauper class alone and to those who have to deal only with paupers either in the way of teaching or control.

May 15th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Queen Victoria Jubilee Institute for Nurses.

THE Secretary of State for Scotland has recently made a pronouncement in regard to the spending of public money in the hands of the smaller burghs in Scotland which will be of considerable benefit to that most useful institution, the Queen Victoria Jubilee Institute of Nurses. The smaller burghs in Scotland, while desirous of assisting this scheme, have hitherto been precluded from giving donations out of the moneys in their hands owing to the stringency of the regulations which govern the spending of public money. The Loanhead Commissioners, through their auditor, recently had the following communication on the subject from the Secretary of State:—

I am directed to state that a contribution to the funds of the Queen Victoria Jubilee Institute for Nurses has in several cases and upon certain conditions being satisfied been held by the Secretary for Scotland to constitute a proper application of funds placed at the disposal of local authorities out of proceeds of what is commonly known as the equivalent grant under Section 2 of the Education and Local Taxation Account (Scotland) Act, 1892. I am to add that in order to regularise such a payment application should be made to the Secretary for Scotland for his sanction to the application of the burgh's share of the equivalent grant to such a purpose as a "scheme of public utility" in terms of Section 2 (5) (c) of the Act, there being, so far as he is aware, no statutory power enabling local authorities to make such a grant in any other way.

The treasurer of the Loanhead Commissioners subsequently had, in answer to an inquiry from him, an intimation from the Scottish Office that the Secretary for Scotland was prepared to consider favourably a duly authorised application from the Burgh Commissioners for his sanction to a donation out of the equivalent grant to assist the fund for maintaining a local nurse in connexion with the Queen Victoria Jubilee Institute for Nurses.

May 15th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Dispensary Medical Officers, Question of Vacation.

A MATTER of great interest to dispensary medical officers in Ireland was dealt with on May 10th, when the Queen's Bench Division gave judgment in two cases involving the question of the right of boards of guardians to fix the duration of the annual leave granted to dispensary medical officers. The Lord Chief Baron delivered an elaborate judgment, in which Mr. Justice Johnson and Mr. Justice Boyd concurred, the result of his decision being in favour of the right claimed on behalf of the guardians which heretofore was supposed to have been vested in the Local Government Board. In deciding that each party should pay their own costs, the Lord Chief Baron said that as the cases, in fact, involved a contest between two public bodies, the guardians and the Local Government Board, he did not think that it would be fair to give against the individual medical men the costs of the cases. Mr. Justice Johnson remarked that as the guardians had got an important principle decided in their favour they should not ask for costs.

The Meath Hospital and County of Dublin Infirmary.

The annual meeting of the governors of the Meath Hospital took place on May 14th, Sir Gerald Dease filling the chair. The President of the Royal College of Physicians of Ireland (Dr J. W. Moore) submitted the report of the medical department and alluded to the high rate of mortality which had prevailed among patients suffering from pneumonia, one case in every four having succumbed. Dr. J. Craig, in seconding a motion of thanks to the City of Dublin Corporation and to other public bodies, made a sympathetic allusion to the recent death of Dr. Glasgow Patteson, who had been one of the surgeons of the hospital and who had been instrumental in founding there a bed known as the "Dundalk bed" in connexion with his native town, whence subscriptions has been received for the purpose. It was agreed that this bed should be maintained in the future as a memorial to the late Dr. Patteson.

Letterkenny District Lunatic Asylum.

At the monthly meeting of the governors of Letterkenny Asylum, held on May 10th, the resident medical superintendent, Dr. E. E. Moore, reported that they had an increase of numbers resident at the close of the year. They had 46 more men than there was legitimate accommodation for and only room for nine more women. Taken as a whole the past year had been a remarkably healthy one and the death-rate had been the lowest on record in the asylum since it was opened, being only 5 7 per cent. on the daily average number resident, as against 9 per cent. in 1898. The average rate for the past 10 years was 10 2. The supply of fresh pasteurised milk daily had, Dr. Moore believed, a good deal to do with the sudden fall in the death-rate in the past year, as they had their excellent milk-supply only from December, 1898. If, however, the asylum population continued to increase it would ultimately have a bad effect, he was afraid, on the general health of the inmates.

County Antrim Infirmary.

At the monthly meeting of the Committee of Management of this infirmary, held in Lisburn on May 10th, it was reported that the question of the extern patients had been considered by the Finance Committee, and it was recommended that printed books of orders should be issued to the governors stating that this extern department was only carried on through the goodwill of the surgeon and was not provided by Act of Parliament. The governors should be urged to use discretion as to whom these orders should be given to, so that the surgeon's kindness would not be abused by orders being given to those well able to pay for medical and surgical treatment.

The Infectious Diseases Hospital, Belfast.

At a meeting of the Committee of Management of the Belfast Asylum on May 14th, after a very animated discussion, the following motion was carried: "That the city council having resolved to erect an infectious diseases hospital at Purdysburn on a portion of the asylum estate, this committee expresses its regret at this decision and hopes that the council may yet see its way to alter its intention."

May 15th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Temperance Measures in the French Army.

THE temperance propaganda is undoubtedly making great strides in France, but the evil is so great and the country produces wine and brandy so freely that it will doubtless be some time before any very obvious effect is apparent. A great step in advance has undoubtedly been taken owing to a circular issued by the Minister of War which attacks the evil in one of its strongest positions—namely, in the army. Every able-bodied man in France has to pass a longer or shorter time in the army where he picks up with ease habits of intemperance which stick to him when he returns to civil life and with which he infects others in his vicinity. The army is therefore responsible in great part for the evil and it is by means of the army that a remedy is now being sought for. There is in every barrack a canteen for the use of privates and non-commissioned officers, kept by a veteran, where men can eat and drink all day at a moderate price. These canteens supply food under fairly hygienic conditions and all provisions have to be passed by the regimental surgeon. Many commanding officers have for some time past been trying to reduce the consumption of alcoholic liquors in the canteens of their districts. Some have forbidden the sale of spirituous liquors except during mealtimes, others have put an absolute veto upon certain drinks, notably upon absinthe, and others again have forbidden the sale of any alcoholic drinks at all. The Minister of War having satisfied himself of the good result of these isolated efforts has put his foot down and General Gallifet has therefore addressed an order to all commanding officers forbidding the sale in any canteen of brandy or other alcoholic liquor, which will include the

thousand-and-one preparations sold under the name of *apéritifs*. The sale of these last has increased in an extraordinary manner of late years thanks to the shameless manner in which the makers advertise their preparations as being very [illegible] they argue that [illegible] fer only to chea[illegible] as to say that [illegible] to the public health as being inimical to alcoholism. The circular of the Minister of War spares no words in denouncing this lamentable effrontery, an effrontery which the French press is very chary in attacking, for the trade in these things is a source of considerable revenue to the press on account of the advertisements. The interdict of General Gallifet extends to all canteens, whether in barracks, camps, or districts in which manœuvres take place. The only drinks which may be sold are wholesome hygienic fermented beverages, such as wine, beer, cider, and perry, together with the ordinary beverages like coffee, tea, milk, chocolate, which do not contain alcohol. The Minister of War invites the coöperation of all the generals in taking pains to see that the instructions are strictly carried out. It is most earnestly to be hoped that political influences will not be allowed to nullify this work which has commenced so well, but it must be remembered that in France the liquor interest has a most powerful influence in elections, that is to say, upon deputies and through them upon Ministers. Last year a certain colonel, indignant at seeing his men always drunk [illegible] g to their frequenting the [illegible] sprout up everywhere in the [illegible] houses out of bounds. The [illegible] simply on the complaint of the publicans, annulled the colonel's order.

Statistics of the Paris Faculty of Medicine for 1899.

The annual report of the University of Paris has just been published and gives the following interesting notes as to the working of the University. 13,771 students were enrolled—that is to say, 575 less than last year. Among these were 1015 foreigners and 551 women. The part played by the Faculty of Medicine was very considerable. The number of medical students is 4315; in the preceding year it was 4495. This diminution is due to students being struck off the rolls who have failed to comply with certain regulations for five years. This year 160 students were struck off on this account. Among 4112 students studying for the degree of doctor in medicine or the diploma of *officier de santé* there are 3542 French and 570 foreigners. These foreigners include 21 Swiss, 26 Germans, 25 Greeks, 75 Roumanians, and 180 Russians [illegible] 24 students are from the Antilles and the Spanish-American Republics have sent 12. [illegible] 3983 of the [illegible] latter 100 are [illegible] two Germans [illegible] distributed 6[illegible] to foreigners, [illegible] being women. [illegible] *de santé*, 48 midwives, and 63 surgeon dentists. The number of candidates having undergone examination was 9118, whereas the year before it was 9429. Out of those examined 1591 failed to pass. Among [illegible] Council of the University are [illegible] Medicine is particularly anxio[illegible] created—namely, of gynæcology and of infantile surgery. By a vote of March 24th, 1899, the Municipal Council of Paris undertook the expense of two chairs and the maintenance of clinical material which these will necessitate. The Faculty of Science asks for the creation of a lecture in mathematics, of a chair in physics, and of another in chemistry, specially applicable for students desiring a certificate in these studies, and for a supplementary course in applied chemistry which will shortly be founded at the expense of the University. The School of Pharmacy numbers 1794 students, of whom nine are women, and last year the school gave 238 diplomas.

The Treatment of Alcoholism.

At the meeting of the Academy of Medicine held on May 8th M. Crivelli reported that in a great number of cases he had seen marked improvement and occasionally lasting cure as a result of the following treatment of alcoholism. He begins with injections of artificial serum, followed by complete rest, baths, massage, a light diet, and coffee to drink. He then administers twice a day a hypodermic injection of a solution of strychnine of the strength of 1 per cent. Commencing with three drops he increases the [illegible] mptoms of poisoning arise. [illegible] e dose has been raised to [illegible] esponding to three or five [illegible] e dose is then gradually reduced until it reaches two drops. M. Fermet said that alcoholism ought to be added to the "causes of death" demanded by the municipal statistics. After some remarks by M. Colin, M. Marey, and M. Vallin this valuable proposition, valuable in the great towns at least, was adopted by the Academy.

May 14th

CANADA.

(FROM OUR OWN CORRESPONDENT.)

The Canadian Militia Medical Service.

MEDICAL men all over the Dominion have been very much incensed on account of the recall of Major General Hutton. [illegible] and as a result the country has lost an efficient and popular officer, and the powers that be at the capital, Ottawa, have come in for a good deal of deservedly adverse criticism, particularly at the hands of the medical men of the country who have a keen conception of the needs of that branch of our militia.

The Crusade against Tuberculosis.

The crusade against tuberculosis is now being pushed with determined zeal in almost every province of Canada. [illegible] and Toronto, have [illegible] information regarding [illegible] disease. The provinces both of Ontario and Quebec have sanitoria which are doing excellent work, the former at Gravenhurst in the Muskoka region, the latter in the Laurentians, about 50 miles from the city of Montreal. The Ontario Government at the session of the local [illegible] has also participated in the [illegible] enacting legislation which sha[illegible] erect and maintain district sanitoria. Financial assistance will be rendered by the Government to each of these and the Government will at once establish a laboratory at the Gravenhurst Sanatorium. Nova Scotia will not be far behind the other provinces in this respect, as her Parliament has authorised the expenditure of $15,000 (about £3000) for the erection of a consumption sanatorium in that province. This province, or rather the city of Halifax, leads the way in some respects, as laws have been enacted prohibiting the act of expectoration in the public streets or in public places or conveyances.

Dominion Registration

Dominion registration is at the present time a live topic in medical politics. Dr. Roddick of Montreal, an ex-president of the British Medical Association, has been charged by the profession in Canada with the perfecting and ultimate completion of this scheme. A draft of the Bill which he is introducing into the Dominion Parliament, of which he is a member, provides for the formation of a Dominion Medical Council, which will not interfere in any way with any of the vested rights of the provincial medical councils. The composition of this Dominion Council is to be as follows: Three representatives are to be appointed from each province (the North-West Territories to rank as a province), which representatives shall be appointed by the Governor General in Council, one for each province. The second member, one from each provincial medical council, shall be appointed by the medical council of which he is a member. The third shall be ex officio the president of the provincial medical [illegible] These are to hold [illegible] ncil shall consist [illegible] n its members, a [illegible] president, a vice-president, a registrar who may act as secretary and treasurer, and such other officers as the Council may deem expedient for it to appoint from time to time. The Council shall be empowered to obtain and possess real estate which at any time shall not exceed the value of $100,000. The examinations shall consist of the matriculating and professional. Any practitioner in Canada who

illuminated address bearing 600 signatures and conveying, as they worded it—

"Our heartfelt admiration . . . . . us both as a surgeon and a . . . . . example which you have so co. . . . . honesty of purpose, uprightness, and integrity. Finally, we would affectionately assure you that the breaking of the official ties which bound you to us has occasioned the deepest personal sorrow and regret."

To this address Mr. Davies-Colley returned the following touching reply:—

"My dear friends of Guy's Hospital, Colleagues, Past and Present Students,—I thank you all for the splendid memorial and far too flattering appreciation of my services in the school and wards of the hospital which I have just received from you. It has been a very great grief to me to leave you all so suddenly. But if anything could relieve that grief it is the reflection that the efforts which I have made to do my duty among you have met with so cordial a recognition upon your part. I desire also to express my admiration for the beauty of the design and its artistic decoration. I have no doubt that the book will be kept as an heirloom and most prized possession by the members of my family. And now it remains for me to say farewell to all. May God's blessing rest upon you and upon the dear old school and hospital. With feelings of the deepest love and affection for you all,

"I remain, most gratefully yours,

"N. DAVIES COLLEY.

"Borough, Pulborough, May 4th, 1900."

And on May 6th he died at Pulborough, where he was buried.

Mr. Davies Colley became a member of the Council of the Royal College of Surgeons of England in 1896. He married a daughter of the late Mr. Thomas Turner, for some time Treasurer of Guy's Hospital, and sister of the late Dr. Charlewood Turner, Physician to the London Hospital, by whom he leaves both sons and daughters to deplore his premature death.

Medical News.

PRESENTATIONS TO MEDICAL MEN.—Mr. E. S. Forde, L.R.C.P., L.R.C.S. Edin., of Dalry, Galloway, having been approved by the War Office to be sent to Bloemfontein, South Africa, his friends in Carsphairn and Dalry have presented him with a substantial token of esteem and appreciation of his services over the wide district of his practice.—The members of the ambulance classes of the city police teams, Wakefield, have presented Mr. W. K. Clayton, M.D. Brux., L.R.C.P., L.R.C.S. Edin., their lecturer on first aid, with a silver cigarette case, and the members of the Young Men's Christian Association Class have given him a photographic group of the class in a frame.—On April 27th Mr. H. M. Robertson, M.B., C.M. Glasg., of Brechin, was the recipient of several testimonials on the occasion of his leaving that city. For the last six years he has practised there and during that period has made many friends. The presentations consisted of an illuminated address, a purse of sovereigns, and a gold bracelet for Mrs. Robertson, subscribed for by the inhabitants of Brechin and the Ancient Shepherds. At the same time he received the "emblem of merit" from the Maisondieu Lodge of Shepherds.—On May 9th Mr. Lemuel Matthew Griffiths, L.R.C.P. Edin., M.R.C.S. Eng., upon his resignation of the assistant editorship of the *Bristol Medico-Chirurgical Journal*, which he had held for 17 years, was presented by the members of the Bristol Medico-Chirurgical Society, under whose auspices the journal is issued, with an illuminated framed address, a silver bowl, the 20-volume "International Library of Famous Literature," a book-plate, and a cheque for the balance of an amount of £135 16*s.* which had been subscribed.—At a largely attended meeting of the parishioners of Westbury-on-Trym, held on May 2nd in the schoolroom under the presidency of the Rev. J. J. D. Cooke, M.A., Mr. Henry Lawrence Ormerod, M.D., B.Ch. R.U. Irel., L.R.C.P. Lond., M.R.C.S. Eng., was presented with a solid silver bowl and a revolving silver breakfast dish together with an album containing the names of more than 300 subscribers, as a mark of respect and esteem on the occasion of his marriage. The chairman in making the presentation spoke of the valuable services which Mr. Henry Ormerod, sen., M.R.C.S. Eng., had rendered to Westbury for the past 50 years. The Shepherds' Friendly Society have also presented Dr. H. L. Ormerod with a silver salver.

AT the recent annual meeting of the subscribers and friends of the Ashby-de-la-Zouch Cottage Hospital the Earl of Loudoun was elected President. The report showed that 78 patients were treated at the institution during the year, the cost of maintenance being £13 13*s.* 4*d.* per head.

SUPERANNUATION ALLOWANCE.—Mr. Edward Swain, L.R.C.P. Edin., M.R.C.S. Eng., medical superintendent of the Three Counties Asylum, Arlesey, Hitchin, Herts, has been awarded a superannuation grant of £500 per annum.

IN MEMORIAM.—To commemorate the deep interest which the late Mr. T. H. I . . . . . in the Bootle Hospital and as a . . . . . donation of £1000 to the endown . . . . . of that institution have decided that one of the wards in the new wing shall be named after him the "Thomas Henry Ismay" ward.

WESTON-SUPER-MARE.—The annual meeting of friends of the Children's Convalescent Home at Weston-super-Mare, which is in connexion with the Bristol Children's Hospital, w . . . . . t stated that 272 children had . . . . . The financial statement sl . . . . . was under £500 and that the . . . . . 204, which, therefore, had to be debited to the Bristol Children's Hospital account.

NOTIFICATION OF PHTHISIS.—The committee of the Devon and Cornwall Branch of the National Association for the Prevention of Consumption and other Forms of Tuberculosis have approached the Sanitary Committee of the Plymouth Borough Council with the suggestion that the disease should be . . . . . able. It was pointed out that in . . . . . 134 and other forms of tuberculosis 70 deaths in the town. Voluntary notification of the disease would lead to dissemination of information respecting the precautions to be taken for preventing its spread and have a valuable educational influence. It . . . . . ould be paid to medical practit . . . . . of cases and that the information, although acted upon as fully as possible by the sanitary authorities, should be treated as confidential.

ASYLUM WORKERS' ASSOCIATION.—At the annual meeting of the association held on May 14th Sir James Crichton Browne, in moving the adoption of the report, laid stress on the importance, from the point of view of the public who desire to secure the best possible attendance upon their insane relatives, of asylum workers having before them a definite permanent career with the prospect of a pension when unfit for further service. The same view was urged by Dr. Sidney Coupland, one of the Commissioners in Lunacy, who seconded the adoption of the report, and also by Mr. Hayes Newington, who proposed a vote of thanks to the honorary secretary. Amongst the other speakers were Mr. Robert Jones of Claybury; Dr. Harding, superintendent of the Northampton County Asylum; Dr. Elkins, superintendent of the Leavesden Asylum; and Dr. Outterson Wood. The annual report for 1899 showed that the roll of members had increased from 2890 in December, 1898, to 3006 at the end of 1899, this number including 61 life members and 37 associate members. Representatives of 31 asylums (in England, Wales, Scotland, Ireland, and the colonies) not previously represented had joined the association during 1899, and recently members had been elected from the Royal Edinburgh and Royal Glasgow Asylums. Reservists on active service had been retained on the roll without payment of subscription for the present year. The financial statement showed that the aggregate receipts for 1899 amounted to £256 10*s.*, as compared with £254 7*s.* 9*d.* during 1898. The credit balance at the end of 1899 amounted to £143 2*s.* 4*d.*, against £137 14*s.* 3*d.* at the end of 1898. Nine cases had received grants from the Home of Rest Fund, which was assuming much of the character of a mutual benefit society, being mainly supported by asylum workers themselves, though contributions from others were welcome. Impending lunacy legislation had engaged the anxious attention of the executive and every effort had been made to obtain the introduction of a clause providing for assured pensions for asylum workers.

CARDIFF INFIRMARY.—At a meeting of the Management Committee of the Cardiff Infirmary held on May 9th it was decided to appoint two ophthalmic surgeons and one assistant ophthalmic surgeon. It was stated that only one application had been received for the post of assistant house surgeon to the institution

ERAMMERGAU.—In con- Passion Play, the first repre- [illegible] place on May 20th and the last on Sept. 30th, the Great Eastern Railway Company have arranged inexpensive return tickets to Munich Passengers can travel either via the Hook of Holland and Cologne, or vi Antwerp and Cologne For [illegible] ook of Holland, including Oberau, the station for Oberammergau

EQUITABLE LIFE [illegible] annual report of the [illegible] for the year ending Dec [illegible] period 299 new policies were i [illegible] £379,315, of which £27,000 wa [illegible] amount at risk £352 315 The [illegible] amounted to £12,861, which included £1468 single premiums. 36 immediate annuities assuring the payment of £2268 per annum were granted for the consideration of £29,436. Claims arose under 101 policies in respect of 72 deaths. The original sums assured by these policies amounted to £110,700 and the bonus additions attaching at the time of death amounted to £124,294 In several cases bonuses which had been declared, amounting in the aggregate to £11,000, had been surrendered either for cash or reduction of premiums, so that the total additions which had been declared on these policies amounted to £135,295 On the average, therefore, every £1000 of assurance which became a claim last year had been increased by additions to £2222 In one case the sum assured and declared bonuses exceeded four times the original amount assured, this was policy No 292, dated in 1817, for £1300, and on its becoming a claim £6363 was paid, the total premiums paid being £2003 The funds of the society were increased by the sum of £174,651 and at the end of the year amounted to £4,681,087. The with profit policies in force on Dec 31st last numbered 5064, assuring £5,562,075.

QUEEN'S COLLEGE, BELFAST.—At the class examinations held at the close of the medical session in the [illegible] James Bethune, Henry Mulrea Johnston, Samuel Robert Hunter, B A, and William Henry Norman Bright, Junior—Ernest Clements and Thomas Lyle (equal), and [illegible] Samuel Thompson, Irwin, and John M'Clatchey (equal) Practical Histology, Samuel Beattie Wylie Moore, Joseph Henry Thompson, Foster Coates, and John M'Clatchey. Medicine William Burns, David M'Mordie, B A, and John Armstrong (John Beatty Logan, non matricu [illegible] —John Hope Reford, B A, [illegible] and Prudence Elizabeth Gaffikin [illegible] Junior—John Knox and Henry Murray Agnew. Materia Medica James Macarthur and John Hargreaves Robinson Midwifery, Gynaecology, and Diseases of Children, Archibald George Heron, B A, William Rodgers, M A, David M'Mordie, B A, and William John Brereton Fergus (equal), and John Armstrong and John Stewart Ferguson Weir. Ophthalmology and Otology: Archibald George Heron, Marion Braidfoot Andrews, and John Arthur Mills, B A (equal). Sanitary Science William Rodgers, M A

MEDICAL MAGISTRATES.—Mr. Francis W. Grant, M D. Edin. of Elgin, and Mr. James A. Cameron, M D. Edin, of Firhall, Nairn, have been appointed justices of the peace for Morayshire by the Lord Chancellor upon the recommendation of the Duke of Fife, Lord Lieutenant of the county of Elgin

HEALTH OF THE RHONDDA DISTRICT.—Mr H Jones, in his annual report, which was presented at the last meeting of the Rhondda Urban District Council, states that during 1899 the birth rate was 33 1 per 1000, which was below the average rate of the previous 10 years (37 4 per 1000). The death rate was 19 6 per 1000, higher than the average of the past 10 years by 0 7 per 1000. The death-rate of children under one year was higher than recorded in any previous year, being equal to 248 per 1000 births, and was only exceeded in two of the great towns (Burnley and Preston). The deaths from zymotic diseases numbered 2807 (against 1730 in 1898) and were divided as follows: scarlet fever, 534, typhoid fever, 362; puerperal fever, 23; diphtheria, 1804, erysipelas, 61, and continued fever, 23. The zymotic death rate was 3 9 per 1000, a rate of 1 2 above the average of the last 10 years in the Rhondda district—nearly double that of the whole country, and exceeded in only three of the 33 large towns.

UNIVERSITY OF CAMBRIDGE.—A class in practical histology will be held during the long vacation by the Master of Downing (Dr A Hill) and Dr. E Barclay Smith, beginning on July 7th. A benefaction of over £13 000 has been offered to the University by the trustees of Miss R F Squire Plans for anew building, which will be opposite the new Medical School and Humphry Museum, have been prepared by Mr T G Jackson, R A, and are exhibited in the Royal Academy with Mr Prior's plans for the Medical School. The first and second examinations for the M B. and B C. degrees begin on June 11th. The council propose that for candidates who have not already passed the second examination the fee for either part of the third examination shall be rais [illegible] will in some [illegible] paid to the h [illegible] on May 10th the following were admitted to the degree of Bachelor in Surgery J H. Philbrick, B.A, Trinity; H. N. Matthews, B A, St John's, H P Bradley, B A, Caius; T. E Holmes, B A, Caius, and J Gutch, M.A, Christ's [illegible]

Parliamentary Intelligence.

HOUSE OF COMMONS.

THURSDAY, MAY 10TH.

Conditions of Hospital Admission

[illegible] is no legal obligation on such institutions to admit any particular individual

Anti-Enteric Inoculation [illegible]

Mr. WYNDHAM, in reply to questions on this subject, said that the statistics at present available were not sufficient for forming a conclusive opinion Only those men were inoculated who volunteered to submit to the operation, and according to returns at present received about 20 per cent. volunteered either before embarkation or during the voyage out It was not considered advisable to inoculate them after landing in South Africa, as the operation might cause delay in their movements Statistics had been called for from every station at home and abroad and a special report regarding the garrison at Ladysmith.

Hospital Accommodation at Netley.

Mr MACNEILL asked the Under Secretary of State for War whether 58 out of the non-commissioned officers and men who had been invalided [illegible]

be made in the case of these men to the practice of permitting men invalided from the war to go on furlough; and whether, having regard to the disappointment to the invalided soldiers and their friends entailed by this refusal of furlough, the War Office authorities would reconsider their decision in this matter.—Mr. WYNDHAM replied; Furloughs have, as the hon. Member points out, been very freely granted, but a certain number of men are necessarily detained at Netley to perform the duty of attendants at the hospital. The selection of these men rests with the general commanding the district and he will no doubt take care that the duty shall not press inequitably upon any individuals.

Lead Poisoning.

On the motion of Mr. COGHILL there was ordered a return of the number of cases of lead poisoning which had been reported as occurring (1) in the earthenware and china industry for each month from January, 1898, to March, 1900, both inclusive; and (2) in all other trades.

The Midwives Bill.

The motion proposed by the G [illegible] out of moneys to be provided by [illegible] Treasury might certify to have been necessarily incurred by the General Medical Council under the provisions of the Midwives Bill was at this sitting of [illegible] without any comment being made on behalf of [illegible] by any Member of the House. The motion was [illegible] occasion and from time to time afterwards postponed.

FRIDAY, MAY 11TH.

Lead Poisoning.

Mr. COGHILL asked the Home Secretary whether there was a diminution in the cases of lead poisoning in the pottery trade for the 12 months of 1899, as compared with 1898 and 1897; whether there had [illegible] the cases of [illegible] troduction o[illegible] the possessi[illegible] that, the rule requiring the month[illegible] surgeon of women and young persons [illegible] diminishing the cases of plumbism; and whether the examination by a qualified medical man of all workers, whether adult male, women, or [illegible] with lead, was urged [illegible] ware manufacturers [illegible] JEW WHITE RIDLEY [illegible] nber of cases of lead poisoning in the pottery trade in 1899 as compared with 1898 and 1897, and as will be shown by the return which at the instance of the hon. Member was ordered yesterday, laid on the table in dummy to-day, and will be in the hands of Members within a few days, the diminution follows closely on the establishment of the new rules in 1898. There is also, I think, evidence that the rule requiring the monthly medical examination has contributed materially to this result. As regards the last paragraph of the question I find no official record of the medical examination of all workers having been suggested by the manufacturers before 1898, but I understand that in 1895, when the Factory Bill of my predecessor was before the House, they urged the proposal on their local Members; and I may at all events say that I had the coöperation of the majority of them in establishing the medical examination required by the rules of 1898, and that I look forward with confidence to having their coöperation in any extension of it which may be shown to me to be called for.—Mr. COGHILL asked the Home Secretary what steps he proposed to take to control the importation of, or to exclude, the china and earthenware manufactured abroad in countries when there was no restriction as to the use of materials, and where there was no legislative protection for the workers in practical operation.—Sir MATTHEW WHITE RIDLEY replied: Any steps in the direction indicated by my hon. friend could not logically stop at china and earthenware, and the question of controlling or prohibiting the importation of articles manufactured in foreign countries where the workers may not enjoy the same statutory protection as those engaged in similar trades in England is a very large one, and I do not see my way to embarking upon it. I may add that it is a matter in which I have no direct powers.

New Hospital at Hong-Kong.

General LAURIE asked the Under Secretary of State for War whether any, and if so what, [illegible] to provide a hospital at Hong-Kong in a suit[illegible] the present undesirably situated building wh[illegible]rs were now treated. Mr. WYNDHAM replied: Yes, sir, the site for the new hospital has been approved and the ground has been prepared for building. The plans are complete and are going out this month. Every effort will be made to erect the building as soon as possible.

TUESDAY, MAY 15TH.

Anti-typhoid Serum for the Navy.

Mr. BROWN asked the Junior Lord of the Admiralty whether the Army Medical Department reports show that inoculation for enteric fever had been found useful in our army in South Africa; and, if so, whether the Government would supply anti-typhoid serum to Her Majesty's ships so that sailors and others who had to land in unhealthy places might previously be inoculated on board ship.—Mr. AUSTEN CHAMBERLAIN: This matter is receiving careful attention, but definite information as to the results of inoculation for enteric fever is not yet available. When this information is received the point raised by my hon. friend shall be considered.

PRESERVATIVES AND COLOURING MATTERS IN FOOD.

The Departmental Inquiry.

MONDAY, MAY 14TH.

The Committee appointed by the Local Government Board to inquire into the use of preservatives and colouring matters in food met again today with Sir Herbert Maxwell, M.P., in the chair, and proceeded with the examination of witnesses.

Dr. VIVIAN POORE, physician to University College Hospital, was the first witness examined, and in reply to the CHAIRMAN he said that as a practising physician he had given some attention to the effects of chemical preservatives upon food, and the conclusion he had come to was that no preservative should be allowed to be added to food unless the nature of it and the quantity added were fully stated. He thought that besides the positive harmfulness of certain preservatives the negative side of the question was most important and there ought to be no risk of mistaking pre[illegible] food for fresh food, and that the want of fresh food could not b[illegible] effect upon the health of the community, not only [illegible] children. It was impossible to say precisely what was the effect of these chemical preservatives; indeed, what he desired to do was to make a plea for our ignorance in this matter. Scurvy was a thing about which we were very ignorant. All we knew was that when a community was kept with an absence of fresh food for a long time scurvy resulted and the general level of health fell. No chemist and no physiologist had yet given us a satisfactory explanation of the cause of scurvy. It was thought at one time that the salt was the cause, but that idea had been exploded. It was suggested at one time that if t[illegible] were substituted for salted fish the [illegible] that again failed. It was a fact, he be[illegible] had never been known to contract scu[illegible] tion between vegetables preserved a[illegible] vegetables preserved by chemicals. No doubt it was a popular belief that bottled vegetables prevented scurvy, but he thought Nansen had found them fail, that these vegetables had not the anti-scorbutic power of the really fresh vegetables. If a preservative were added to milk which perhaps was tasteless there was not only the harm of the preservative but the milk very soon ceased to be fresh. The milk which was drawn by a sucking animal from the breast of its mother had never been exposed to the air, its temperature had never been lowered, and the constituent parts had never been allowed to separate, and, indeed, they must look upon it as quite a different thing from milk which had been artificially cooled, exposed to the air, and allowed to separate into its constituent elements. Children fed from the breast never manifested a rickety condition. As he said, he was [illegible] He asked that their Committee should [illegible] ought to be no confusion between [illegible] He would go so far as to put frozen meat in the category of meat which was no longer fresh. He of course admitted that it was a distinct advantage to keep milk from becoming putrid, but he pleaded that there was another side of the question: the milk which had been heated and churned and [illegible] be regarded as the same as milk drawn by t[illegible] mother. He would call for a declaration [illegible] he would call for a declaration of the presence of chemical preservatives. [illegible] f food was a thing which, in his opinion, should [illegible] "By I[illegible] He quite admitted that preserved food must always have a place in all dietaries, and if urban communities were becoming more and more dependent upon preserved food then he sub[illegible] I know where they could [illegible] Physicians of London. His general conc[illegible] preservatives in food were that it was air[illegible] their use, but that they should be strictly re[illegible] use preservatives they ran the risk of causing injury by food which was decomposing, but, on the other hand, if they used preservatives in too large quantity they might do harm through the preservatives themselves. Moreover, it seemed to him that by the unregulated use of preservatives they might possibly get a double danger from the drug itself which was used as a preservative and from the decomposing food which might, in spite of the addition of a certain quantity of preservative, still undergo change and become dangerous to health. He was of opinion that the milk-supply of a large town could be carried on without the use of preservatives and that it was desirable that it should be so carried on. No doubt there was a danger of the use of preservatives leading to milk-vendors dispensing with precautions for cleanliness. Asked whether he had formed an opinion as to the relative harmlessness of the different chemical preservatives witness said he had formed an opinion, but the data upon which he had formed it were so imperfect that he should prefer not to express any opinion. He thought that more data were required before an opinion of permanent value could be formed. They were able to form opinions regarding the action of certain drugs from their administration either to animals or men, but the length of time over which such experiments extended was too short to allow of a complete opinion being formed in regard to their action. When he spoke of action he meant cumulative and possibly something more than cumulative—that was to say, the continued action over a length of time even though there should be no accumulation. If a man took a little excess of sulphate of magnesia every morning so as to cause rather too free purgation there was no accumulation in the body of the sulphate of magnesia, but yet at the end of a year the continued excessive use of the drug had given rise to a condition of weakness which would not have been present but for the excessive use of the drug. He thus distinguished between a cumulative effect and a continued effect. The amount of boric acid which could be got rid of by the human system in 24 hours was limited, but he did not know the limit. It would at least be difficult to know whether any accumulation was going on, and with the present data before them it would be impossible to say whether continuous, as distinguished from cumulative, effect was being produced. He should recommend, as the Select Committee of the House of Commons on Food Adulteration had recommended, that an authority be constituted to act as a court of reference upon scientific and other questions arising under the Food and Drugs Acts and that this authority be empowered to prescribe standard and limits for food. The data before such an authority would be imperfect and in order to get proper data he thought it would be necessary to insist upon the presence, nature, and proportion of the preservative in each article of food being notified by label or otherwise. By such notification, in the case of any symptoms arising in a consumer, it would at once be possible to ascertain what amount of any given preservative he had been taking in the course of a day and over what period of time the consumption had extended. By then comparing a number of such cases one would be able to make out definitely what effect had been produced by any given preservative in given quantity in consumers of a certain age, sex, and strength. He would certainly give a purchaser the option of purchasing fresh or preserved food. With regard to the recommendation of the Select Committee on Food Adulteration

innocuous, but the principle of having anything of the kind in presence was in his opinion most

on physics at St. Bartholomew's in the course of

antiseptic materials he would suggest that they should require a declaration of their presence.

The Committee then adjourned.

Appointments.

ries of Public Institutions, able for this column, are Office, directed to the Sub- Thursday morning of each

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DATTA, KRISTINALAL, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has to the Ferndale Colliery

appointed by the War Office South Africa.

DUNAHER, E. H. J., L.R.C.P. Lond., M.R.C.S., has been appointed Certifying Surgeon under the Factory Acts for the Rainham

Bebington, Eastham,

has been and also ry District,

Assistant Physician to the Royal Hospital for Children and Women, Waterloo

of Cork.

bury.

road.

Paralysed and Epileptic, Bloomsbury.

TINDAL, ANDREW STEWART, M.D., has been appointed an Assistant Physician to the Victoria Infirmary, Glasgow.

TUNNICLIFFE, F. W., M.D. Lond., M.R.C.P., has been appointed to the Chair of Materia Medica and Pharmacology in King's College,

TUR

TURTON, R., M.B., Ch.B. Vict., L.R.C.P. Lond., M.R.C.S., has been appointed Regimental Surgeon to the 2nd Norfolks at Glen Camp, north of Bloemfontein, South Africa.

TWIGG, WILLIAM, Surgeon Lieutenant-Colonel, of the Mid-Ulster Artillery, has taken over Medical Charge of Troops, &c., at Tregantle and Scraesdon, near Plymouth.

VERNON, C. M., L.R.C.P. Lond., M.R.C.S., D.P.H. Camb., has been appointed Medical Officer for the Workhouse of the West Ashford Union, vice J. H. Mitcheson, deceased.

WALKER, CYRIL HUTCHINSON, B.A., M.B. Cantab., F.R.C.S. Eng., has been re-appointed Ophthalmic Surgeon to the Bristol General Hospital.

WATSON, J. W., M.B., C.M. Aberd., has been appointed Medical Officer for the Elgin Infectious Diseases Hospital.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

ANCOATS HOSPITAL, Manchester.—Resident Junior House Surgeon. Salary £50, with board and washing.

BATH BASTERS DISPENSARY.—Resident Medical Officer. Salary £150 per annum, with furnished apartments, coals, gas, and domestic attendance.

BIRKENHEAD BOROUGH HOSPITAL.—Visiting House Surgeon. Salary £75 a year, with board, lodging, and washing, but no alcoholic liquors. A further sum is obtained by certain additional fees.

BIRMINGHAM AND MIDLAND EYE HOSPITAL, Birmingham.—Assistant House Surgeon. Salary £60 per annum, with apartments and board.

BIRMINGHAM GENERAL DISPENSARY.—Three Resident Locum Tenens between July 1st and the end of September for from two to three months' consecutive engagement. Terms 4 guineas per week, with [illegible]

BRE[illegible] married. Salary [illegible] attendance, fire, [illegible] on, South Wales.

BRISTOL ROYAL HOSPITAL FOR SICK WOMEN AND CHILDREN.—House Surgeon. Salary £120 per annum, with rooms and attendance (not board).

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Pathologist. Tenable, subject to annual re-appointment, for not more than three years.

CITY OF LIVERPOOL INFECTIOUS DISEASES HOSPITALS.—Assistant Resident Medical Officer for the above hospitals, unmarried. Salary £100 per annum (subject to a contribution to the Corporation Superannuation Fund), with board, [illegible] Hospital. Applications to the Town Cler[illegible]ool.

CITY OF LONDON ASYLUM, near [illegible] Medical Officer to act as Locum Tenen[illegible] 3 3s per week, with furnished apartments and board.

CORPORATION OF BIRMINGHAM—CITY HOSPITAL, Lodge-road.—Assistant Medical Officer. Salary £120 per annum, with board, residence, &c.

COUNTY ASYLUM, Prestwich, Manchester.—Assistant Medical Officer, unmarried. Salary commencing at £125, increasing annually by £25 to £250, with board, apartments, washing, &c.

COUNTY BOROUGH OF [illegible] icer of Health for the Borough. Salary [illegible] medicines, and surgical appliances provide[illegible] Applications to the Town Clerk, Town Hall, Halifax.

CRAIGLOCKHART POORHOUSE AND HOSPITAL, Edinburgh.—Resident Medical Officer. Salary £100 per annum, with board and apartments. Applications to the Clerk of the Parish Council, Council Chambers, Castle-terrace, Edinburgh.

CUMBERLAND AND WESTMORLAND ASYLUM, Garlands, Carlisle.—Junior Assistant Medical Officer, unmarried. Salary £130 a year, rising to £150, with board, residence, &c.

DEWSBURY AND DISTRICT INFIRMARY, Dewsbury.—House Surgeon. Salary commencing £100 per annum, with board, residence, and washing.

DEVONSHIRE HOSPITAL, Buxton, Derbyshire.—House Surgeon and Assistant House Surgeon for twelve months. Salary of House Surgeon £100 per annum. Assistant House Surgeon £50, with furnished apartments, board, and washing in both cases.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY, Dumfries.—House Surgeon. Salary £50 per annum, with board and washing.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Glamis-road, Shadwell.—House Physician for six months. Board, residence, &c., provided, and an honorarium of £25 granted conditionally.

GATESHEAD UNION.—Assistant Resident Medical Officer for the Workhouse. Salary £150 per annum, with furnished apartments, rations, and washing. Subject to superannuation deduction. Applications to the Union Clerk, Offices, Prince Consort-road, Gateshead.

HARRIS PARISH COUNCIL.—Medical Officer for the Southern Division of Harris. Salary £90, besides other public appointments and private practice. Apply to Mr. T. Wilson, solicitor, Lochmaddy, Clerk.

HIGHAM HALL ASYLUM, Norwich.—Assistant Medical Officer.

HOSPITAL FOR WOMEN AND CHILDREN at Leeds.—House Surgeon, non-resident, for six months. Salary at the rate of £125 per annum.

HOSPITAL FOR WOMEN (THE LONDON SCHOOL OF GYNÆCOLOGY), Soho-square.—Clinical Assistantships.

JESSOP HOSPITAL FOR WOMEN, Sheffield.—House Surgeon, unmarried. Salary £50 per annum, with board, lodging, and washing.

KENT COUNTY OPHTHALMIC HOSPITAL, Maidstone.—House Surgeon. Salary £100 per annum, with board and lodging in the hospital.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House Surgeon. Salary £140, increasing by £10 annually to £170, with rooms in the Infirmary and attendance (option of board at £40 per annum).

LINCOLN COUNTY HOSPITAL, Lincoln.—Assistant House Surgeon for six months. Honorarium £25, with board, residence, and washing.

LIVERPOOL DISPENSARIES.—Head Surgeon. Salary £200 per annum. And four Assistant Surgeons, all unmarried. Salary £100 per annum each, with board and apartments in each case.

LIVERPOOL NORTHERN HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with residence and maintenance in the house.

LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY, Loughborough.—Resident House Surgeon. Salary £100 per annum, with furnished rooms, attendance, and board.

MIDDLESEX HOSPITAL MEDICAL SCHOOL.—Lecturer on Chemistry. Salary £150 per annum, with special fees and an allowance towards expenses of department.

MILLS HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Junior Resident Medical Officer for six months. Salary at the rate of £40 per annum, with board, attendance, and washing.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Albany Memorial), Queen-square, Bloomsbury, London.—Pathologist. Honorarium of 50 guineas annually.

NEW HOSPITAL FOR WOMEN, 144, Euston-road, London.—Medical Woman as Resident Obstetric Assistant.

NORTH-WEST LONDON HOSPITAL, Kentish Town road.—Resident Medical Officer and Assistant Resident Medical Officer, each for six months. Salary at the rate of £50 per annum for each post.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £[illegible], all found except board.

OLDHAM INFIRMARY.—Senior House Surgeon. Salary £[illegible] per annum, with board, washing, and residence.

PARISH OF FULHAM.—Second Assistant Medical Officer at the Infirmary, Fulham Palace road, W., for six months. Salary at the rate of £[illegible] per annum, with board, furnished apartments, and washing. Apply to the Clerk to the Guardians, Office, Hammersmith, W.

PARISH OF ST. GILES, Camberwell.—Assistant Dispenser for the Infirmary at Havil-street, Camberwell—male or female. Salary £60 per annum.—Apply to the Clerk to the Guardians, Offices, 29, Peckham-road, S.E.

PONTEFRACT GENERAL DISPENSARY AND INFIRMARY.—Resident Medical Officer. Salary £150 per annum, with furnished rooms, fire, lights, and attendance.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House Surgeon. Salary £60 a year, with board, lodging, and washing.

ROYAL BERKS HOSPITAL, Reading.—House Surgeon. Salary £60 per annum, with board, lodging, and washing. Also Assistant House Surgeon. Salary £50 per annum, with board, lodging, and washing. Both appointments for one year.

ROYAL HALIFAX INFIRMARY.—Third House Surgeon, unmarried. Salary £50 per annum, with residence, board, and washing.

ROYAL NATIONAL HOSPITAL FOR CONSUMPTION, at Ventnor.—Clinical Assistant. Board and residence and laundry provided. Apply to the Secretary, London Office, 34, Craven-street, Strand, W.C.

ROYAL PORTSMOUTH, PORTSEA, AND GOSPORT HOSPITAL.—Assistant House Surgeon for six months. Salary at the rate of £50 per annum, with board and residence.

SALOP INFIRMARY, Shrewsbury.—Assistant House Surgeon for six months. Salary at the rate of £40 per annum, with board and washing.

SCHOOL BOARD FOR LONDON.—HOMERTON RESIDENTIAL SCHOOL FOR DEAF CHILDREN, High-street, Homerton.—Medical Officer. Salary £25 per annum. Applications to the Clerk, Homerton School for the Deaf, Offices, Victoria Embankment, W.C.

STROUD GENERAL HOSPITAL.—House Surgeon. Salary £50 per annum, with board, lodging, and washing.

SURREY COUNTY ASYLUM, Brookwood, near Woking.—Third Assistant Medical Officer, unmarried. Salary £120, rising £10 annually to £150, with board, lodging, attendance, and laundry.

THE CHIEF INSPECTOR OF FACTORIES gives notice of a vacancy for a Certifying Surgeon under the Factory Acts at Loughton, in the county of Essex.

THE GUARDIANS OF THE ST. GEORGE'S UNION.—Second Assistant Medical Officer at the Infirmary, Fulham-road, S.W., for one year. Salary £70, with board, residence, and washing. Apply to Dr. H. W. Webster, at the Infirmary.

THREE COUNTIES ASYLUM, Arlesey, near [illegible] Medical Officer (male), unmarried. [illegible] per annum, with board, apartments, [illegible] Applications to Mr. F. G. Butler, Clerk, St. Neots, Hunts.

TIVERTON INFIRMARY AND DISPENSARY.—House Surgeon and Dispenser, unmarried. Salary £75 per annum, with board and residence.

WANDSWORTH AND CLAPHAM UNION INFIRMARY, St. John's-hill, near Clapham-junction.—Junior Assistant Medical Officer for three months. Salary at the rate of £60 per annum, with board, lodging, and washing.

WARNEFORD HOSPITAL, Leamington.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

WESTERN GENERAL DISPENSARY, Marylebone-road, London.—House Surgeon, unmarried. Salary £75 per annum, with board and residence and 10s. a month for washing.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Assistant Physician.

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Resident Obstetric Assistant for six months. Board and lodging in the hospital [illegible]

[illegible] STAFFORDSHIRE GENERAL HOSPITAL.—Assistant [illegible] for six months. Honorarium given at the rate of £50 per annum, and board, lodging, and washing.

YORK LUNATIC ASYLUM, Bootham, York.—Assistant Resident Medical Officer. Salary £130 a year, with board, washing, and attendance.

Births, Marriages, and Deaths.

BIRTHS.

ALLEN.—On May 14th, at Midhurst, Sussex, the wife of William Allen, M.B., of a daughter.

DOVE.—On May 15th, at Crouch-hill, N., the wife of Percy W. Dove, M.B. Lond., M.R.C.S., of a son.

FARTHING.—On May 9th, at Highfield-road, Dartford, the wife of T. Farthing, M.B., of a daughter.

HARRIS.—On May 13th, at Oxford-road, Manchester, the wife of Thomas Harris, M.D., of a son.

RICHARDSON.—On April 24th, at Liverpool street, Dover, the wife of Joseph Richardson, L.R.C.P., L.R.C.S. Edin., of a son.

WILLS.—On May 15th, at Lower Seymour-street, Portman square, W., the wife of W. A. Wills, M.D., of a daughter.

MARRIAGE.

STEDMAN—WHEWAY.—On May 8th, at St. Thomas's, Surbiton, Savignac Bell Stedman, M.R.C.S., of Binbrook, Lincolnshire, to Jane Grace, younger daughter of the late George Wheway, of Nuneaton.

DEATHS.

ATKINSON.—On May 16th, at Swanton House, Ashford, Kent, Charles Stephen Abbott Atkinson, M.R.C.S., L.S.A., aged 53 years.

HARPER.—On the 14th instant, at 25, Rosary-gardens, South Kensington, after a brief illness, Helen Watson, the loved and loving wife of James Harper, M.D., aged 32.

KEMPE.—On May 12th, at Lancaster-road, Bayswater, Charles Patrick Kempe, M.D., LL.D., M.R.C.S., L.M., L.S.A., aged 66 years.

PAYNE.—On May 13th, at Dryden House, Lincoln-road, Peterborough, George Spike Payne, M.R.C.S., aged 52 years.

THISTLE.—On May 7th, suddenly, at Inverness-terrace, W., William G. Thistle, B.A. Oxon., M.R.C.S., L.R.C.P., aged 45 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages and Deaths.

Notes, Short Comments, and Answers to Correspondents.

A QUESTION OF DEATH CERTIFICATION.

To the Editors of THE LANCET.

SIRS,—By the same post I am sending you a copy of the *Royal Cornwall Gazette* containing the account of an inquest held last Tuesday at the Town Hall, Truro, on the body of a child named Ethel Jose whom I saw just prior to death and as to the cause of whose death I felt myself, after investigating the circumstances, conscientiously able to give a certificate. May I trust to your courtesy to give publicity in your journal both to the newspaper report and to the following supplementary remarks I have to make thereon, as I think the case will prove one of interest to the medical profession generally?

To proceed, then, as I saw the child just prior to death, as I saw no suspicious signs whatever to make me surmise foul play, no sign of a bruise, no sign of malnutrition, and as the whole history of the case clearly pointed to the existence of cerebral meningitis, I felt myself perfectly authorised to certify death as having happened from that cause. This visit of mine to the deceased was paid on Friday, May 8th, and after having given the certificate I heard nothing further with

perform on the body of the above mentioned deceased.

Now, I ask this question, Was it right of the coroner to act in this high handed way and, [illegible] whatever with me relative t[illegible]

[illegible] the child was dead before I arrived and that she had been previously beaten black and blue by her mother. On the falsity of both these assertions I could have assured the coroner had he had the courtesy to have consulted me. He ignored me entirely, however. I was not able to be present at the post-mortem examination performed by Mr. Branwell owing to a prior engagement, but you will see that that medical man proved my diagnosis to have been a correct one by finding, on opening the skull, that there was meningitis. Thus my certificate was proved to be correct.

The coroner does not deem it necessary to subpœna me to appear as a witness at the i[illegible] he summons n[illegible] following day. [illegible]

[illegible] received from the coroner [illegible] informs me that the jury have required me to be called, not as a scientific witness, but to explain and account for certain statements made by the mother of the child. After reading to me the mother's evidence he at once commenced a severe cross questioning on *scientific subjects*, and after the jury having given their verdict and all in my favour he refuses to grant me my fee, his reason for so doing being that I had not appeared without a subpœna the day previous and so gave the coroner, the other medical man, and the jury the inconvenience of appearing again. But surely this is nonsense, for it was the fact that I should get no fee that caused me to absent myself from the first day's inquest, and my willingness also, knowing that I had acted conscientiously in giving the certificate, to let the matter be investigated in my absence. But the coroner rules that I am to go without my fee after he has summoned me because I was ill [illegible] come without a fee the day before. This may [illegible] coroner [illegible] light and [illegible] it was a [illegible] he cause [illegible] it been [illegible] n this is [illegible] needless.

Please note that Mr. Branwell did not state, as he appears to have done in the newspaper report, that worms did not produce convulsions. What he denied was that worms produced "meningitis." Apologising for taking up so much of your valuable space and thanking you in anticipation for your insertion and comments,

I am, Sirs, yours faithfully,

W. A. GORDON LAING, M.D. Glasg.

Ambleside Villa, Edward street, Truro, May 14th, 1900.

*** We are only able to give a short abstract of the proceedings as reported in the *Royal Cornwall Gazette* of May 10th, 1900. On May 7th an inquest was opened at the Town Hall, Truro, by Mr. R. L. Carlyon, concerning the death of Ethel Jose, aged seven years, the illegitimate child of Jane Jose, who is unmarried and has had seven children, of whom four have died. She lived out. Jose in her evidence said that Ethel had complained on May 3rd of being tired and on the morning of May 4th of a pain. From nine o'clock until 11 she was unconscious, so Jose went for Dr. Laing, who came at once. The child died almost [illegible] mother to go to his house for [illegible] She did so and he gave it to [illegible] notified Dr. Laing of the inquest and had received a note from him in which he said that he considered he was justified after the inquiries he had made in giving a certificate that Ethel Jose had died from meningitis. The inquest was adjourned until May 8th for Dr. Laing to attend. He was subpœnaed to "give an explanation of the evidence of Jane Jose." Mr. C. Branwell, who had made the post-mortem examination at the order of the coroner, Dr. Laing being asked to attend, said that he had found evidence [illegible] the intestines. Dr. Laing gv [illegible] Jose and her family for some t[illegible] hether the child was legitimate [illegible] lying. He asked the grandmother some questions and she replied that the child had had convulsions and twitchings. He did not think that there was anything wrong and therefore he gave the certificate. The jury found death to have occurred "from natural causes as expressed in the doctor's certificate." We do not see why Dr. Laing should be deprived of his fee, but had he known all the family circumstances he might have hesitated in giving a certificate. For although the certificate proved quite correct the case was one for a coroner's inquiry, if only in the interest of the mother, concerning whom there were sinister rumours.—ED. L.

"UNUSUAL LAPSE OF TIME BETWEEN TWO PREGNANCIES."

To the Editors of THE LANCET.

—The letter of Mr. Pridham in THE LANCET of May 12th on an [illegible] lapse of time between two pregnancies recalls to my memory [illegible] of the late Dr. —— in the south of Ireland. He had two [illegible] by his wife, a boy and a girl. At the time of the girl's birth [illegible] was 25 years old and serving as captain in a Highland regiment at the siege of Sebastopol.

I am, Sirs, yours faithfully,

Cavendish row, Dublin, May 14th, 1900. GEORGE FOY.

SANATORIA FOR PHTHISICAL PATIENTS.

To the Editors of THE LANCET.

SIRS,—Could you or one of your readers kindly tell me of any sanatorium in the south for the open air treatment of phthisis suitable for a young lady who earns her living as a lady's companion and whose means are strictly limited? The few I have been in communication with are quite beyond her reach.—I am, Sirs, yours faithfully,

May 14th, 1900. G. M. A.

*** It is a little difficult to answer our correspondent's question without knowing exactly what his patient could afford to pay. He will find a list of homes and terms in THE LANCET of Sept. 9th and 23rd, 1899. In answer to a correspondent published in THE LANCET of May 5th, 1900, we said that the usual fees are from two to seven guineas per week, but that possibly a few beds can occasionally be had for less.—ED. L.

A DAY OF REST FOR NURSES.

THE nurses of the metropolitan hospitals and of the London nursing institutions are again invited to spend a "day of rest" at Hertingfordbury on Wednesday, June 27th. The addresses at the two short services held in the parish church will be given by the Dean of Windsor. As hospitality is completely provided the expense to the nurse is limited to the railway fare of 2s. 6d. Any who may wish to be present should communicate with the Rev. A. G. Lecke, St. George's Hospital, Hyde Park, or with Canon Burnside, rector of Hertingfordbury, Hertford.

ONIONS IN TYPHOID FEVER.

To the Editors of THE LANCET.

SIRS,—During my stay in Chili, South America, in 1885 an old Chilian practitioner told me that the juice of onions was a sure cure for typhoid fever if given in its early stages. I have never seen any literature bearing on this subject and would like to know if any member of the profession can give me further information.

I am, Sirs, yours faithfully,

ARTHUR A. COTTEW, L.R.C.S.I., L.R.C.P.E., &c.

Station road, Portslade, May 11th, 1900.

"APOMORPHINE AS A HYPNOTIC."

To the Editors of THE LANCET.

SIRS,—When we describe apomorphine as an expectorant and emetic we have not summed up all its uses or reached the depth of its powers, and that we have in it a remedy of far greater use was shown by your annotation of a paper by Dr. C. J. Douglas in THE LANCET of April 14th. My experience with the use of the drug may therefore interest some and induce others to give a further trial to it for its hypnotic power. Some two years ago I was called to a patient suffering from delirium tremens and who, I was informed, had within the last two hours drank half a pint of brandy. When I arrived she was simply raving,

With the hope of producing emesis and getting rid of some of the stuff I gave her . . . of apomorphine. Charging the syringe with . . . I . . . three and after waiting for a short time and getting no result I repeated the injection with a like quantity. Still there was no result except a quieting effect. I then repeated the injection, using the . . . a slight attempt at retching, bu . . . the . . . but . . . I lef . . . be sent for if necessary. Nothing, however, occurred, and when I visited on the following morning the patient was quite rational and quiet. I was informed that there had been no sickness and that she had slept soundly and placidly for about two and a half hours. Some days later the same condition of things arose with this patient, and, guided b . . . , I at once gave an injection of five minims . . . , and after waiting five minutes with . . . antity and very soon the desired sleep c . . . hours.

Again, in June, 1899, I wa . . . from delirium tremens and who, . . . slept for three nights. There was great . . . m and it was necessary that he should l . . . emembering my former case I determined . . . again and gave an injection of five minims, and there being no emesis after five minutes I gave . . . In 10 minutes he was in a calm sleep and re . . . o hours, when he awoke much refreshed and qui . . . me was the absence of emetic action of the dru . . . when I had used it for that purpose, from five to 10 minims had acted satisfactorily, but I had noticed that the patient . . . This I had attributed to the exhaust . . . f vomiting. I am now inclined to t . . . notic action of the drug, but why there should be an absence of emesis in the presence of delirium I cannot understand. Possibly further trial will solve the difficulty.

I am, Sirs, yours faithfully,

South Lambeth-road, S.W. J. MILLER.

THE OLD STORY.

THE following appeared in the *Evening News* of May 12th:—

SHAMEFUL, IF TRUE.

At a Stratford inquest, to-day, Mrs. Prentice, of 43, St. James'-road, Forest Gate, said that her husband being taken very ill about 12 o'clock at night she sent her son for a doctor. The first two he called on point blank refused to come, the third said he was too seedy to get out of bed at that time of night.—Dr. Cummins said if he had been called in earlier life might have been saved.—A juror: It's simply scandalous.—The coroner: You can't compel them.—The jury returned a verdict of natural causes, and the foreman strongly censured the doctors "for their inhuman conduct."

It seems to be absolutely impossible to impress upon the public that a medical man, unless he be officially in charge of patients at a hospital, is in no way bound to attend a summons unless he likes, and even a hospital officer is only bound to obey the summons of an accredited messenger. There is no question of humanity or inhumanity in the matter. Take the case of a butcher and suppose a woman were to come and say, "My husband is dying from starvation, give me a chop." The butcher might or might not hand over the chop. In all probability he would not, and we are quite certain that in such a case no coroner's jury would censure him. But censure is as much deserved in one case as in the other. One of the medical men in this case was ill, but we suppose that a medical man has no right to be ill.

WANTED—A DIAGNOSIS.

To the Editors of THE LANCET.

SIRS,—I have under my care a man with what appears to be a new growth of the skin, and from the accompanying description I hope you will enable me to give it a name. *Situation.*—Inner side of left thigh, more on front aspect, at junction of upper third with lower two-thirds of length of thigh. *Area.*—Patch about three and a half inches by five, divided into two areas by a healthy strip one-half to three-quarters of an inch across. It is raised and the whole skin is thickened to about a quarter of an inch and in places even more. *Colour.*—At first red—due to irritating ointment which had been used; now plum like—this perhaps caused by the mercurial ointment which he is now using. At a distance the whole effect looks strongly like a very tortuous and enlarged varicose accumulation of veins. *Duration.*—Six months, pain at first, none now. Great itching at commencement, none now. Commenced as papules which seem to have run and become confluent. No sign of pustulation or discharge. He denies syphilis, and as he has been in the army he is having specific treatment which seems to benefit him. Thanking you in anticipation,

I am, Sirs, yours faithfully,

May 11th, 1900. A. A. B.

*** Our correspondent does not mention what is the consistence of the growth which he describes or whether the skin is adherent to the swelling or the swelling to the deeper structures. So far as it is possible to form an opinion from the data furnished we are inclined to think that the growth is probably gummatous in nature.—ED. L.

ACETYLENE LAMPS FOR BICYCLES.

. . . of the lamp. The Phos Acetylene Company of 59 & 60, Chancery-lane, W.C., for example, have sent us a bicycle lamp which is provided with a steatite burner giving a flame having length rather than breadth, besides which the reflector consists of a series of concentric grooves so that the light does not fla[Third House]... area. We agree that these are improvements, bu[sidence, board, and] ... to this system of lighting still obtain. The ... [CONSUMPTION, at V]... from carbide is irregular and difficult to cont[nce and laundry pro]... back, however, is that when it is required t[o ... 54, Craven-street, Stra]... the evolution of acetylene proceeds in accor[... AND GOSPORT HOSPITAL.—... ths. Salary at the rate of] ... ter that is in contact with the carbide[... nce.] ... a splendid illuminant, but we have not ...[—Assistant House Surg]... which adapts this light satisfactorily on all ... [of £40 per annum, with ...]

THE HEALTH OF ...

To the Ed...

SIRS,—I should be much obl... readers could tell me where I can get any st... health of the English public schools.

May 14th, 1900.

TURNER'S ...

MR. H. G. TURNER, o . . . the inventor of the useful Bi-carrier, ha . . . f a tool-bag which possesses distinct merits. It is made solidly of leather and the front being attached to the sides by a gusset anything can be conveniently taken from the inside of the bag. An . . . pockets prevents the tools from rattling, . . . by which attachment is made to the back stays renders the bag rigid and makes it at the same time capable of being detached instantaneously. On the front flap is a celluloid plate at the back of which the cyclist's name and address can be affixed. This useful adjunct to the cyclist's comfort can be obtained at the prices of 3s. and 4s. according to quality.

S.—We believe that where the Lawrence sterilising apparatus has been in use, both on the large and . . . given satisfaction. The address of the makers . . . Water Steriliser Company, Norland Yard Wor . . . W., to whom our correspondent should apply for . . .

ERRATUM.—In an annotation headed "Pneumonia in Middlesbrough" which appeared in THE LANCET of May 12th, p. 1380, reference is made to the article upon Pneumonia in the fifth volume of Allbutt's System of Medicine as being written by Dr. William Ewart. This is incorrect, the writer of the article in question being Dr. Pye-Smith.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 17th, 1900.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind.	Rainfall.	Solar Radia in Vacuo	Maximum Temp Shade	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
May 11	30·04	S.E.	...	85	60	40	45	49	Fine
" 12	30·05	S.E.	...	70	61	45	45	48	Overcast
" 13	30·03	N.E.	...	71	61	43	44	47	Cloudy
" 14	29·93	N.E.	...	101	56	39	43	47	Cloudy
" 15	30·06	N.E.	...	101	59	40	45	49	Cloudy
" 16	30·09	N.	...	108	59	40	45	48	Overcast
" 17	30·13	N.	...	97	59	43	43	46	Overcast

During the week marked copies of the following newspapers have been received: *Dundee Advertiser, South Wales Daily News, Sheffield Daily Telegraph,* . . . *Scarborough Daily Post, Financial News,* . . . *Leeds Mercury, Bradford Observer, Liverpool Daily Post, Blackburn Daily Telegraph, Westminster Gazette, New York Sun, Clifton Chronicle, Mandalay Herald, Standard, Birmingham Daily Post, Norfolk Weekly Standard, Glasgow Herald, Manchester Guardian, Pioneer Mail, Times of India, Lincolnshire Daily Post, Nottingham Daily Guardian, Bristol Mercury, Citizen, Scotsman, United Service Gazette, Builder, Architect, Yorkshire Post, Brighton Gazette, Melbourne Age, Cornish Times, Public Health Engineer, Stockton Herald, Kentish Observer, Newark Advertiser, Perth Constitutional, Hertfordshire Mercury, Willesden Chronicle, City Press, Reading Mercury, Mining Journal, Grimsby News, Kettering Guardian, Colchester Mercury, Dover Express, British and Colonial Printer, Coventry Times, Lakes

Daily Dispatch, South Africa, Surrey Advertiser, Local Government Journal, Sanitary Record, Royal Cornwall Gazette, Staffordshire Advertiser, Y Seren (Bala), Galway Observer, Weekly Free Press and Aberdeen Herald, Dorking Advertiser, &c., &c.

Medical Diary for the ensuing Week.

OPERATIONS

HOSPITALS.

st London (2.30 P M), London

Throat (2 P M)

(2 P M and 6 P M), Royal Ear (3 P M.)

Cancer (2 P M)

THI

St Mark's (2 P M)

P

At the Royal Eye Hospital (2 P M), the Royal London Ophthalmic (10 A M), the Royal Westminster Ophthalmic (1 30 P M), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES

M P M Prof V Lewes The (Cantor Lecture.)
P M Annual Conversazione Oration)—Dr J K. Fowler: th Century

various forms of bullets)

THI BRITAIN idential Condi and the , Dr S

Mackenzie, and others will join in the discussion Cases will be exhibited as usual

and Nuclein —Dr W es of a Case of Graves (shown at the Society,

April 29th, 1890)

LECTURES, ADDRESSES, DEMONSTRATIONS, &c

MONDAY (21st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W C.)—4 P M Dr C Fox: Consultation. (Skin.)

AND POLYCLINIC Ibent. Consulta-

ILEPTIC (Queen-ella.

AND POLYCLINIC (22, Chenies-street, W.C.).—4 P M. Dr C. G. Hawthorne: Consultation. (Medical.)

BERLINA HOSPITAL (Southwark bridge-road, S E.).—4.30 P M. Mr S. H A. Stephenson: Clinical Demonstration on Eczematous (Phlyctenular) Affections of the Eye. (Post graduate Course)

AL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton)—4 P M Dr. C. T. Williams: The Relation of Pleurisy to Pulmonary Tuberculosis.

THURSDAY (24th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.)—4 1 M. Mr. J. Hutchinson: Consultation

Abercrombie: Medical Cases

Ormond street, W C)—4 P M

Mr B Pitts Demonstration of Selected Cases

FRIDAY COLLEGE AND POLYCLINIC
(22, Ch H bplcer: Consultation
(Eye.) Practical Ophthalmology
Demonstration XI

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE, OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager"*

We cannot undertake to return MSS. not used

MANAGER'S NOTICES.

TO SUBSCRIBERS

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C, are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect

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SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

Communications, Letters, &c., have been received from—

A.—Mr. R. B. Anderson, Lond.; Army Veterinary Department, Director-General of; Dr. W. Abbott, Lond.; Mons. J. Astier, Asnières; Messrs. Allen and Hanburys, Lond.; Mr. G. J. Arnold, Torquay; Messrs. Arnold and Sons, Lond.; Ancoats Hospital, Manchester.

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C.—Dr. H. Campbell, Lond.; Dr. F. G. Clemow, Lond.; Messrs. A. H. Cox and Co., Brighton; Miss S. Campbell, Ajmir, India; City of Bristol Asylum, Clerk of; Carnos, Ltd., Lond.; County Asylum, Prest- [illegible] erland [illegible] Clerk [illegible] Lond.; [illegible] Lond.; [illegible] Lond.; City of London Asylum, near Dartford, Clerk of.

D.—Dr. D. Keyser, Brussels; Messrs. Derry and Sons, Nottingham; Durham County Asylum, Winterton, Secretary of; Doré Gallery, Lond.; Dr. T. O. Dudfield, Lond.

E. [illegible]

F.—Mr. Harding Freeland, Lond.

G.—Mr. Gabb, Lond.; *Girls' Realm (The)*, Editor of; Gorton Urban District Council, Clerk of; Great Eastern Railway, Traffic Manager of; Gledhill's Medical Agency.

H.—Mr. J. J. Harding, Ballincollig; Haydock Urban District, Medical Officer of Health of; Mr. O. Holmes, Pontefract; Messrs. P. Harris a[illegible]; Miss A. [illegible]; Mr. A. [illegible]; Dr. S[illegible], Lond.; Mr. J. Heywood, Manchester; Mr. H. G. Howse, Lond.; Dr. J. Hinshelwood, Glasgow; Mr. J. H. Harris, Gayton; Heigham Hall Asylum, Norwich, Medical Superintendent of; Dr. H. C. Howard, Lond.; Mr. Warrington Haward, Lond.

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An Address

ON

THE WOUNDED IN THE PRESENT WAR.

Delivered before the Royal Medical and Chirurgical Society on May 22nd, 1900,

BY SIR WILLIAM MACCORMAC, BART., K.C.V.O., F.R.C.S. ENG. AND IREL.,

PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND, CONSULTING SURGEON AND EMERITUS LECTURER ON CLINICAL SURGERY, ST. THOMAS'S HOSPITAL.

MR PRESIDENT AND GENTLEMEN,—If in deference to your wishes I must make some observations on matters of surgical interest in connexion with the war, I fear I may somewhat repeat myself, as I have already said in the pages of THE LANCET almost everything I desired to say upon the subject, and in the last of my letters I formulated with some care the conclusions at which I had arrived after a large experience and after seeing an immense number of wounded in the hospitals of South Africa. As there are as yet but few statistical returns available it is not possible to formulate any precise conclusions, and the most exact analysis of the results of gunshot injuries similar to those inflicted in the present war is to be found in a communication made by Professor Nancrede of the University of Michigan to the last meeting of the American Surgical Association. In this interesting paper he discusses the outcome c [illegible] ounds he had himself observed [illegible] in 1898. These were inflicted by [illegible] bullets,[1] and the conclusions he arrives at strikingly resemble my own, as stated in THE LANCET of April 28th, 1900. In general character the Lee-Metford and Mauser wounds—for there is no essential difference between them—as compared to those I have seen before are extraordinarily mild. An uncomplicated flesh wound in any part of the body heals very rapidly and usually occasions the most trifling amount of inconvenience, and wounds of the chest and abdomen and of joints, as well as gunshot fractures of the bones, are recovered from in a manner which previously would not have been considered possible. This favourable result depends in the foremost place, in my opinion, on the small size of the projectile and on its high velocity and aseptic character. The nature of the injury is [illegible] ntused or lacerated wo [illegible] exit are very small and [illegible] up The absence of [illegible] infrequency with wh [illegible] material are carried into [illegible] atter occurrence was very common previously, but now it is very rare. In fact, I never saw an instance. As at the very ordinary firing range of 1000 yards the initial velocity is already diminished one-half deflection may sometimes occur, but this does not happen frequently, and the bullet may lodge for the same reason. Lodgment, indeed, occurs in a much larger proportion of the cases than was to be expected judging from the results of experimental trials. None of the appalling destructiveness attributed to the new projectile which experiment made on the dead body and on animals appeared to forecast was seen Nor was this feature witnessed in the Cuban war where the wounds presented precisely similar features and healed with the same facility as they did in South Africa, not only flesh wounds, but cases of fracture and of injuries involving all the great visceral cavities.

In speaking of perforating abdominal wounds I may mention that I had ventured to express a very decided opinion before going to the seat of war—an opinion founded on previous experience of the conditions met with in actual warfare—that the prospects of successful abdominal surgery were anything but bright. I did not then fully realise the comparative immunity which abdominal wounds caused by the Mauser and Lee-Metford bullets enjoy, but my recent experience, as well as that of other surgeons, serves to strongly confirm the opinion I had formed beforehand. Many enthusiastic young officers in the Royal Army Medical Corps and others, like Mr. Treves, went out full of hope of performing successful abdominal operations. I well remember that surgical genius, Marion Sims, full of the same hope on the eve of the battles of 1870. They had determined—and previous teaching largely justified the conclusion—to operate in those cases where the abdomen was without doubt traversed by a bullet and where the sufferer seemed in a fit condition to be operated upon. This opinion, however, must be changed. I believe I have seen more than 50 cases of injury of this kind recover without any interference beyond antiseptic occlusion, and in many instances not even that was accomplished. We know that comparatively few cases recovered after an operation during this war, and none, it is stated by Nancrede, recovered after operation during the Cuban war. I know of at least one case in which it may be fairly urged that recovery took place in spite of operation. It was that of a young man shot at a distance of 800 yards by a Lee-Metford bullet which passed through the cæcum.[2] The projectile entered behind through the right sacro-iliac synchondrosis and emerged in front half way between the right anterior superior iliac spine and the ninth costal cartilage. The abdomen was opened eight hours after, but the greatest difficulty was experienced in finding the intestinal wound. There was no sign of extravasation and the seat of injury was only discovered after much handling and squeezing of the bowel. The openings were readily closed by a couple of Lembert's sutures, the abdomen was washed out, and the patient recovered. I have no doubt that this man would have recovered without surgical interference, and other cases bearing on this point might be quoted (Fig. 1).

I think the rule in future must be to give patients so wounded a chance of recovery without operation. Evidence of serious hæmorrhage or of commencing peritonitis would indicate operation, and while there are some injuries so severe that no interference is possible, in simple uncomplicated cases of abdominal bullet-wound the patient enjoys, in my opinion, the best chance of recovery by being left alone. In the field hospitals the conditions are inimical to success and to succeed at all these operations must be performed in an early stage. The pressure after an action is at its greatest; the large number of wounded overtax the energies and resource of the surgeons. There are never enough, and there never can be enough, and time and means fail for the performance of operations necessarily involving an hour or two in their performance. In many places in South Africa the surrounding conditions were most unfavourable; the atmosphere was reeking with putrid dust, and the flies and other difficulties in maintaining asepsis rendered a successful abdominal operation impossible.

Nancrede goes so far as to say that an operation will too often determine the death of some patients who might otherwise have recovered and this I believe is only too likely to happen. He has further stated that all the cases operated upon during the Cuban war died, while he saw a number who had recovered without operation, and in the report of the Surgeon-General of the United States of America it is recorded that of 44 penetrating abdominal wounds 30 died and that operative interference was only resorted to in four of them. I can only explain this considerable immunity, which I believe was much greater in our own army, by the frequently empty state of the intestinal tract at the time of injury, the smallness of the aperture in the bowel made by the ball, its tendency to glue up or close up by adhesions without extravasation, and the early application of an antiseptic first dressing. In illustration I might refer again to an astonishing instance[3] of patient courage and endurance exhibited by a wounded army medical officer on the field at Colenso. Captain ——, R.A.M.C., was shot at rather a short range through the abdomen while he was in the act of dressing a wounded man He was in a stooping position while thus engaged, near the front of the fighting line, and was hit in the early afternoon. It so happened that he had to lie where he had been wounded for 12 hours before he was picked up. He was able to discover almost directly where the bullet had

[1] Weight of bullets.—Krag Jörgensen, 15·40 grammes, Lee Metford, 13·84 grammes, Springfield, 14·23 grammes, German Mauser, 14·69 grammes; Argentine Mauser, 13·94 grammes; Belgian Mauser, 14·10 grammes, Spanish Mauser, 14·00 grammes; Turkish Mauser, 14·00 grammes.—From "Las Proyectiles das Armas de Guerra," par Nimier et Laval. The Intelligence Department say that there is another Springfield bullet of 15 calibre weighing 22·38 grammes but that it was not used in the Cuban war.

[2] Vide THE LANCET, Jan. 6th, 1900.

[3] THE LANCET, March 3rd, 1900, p. 643.

entered in front through the rectus muscle about one inch below the right costal margin and one and a half inches from the median line, but he could not ascertain where it had emerged behind, which w[illegible] ght sacro-iliac-synchondrosis. Although [illegible] to be mortally injured, yet he tried to finish the dressing of his wounded comrade, and only desisted because he became giddy and faint and had to lie down. He had had nothing to eat or drink for 10 hours previously, and then only a little porridge, and he thought his best chance was to remain absolutely still, and this he did all the afternoon and on into the night until the stretcher-bearers arrived 12 long and weary hours afterwards. All this time he was watching and waiting for the certain advent of symptoms of peritonitis. None to his surprise came, but he told me that the distress, mainly pain in the back, from the constrained position was terribly hard to bear. During the night some passing Boers offered him water to drink, yet, consumed as he was with a raging thirst, he declined it, and begged two similarly wounded soldiers lying near him, shot also through the abdomen, to refuse likewise. They did not, however, show the same resolution; they drank copiously and one died beside Captain —— during the night after great agony, and the other the day afterwards in hospital. Words fail me to describe adequately the horror of such a situation or the courage and heroic endurance of such a man. He made a complete recovery, as truly he deserved to do (Fig. 2).

In the case of chest wounds the principle of non-interference and antiseptic occlusion may be most strongly affirmed. A large proportion of these cases recovered, often without noteworthy symptoms. In one instance I knew a man to run 800 yards after being shot through the chest. A Boer shot through the lung smoked his pipe comfortably the next day and on the following one insisted on going home to his wife. I might tell of many astonishing instances of recovery after gunshot passing through one and in some instances both lungs. The number of these cases which returned to duty is very remarkable. During the Cuban war the Surgeon-General of the United States of America states that there were 53 penetrating wounds of the thorax and that 30 of the men so injured returned to duty.

There has not been the free bleeding that was expected. Hæmothorax occurred occasionally and when urgent was, as a rule, permanently relieved by tapping. In a few empyema took place. In the Franco-German war the heavy bullets then employed caused a death-rate, exclusive of killed, of from 50 to 60 per cent., and hæmorrhage and empyema were very frequent. Nancrede mentions a case of recovery in which it was believed the heart had been traversed. I have seen three instances in which it was impossible to understand how the heart could have escaped unless the bullet were deflected who nevertheless made a good recovery.

1. In the case of a bombardier, Royal Horse Artillery, who was wounded on Feb. 16th,[1] the bullet entered over the third rib on the left side close to the sternum and one inch from its margin, pretty closely over the left auricle, I should suppose. It emerged through the tenth interspace on the same side, two inches external to the spine. If the heart and pericardial sac escaped it must have been a very near thing. When I saw the man five days afterwards he was in rather a bad way from pneumonia but he was alive and has, I trust, since recovered (Fig. 3).

2. In another case[2] the bullet entered the third interspace two inches vertically above the left nipple. It emerged through the eighth left interspace in the posterior axillary line. There was slight hæmoptysis for a few days but no other symptoms of any kind, and when I saw the man he was well (Fig. 4).

3. In a third case[3] the bullet entered the second interspace on the left side three inches from the margin of the sternum. It emerged through the fifth left interspace in the posterior axillary line. There was some hæmothorax, but he was free when I last saw him from all urgency and well on the way to complete recovery (Fig. 5).

4. This man was wounded at 600 yards. The bullet passed through the sternum in the middle line about two inches below the notch and therefore close to the junction of the first and second bones. It emerged through the right upper arm close to the posterior axillary fold. How, for instance, did the innominate escape, for it would certainly seem to be exactly in the track?

[1] THE LANCET, April 21st, 1900, p. 1153.
[2] THE LANCET, April 21st, 1900, p. 1153.
[3] THE LANCET, April 21st, 1900, p. 1153.

5. In this case the bullet apparently passed through the right sterno-clavicular joint and emerged about the middle of the spine of the left scapula. It would appear to have passed amidst the great vessels arising from the heart and the other not unimportant structures in this region without causing any serious hurt. The wounds healed by first intention and the man when I saw him was quite well (Fig 6).

There was nothing in any one of these cases to indicate that the bullet had not traversed a perfectly direct line from the point of entrance to the point of exit.

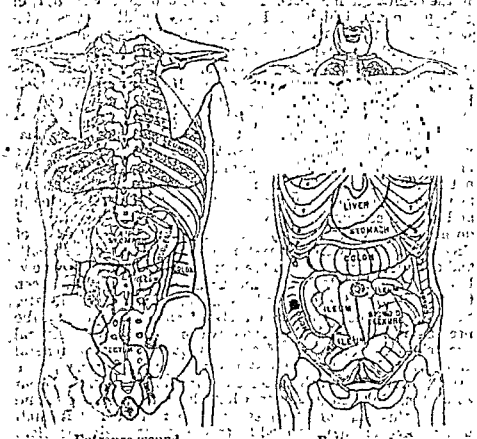
Uncomplicated gunshot fractures, even of the femur, rarely require amputation. A few amputations have been performed when complications arose, generally gangrene arising from arterial damage or because of septic infection, and some cases have gone wrong on account of prolonged transport, which is the worst thing that can happen to a fractured femur. If we take gunshot injury of the joints, and consider the injury of the knee-joint as an example, there can be no doubt that antiseptic occlusion should always be practised in the first instance unless there be some very serious complication. I have seen a large number of cases recover with free joint movement. In a few there has been some delay in recovery because of hæmarthros, but I do not recall any case in which amputation was performed for a simple perforating wound of the knee. Septic infection may of course have taken place in some cases, of which I do not happen to have heard, and an operation have been needful in consequence.

There have been very few formal resections practised. I only saw one. It was in a German ambulance at Jacobsdal and the result did not promise well. In the Franco-German war Nussbaum, Huter, and others performed many excisions, but the results were uniformly bad in the case of the knee. We all remember the great interest excited by the results obtained by Bergmann and Reyher in the treatment of knee cases during the Russo-Turkish war and the excellent record they obtained, so different from all previous experience. Now, it would seem that good results can be assured, almost as a matter of course, where primary occlusion is obtained at an early period. Similar results were seen in the Cuban campaign. Of 18 cases of wounds of the knee 14 returned to duty and one died. It is certainly not so much a matter of climate, as has frequently been urged. The climate in Cuba is very bad. Some 75 per cent. of the entire force suffered from fever of some kind, and there was not only an epidemic of typhoid fever but one of yellow fever as well.

Gentlemen, I must not weary you, but there are one or two other points to which, with your permission, I should like to draw your attention. I have said that the number of lodged bullets is considerable, and this is a surprising and unexpected result, especially when we consider that the muzzle velocity of the ball is about 1500 miles an hour. Nancrede estimates lodgment as occurring in 10 or 15 per cent. and I should think it was even greater. What, then, ought to be done in cases of lodgment of the projectile? It should be mentioned that, as a rule, a skiagram is taken in all cases of lodged projectiles and of fractures; but the radiograph affords no certain guide, although, as a rule, it gives great assistance; it may be difficult to interpret and on some occasions fails to serve. If the bullet be causing irritation, producing pain, or is likely from its position to be a source of future disturbance, certainly let it be excised, if this can be done without undue risk. But in many cases it causes no inconvenience of any kind, and I feel sure that in these it should be left alone, unless perhaps when lying immediately beneath the skin. John Hunter urged this view, and so have many others. One of Hunter's illustrious pupils, John Abernethy, once commenced his lecture in these words: "Sir Ralph Abercrombie received a bullet in the thigh, the surgeons groped, and they groped, and they groped, and Sir Ralph Abercrombie died." One may assume, I think, that not one of Abernethy's pupils who heard that lecture ever forgot it.

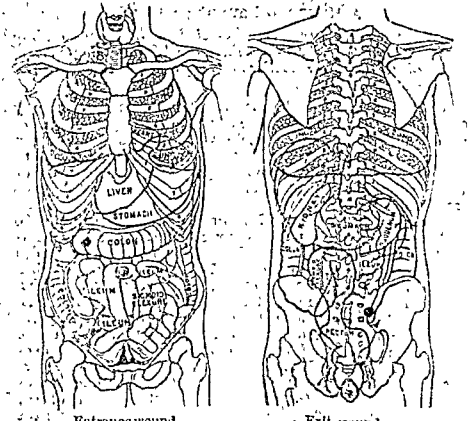
I myself have known two cases where death from hæmorrhage followed ineffective and protracted attempts to remove a projectile. I was recently present at another case of attempted removal of a bullet which had apparently been exactly localised by the x rays. The bullet was not found and the operation had to be abandoned on account of the very evident risk which further search would entail, and the pleural sac narrowly escaped being incised. I asked why the operation had been undertaken and was told that the man wished the bullet taken out; there was no other reason for its removal. I wish to mention this because I see that this hunting after bullets is once more recommended on the

FIG. 1.—*Bullet Wound of Abdomen.*



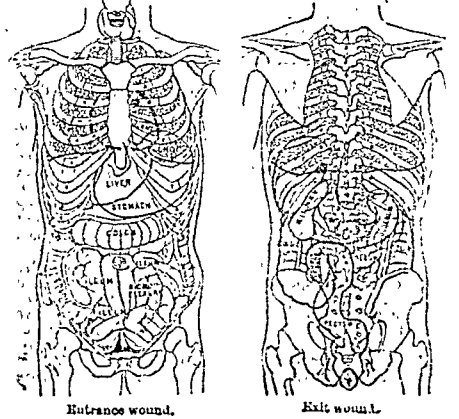
Entrance wound. Exit wound.

FIG. 2.—*Bullet Wound of Abdomen.*



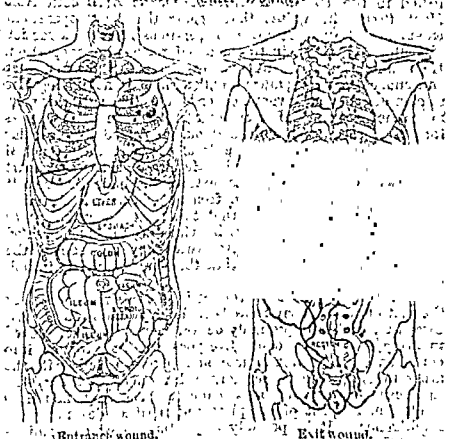
Entrance wound. Exit wound.

FIG. 3.—*Wound of Chest (?) involving Heart.*



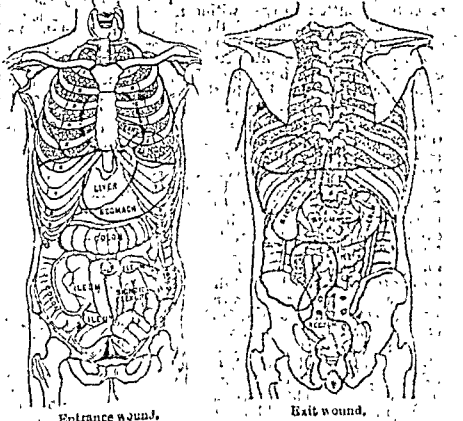
Entrance wound. Exit wound.

FIG. 4.—*Chest Wound.*



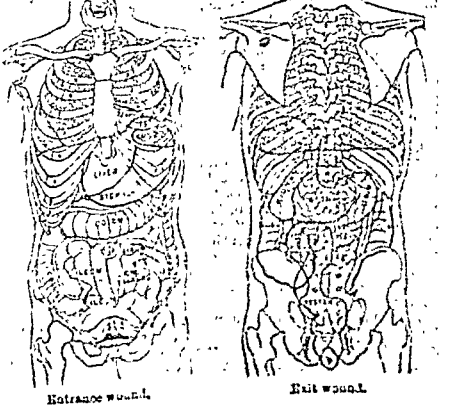
Entrance wound. Exit wound.

FIG. 5.—*Wound of Chest.*



Entrance wound. Exit wound.

FIG. 6.—*Wound of Chest.*



Entrance wound. Exit wound.

the hip-joint. You will find it stated in your anatomical text-books that "flexion of the hip-joint is arrested by the soft parts of the thigh and abdomen being brought into contact."* Now, gentlemen, this is a most important statement and its effect is far reaching. Is there a shadow of truth in it? I am afraid there is not. If you fix the pelvis by extending one hip-joint you will find that the normal limit of flexion in the other is about 90 degrees in the adult and that this varies with the age and habits of the individual. If you examine the joint as to the mechanism by means of which flexion is controlled you will see that it is by the impact of the margin of the acetabulum upon the neck of the femur. If you study the movements of flexion combined with those of adduction and abduction you will find that the degree of possible flexion varies inversely with that of adduction and directly with that of abduction, and that in extreme adduction the degree of possible flexion is very small indeed. In all these positions movement is controlled by the impact of these bones on one another and such control is of the greatest [illegible] described in previous papers the advan[illegible] to the labourer in the direct transmissi[illegible] locomotion and Figs. 3 and 4 illustrate [illegible] bone that result from [illegible] the importance of the [illegible] great, since when the [illegible] varying between the [illegible] in extreme adduction to that exceeding a right angle in extreme abduction the point of impact of the neck of the femur on the acetabular margin [illegible] a lever of the first order, the short [illegible] to the very little interval between this and the upper limit of the head, while the long arm is formed by the whole shaft of the femur or the entire leg if the knee is extended. It is by means of this

FIG. 1.

Fig. 1 represents the alteration in the axes of the fragments of the femur which results from the rotation of the lower one upon the upper in the manner described. It also shows very well the conditions I call mechanical or traumatic arthritis which have developed in the extremities of the bone in consequence of the variation from the normal in the manner in which pressure is transmitted through them consequently to the fracture.

FIG. 2.

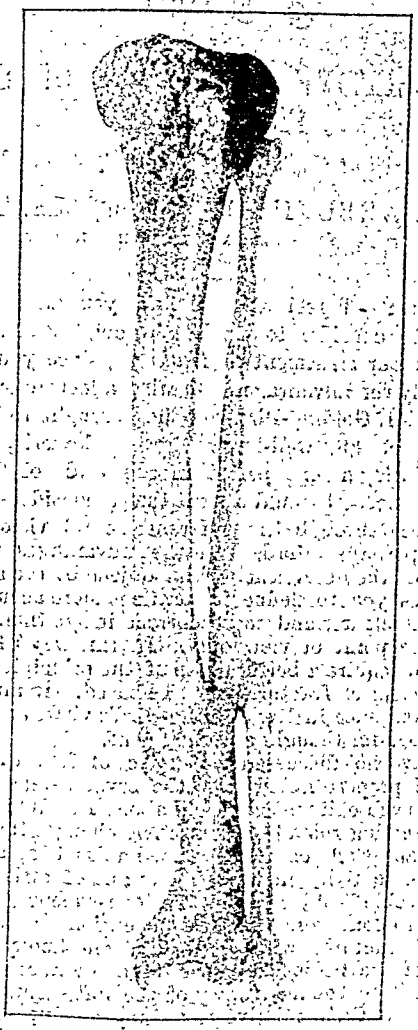


Fig. 2 shows the same alteration in the axes of the fragments consequent on the inward rotation of the lower fragments and the usual form of displacement.

FIG. 3.

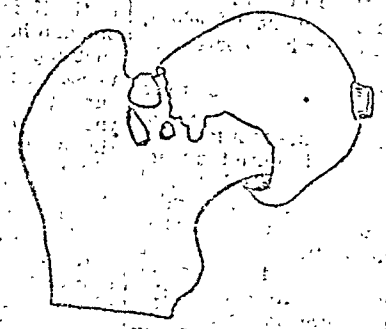
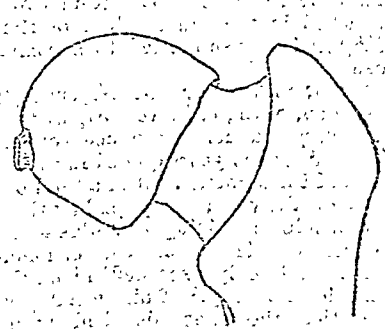


FIG. 4.



Figs. 3 and 4 represent diagrammatically the normal right femur of a coal-trimmer. They show the remarkable alteration in the form of the head, whose area is considerably increased by bone formation, articular cartilage being freely formed upon its surface, producing a mushroom-like appearance on its posterior surface. (See Fig. 4.) What it is particularly wished to call attention to is the development of a prominent ridge of bone and groove at the point of habitual impact of the neck of the femur against the acetabular margin. This can be seen in many varieties of labourers.

arrangement that intracapsular fracture of the neck of the femur, separation of the epiphysis of the head, acquired dislocation, and possibly also the congenital variety, and dislocation from disease are produced.

I noticed that in proportion as the lines of force through a joint are altered by a fracture of a long bone, so there are developed in it these changes which I have called "mechanical or traumatic arthritis," and which are popularly regarded as evidence of a disease called sometimes "osteo-arthritis" and at other times "rheumatoid arthritis."

The extent and character of these changes vary within wide limits with the age of the individual. I found that

* Gray's Anatomy.

in the young subject, a considerable alteration in the mechanics of a joint can be met after a time by the con-

the several parts of a growing line vary inversely as the pressure transmitted,
articular surface, now
down with remarkable
normal anatomy, where
the term "adaptive,"
tion. On the other hand, in the adult after a certain age, which varies largely with the circumstances of the individual and which is arrrived at much earlier in life in those who pursue a laborious existence than in the leisured classes, changes of quite a different nature result and in accordance with the most definite laws. These changes again for the sake of brevity I called "passive." They consist in the removal of articular cartilage at points of excessive pressure, induration, and frictional changes in the exposed bony surfaces, the deposit of bone on their margins, a diminished security of the joint, and all those changes which constitute one of the varieties of mechanical or traumatic arthritis. They vary in extent directly with the age of the patient at the time the injury is sustained and with the amount of alteration in the mechanics of the joint consequent on the alteration in the form of the bone produced by its fracture. They are naturally much more marked in the lower than in the upper extremity in consequence of the superjacent weight of the body and any added load being transmitted through the joints of the leg. Still, they occur to a marked extent in the arm and especially in those leading a laborious
dexterity for their livelih
definite evidence of mechan
of necessity in the adult on every fracture in which the displacement of the fragments is such as to alter the lines of force transmission through dependent joints from the normal to a degree varying directly with such alteration, with the age of the patient, and with the amount of force transmitted habitually through the joint.

I then determined to find out the clinical manifestations of
ensive inquiries
or-law officials,
ng the working
mined a large
ed in various
to be biased
house surgeon
the hospital),
others to make independent inquiries among the patients who had been treated at Guy's Hospital during a considerable period of time. The result of my observations was that I found that the mechanical depreciation following a fracture of the lower extremity is often very great indeed, and that when the individual is dependent on the complete security of his movements during locomotion the injury deprives him of his capacity to follow that employment any longer. Such people are firemen, scaffolders, steeplejacks, sailors, soldiers, painters, &c.; of course, in tailors, shoemakers, &c., the injury affects them but little financially. I was amazed at the unsatisfactory nature of the results which were obtained in our hospitals and elsewhere and at the loss to the value of the man as a money-making machine not only during a convalescence often very prolonged but also permanently. In many the traumatic arthritic changes did not arri
som
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relat
the patient had been after the fracture but that it depended entirely on the character of the fracture. I do not mean that the patient escaped harm at the hands of the surgeon, for most of them showed the inward rotation of the lower segment already referred to in a very marked manner with the inconvenience which it produced. My experience was confirmed in every particular by Mr. Steward, Mr. Beddoe, and others who had kindly helped me in the matter.

I had by this time come to the conclusion that the supposition that the surgeon is able to "set" fractures satisfactorily and to restore to their original forms broken bones when their ends had been driven apart by force from one another by manipulation and splints is in the lower extremity purely mythical; also that the idea that spasmodic muscular con-

where the long bones are surrounded by a lot of muscles, &c., these tissues form inextensile ties in the length of the bone or bones. When these are broken and their ends forced apart by injury a variable amount of hæmorrhage takes place into the soft parts about the fracture, and this is followed very rapidly by a corresponding inflammatory process which with the hæmorrhage increases the bulk of the ties in the length, shortening them up and opposing their elongation to their original length, and when at all marked renders it impossible by any force which can be exerted on the limb by traction to replace the broken fragments in apposition.

The difficulty of replacement varies directly with the amount of hæmorrhage and with the degree of the subsequent inflammatory processes. These suppositions are entirely verified by operative procedures which I have undertaken freely since 1893 in these cases of simple fracture. Under the deepest anæsthesia, when all muscular spasm was in abeyance, we found it necessary to exert often a very large amount of force by means of lion forceps, strong elevators, &c., to lever the fragments which had been freely exposed into apposition and in many cases to retain them there. These operations demonstrated the incorrectness of the statements of surgeons to the effect that they were able by manipulation and splinting to restore the long bones as those of the leg to their original form in simple fractures, and they also showed in an indisputable manner that muscular spasm
tion. They tau
acquaintance wit
my experiments on the dead body had previously suggested. One was that fractures—say, of the tibia and fibula—produced by indirect violence were practically almost always spiral in character and were due to torsion of these bone

FIG. 5.

A spiral fracture of the tibia.

usually around their long axis in the direction of abduction of the foot, and in these the fracture of the fibula was higher than that of the tibia. The character of this fracture is well illustrated in Fig. 5, in which both fragments are fortunately intact. You will notice that this is not an oblique fracture at all, but that each fragment terminates in a sharp V-shaped end which fits accurately by vertically cut and not sloping edges of compact tissue into a similarly shaped

interval in the lower fragment. There is occasionally comminution. The character of the fracture of the fibula differs somewhat because of the smaller calibre of the bone and its different shape and structure, but is on the whole similar to that in the tibia.

The fracture of the tibia produced by direct violence varies altogether in character from that just described. It may be transverse or oblique, and is perhaps more frequently comminuted; the fracture of the fibula resembles it and takes place at about the same level as that of the tibia In the fracture produced by indirect violence the lower fragment is almost always displaced upwards, backwards, and outwards behind the upper and this is also very often the case when the violence is direct. Apart from comminution the difficulty of bringing the fragments of the tibia into accurate apposition is much greater in the indirect than in the direct form of fracture, partly on account of the greater overlapping of fragments resulting from the injury, partly from the difficulty of getting the sharp pointed extremities of the fragments into their corresponding recesses which occupy very different planes, and partly because the fibular fracture is placed at a higher level and is also difficult to restore for the same reason. I have frequently found these operations very long, making a considerable demand upon one's ingenuity and requiring much skilled assistance. If great opposition to the replacement of fragments was experienced I exposed the fibular fragments also.

In direct fractures it was generally much easier to bring the fragments into accurate apposition, though in the vast majority of them the physical conditions were such that this could not have been effected without operative interference. Whether screws or wire or both were used depended entirely on the tendency to separation of the fragments and where any comminution existed the bits were perforated and fitted accurately in position with silver wire.

These considerations of the treatment of simple fracture by operation were first published by me in a paper in the Transactions of the Clinical Society for 1894, entitled "The Method of Treating Simple Oblique Fractures of the Tibia and Fibula more Efficiently than those in Common Use." In that paper I enunciated clearly the principles to which I have just called your attention. These views aroused

FIG. 6.

Fig. 6 represents such a fracture as is shown in Fig. 5, the radiograph having been taken after convalescence. A single screw was sufficient to retain the fragments in accurate apposition, and the mechanics of the patient were as perfect as they were before he sustained the injury.

FIG. 7.

Fig. 7 represents a fracture of the tibia produced by direct violence. The fracture of the fibula is at a slightly higher level and is not shown in the diagram. The direction of the fracture is oblique and there was much fissuring of the fragments. The result of the operation was to restore the mechanics of the part to their original condition.

much criticism and received support from very few. Indeed, my only supporter in the medical press was Mr. Alfred Parkin of Hull, formerly surgical registrar at Guy's Hospital, who wrote on the subject in THE LANCET in 1894.[7] As an example of the attitude that was assumed by my critics and also as showing the generally accepted teaching of the time I will refer briefly to two or three writers. The following is abstracted from a clinical lecture by Mr. Christopher Heath on "Fractures of the Lower Limb," published in THE LANCET in 1898[8]: "I would remind you how important it is, in fracture of the leg particularly, that the fracture should be set thoroughly and accurately. Of course I know well that there are many difficulties. Immediately after the accident all the muscles of the limb are more or less in a state of spasm, and tend, therefore, to pull the bones into abnormal positions, but that state of spasm passes off in the course of a few hours and you can [illegible] d patience to put the limb [illegible] less that is done, and done [illegible] treated the case properly." [illegible] where you find, the moment after you have set the limb, that the bones become displaced again, it would be quite within the bounds of good surgery to divide the tendo Achillis subcutaneously, or to drill the two fragments and put in pegs or screws to hold the bones together; and I may say that this method of pegging or screwing has been recommended by an enterprising surgeon *not only for compound but also for simple fractures.* But I cannot conceive how anyone can believe that it is justifiable to convert a simple into a compound fracture, and of this I am quite certain: that the majority of surgeons for the present will remain content with the usual methods of treatment." A further instance is to be found in a lecture by Mr. Marmaduke Sheild, published in the *Clinical Journal* of May 15th, 1895, in which he took as the text of his paper the final remark with which I concluded a lecture on Fractures which was published in the *Clinical Journal* of April 17th, 1895, entitled "Some Clinical Observations on the Principles involved in the Surgery of Fractures." [illegible] in question; "The treatment [illegible] esent is a disgrace to surgical [illegible] his paper for full details, but [illegible] was to the effect that if infinite [illegible] majority of cases "excellent results could be obtained without any operative interference." He insisted on the setting being postponed until the inflammatory effusion had to some extent subsided and the blood had begun to be absorbed. He believed that spasmodic muscular contraction afforded the obstacle to the accurate replacement of fragments and that it subsided in a week or ten days when he attempted to get the fracture into good position. He did not consider that the effusion and inflammation were a bar to the accurate replacement. Mr. Christopher Heath's opinion is that "the spasmodic muscular contraction passes off in a few hours" when, as he supposes, he restores the bone to its original form effectually and at once.

In order to accentuate still further the remarkable divergence of opinion that exists among surgeons as to the period and manner in which the unfortunately misleading process called "setting" should be effected and the obstacles opposing this I have extracted the following from an address on the Treatment of Fractures, by Mr. Pearce Gould, published in THE LANCET in 1897[9]: "Having arrived at a full and correct diagnosis the next point to attend to is to reduce the fragments at once, at the earliest possible moment, remembering that lapse of time always increases the difficulties in doing this, never lessens them, and soon makes them insuperable. This reduction of the fragments must be complete or perfect at once; we must not rest in any halfway house, content with improvement to day in the hope of still further correction to morrow." "The causes of the displacement [of the fragments] are either the fracturing force, the action of gravity, or the pull of muscles." These three factors would appear to constitute the "difficulties" previously referred to, but how they are exaggerated by delay is not very clearly stated. It is difficult to understand, if this is the case, why accurate apposition should not be effected since "the fracturing force" is no longer in evidence, while under an anæsthetic the "pull of muscles" would not exist. The "action of gravity" could not afford a very efficient bar to reduction of the displacement. In reference to the period of setting, *contrast this, for instance,* with Mr. Marmaduke Sheild's very positive statement as to "the folly of attempting at once to fix a bad fracture in accurate position." These diametrically antagonistic views make one long for definite arguments and scientific facts in support of them which can be met in a logical manner. I have merely called your attention to these statements to show that while surgeons hold very similar views—and, I believe, perfectly incorrect ones—as to [illegible] reduction and retentio[illegible] accurate apposition, y[illegible] good—in fact, if one [illegible] to its usually accepted signification, perfect—results by *methods which to the ordinary mind are mechanically absolutely antagonistic both in practice and in principle.* A very few years elapsed after the publication of the paper in the [illegible] Society before the process of [illegible] n the truth of the statements I [illegible] in a manner which admitted of no doubt, and at the present time some of the best surgeons in the world operate extensively upon such cases of simple fracture that they think require it.

Time will not allow me to deal separately with fractures of the several bones, but generally I would insist that, in every simple fracture in which it is important to the individual that the original form of his skeleton shall be retained and his mechanics suffer no alteration, the surgeon should, *failing to obtain accurate apposition as determined by the radiograph,* cut down on the seat of fracture and restore [illegible] He must not be [illegible] ood position" when [illegible] it, and in the case of the leg this is particularly important.

We must remember that the public imagine when we go through the ceremony of "setting" a fracture that we mend their bones *as skilfully and accurately as the carpenter* mends the broken leg of a chair or table, and that is or was the teaching of very many surgeons. Those who continue to assert that they are able to restore broken bones to their original form can readily substantiate the truth of their statements now by means of the radiograph, and if they have any confidence in them will doubtless do so. Up to the present, however, I have seen no evidence of this kind brought forward but merely vague statements that could not be met. *Again, some few surgeons would appear* to think that overlapping of fragments only produces a corresponding amount of shortening which they say is a matter of no practical importance to the patient. I wonder what attitude a judge and jury, faced with the radiographs, would take up in a compensation case if such a position was advanced by the surgical expert. In any case the patient should have the facts, including the radiographs of the fracture in the best possible position, laid clearly before him and he should be allowed to choose which form of treatment he prefers. I cannot help feeling that a clearer perception of the mechanical conditions which are present in fractures will influence surgeons very materially in favour of operative measures and that the treatment of fractures will be based on scientific principles and will soon cease to be a disgrace to surgery.

[7] The Treatment of Oblique Fractures of Tibia and Fibula, THE LANCET, April 21st, 1894, p. 10[illegible]

[8] THE LANCET, Jan. [illegible]th, 1898, p. 1.

[9] An Address on the Progress of Surgery and the Treatment of Simple Fractures, THE LANCET, J[illegible]e 12th, 1897, p. 1599.

GLASGOW SAMARITAN HOSPITAL FOR WOMEN.—The annual meeting of the supporters of the Glasgow Samaritan Hospital for Women was held on March 27th, the Lord Provost (Mr. Chisholm) presiding. The directors' report showed that the total number of patients treated during 1899 was 1224, of whom 325 were indoor patients received into the hospital wards and 899 were outdoor patients treated at the "Agnes Barr" Dispensary, where they made 4063 attendances. All the cases treated in the hospital were of a serious nature involving a protracted occupation of all the available beds. Several patients were upwards of three months in the house while the average length of residence of the other patients was one month. 12 patients died in the hospital during the year; if three who were admitted in a dying condition be deducted the death-rate was under 3 per cent. 55 abdominal sections were performed. The need of additional indoor accommodation was extremely urgent and the directors made an earnest appeal for funds.

The Milroy Lectures

ON

SUMMER DIARRHŒA,

WITH SPECIAL RELATION TO CAUSATION AND PREVENTION.

Delivered before the Royal College of Physicians of London on March 8th, 13th, and 15th, 1900,

BY F. J. WALDO, M.A., M.D. CANTAB., D.P.H.,

BARRISTER-AT-LAW, MEDICAL OFFICER OF HEALTH TO THE INNER AND MIDDLE TEMPLES AND TO THE PARISH OF ST. GEORGE-THE-MARTYR, SOUTHWARK, ETC.

LECTURE III.[1]

Delivered on March 15th, 1900.

MR. PRESIDENT AND GENTLEMEN,—A bacteriological investigation might be made of the fæces of the cow as well as of the horse, inasmuch as the milk of the former is constantly exposed to fæcal contamination during collection and storage. In this connexion we may also recall the fact that certain bovine diseases, such as tuberculosis, anthrax, and vaccinia, are common amongst mankind. So, too, with the horse, which suffers from glanders, tubercle, and other maladies that infect the human species. If the fæces of the horse contain micro-organisms pathogenic to man there could hardly be any more certain means devised of wide distribution of the specific germs than by our present system of horse traffic. Possibly the mysterious distribution of influenza may be not remotely connected with some such origin.

IS DIARRHŒA PREVALENT IN MEWS?

Supposing horse-dung to be answerable to any extent in the causation of summer diarrhœa the question naturally arises whether the disease is prevalent amongst the families of stablemen who live in mews. So far as can be ascertained there is no such excessive incidence upon that particular class. It must be borne in mind in dealing with this point that cleanliness is the rule in stables and stable-yards and that the dung is stored in heaps and pits which are cleared at short intervals before the material has had any chance of becoming dry and powdery. In mews, therefore, the conditions are not favourable to the aerial distribution of horse-dung in the form of dust, which is the assumed antecedent if we recognise horse-dung as the chief etiological factor. This view of the subject is borne out by the experience of Dr. Orme Dudfield, medical officer of health of Kensington, who informed me that he has not observed any special incidence of fatal diarrhœa in 180 mews situated in his district.

THE GENERAL CAUSATION OF SUMMER DIARRHŒA; CONCLUSIONS.

In 1890 Dr. G. B. Longstaff advanced the conclusion that "summer diarrhœa is caused by the pollution of air, water, and food by the decomposition of organic matter during very hot weather." Much the same view was taken by Dr. L. Ballard in 1897, when he advanced as a provisional hypothesis[2] "that the essential cause of diarrhœa resides ordinarily in the superficial layers of the earth, where it is intimately associated with the life processes of some micro-organisms not yet detected, captured, or isolated; that the vital manifestations of such organisms are dependent, amongst other things, perhaps principally, upon conditions of season and of the presence of dead organic matter, which is its pabulum; that on occasion such micro organism is capable of getting abroad from its primary habitat, the earth, and having become air-borne obtains opportunity for fastening on non-living material and of using such organic material both as nidus and as pabulum in undergoing various phases of its life-history." These two opinions practically agree and are supported in 1899 by Dr. A. Newsholme, who says that "it is a mere commonplace to state that diarrhœa is chiefly caused by organic dust"; and again,[3] "the fundamental condition favouring epidemic diarrhœa is an unclean soil, the particulate poison from which affects the air, and is swallowed most commonly with food, especially milk." Some time after these conclusions as to the part played by horse-dung in the causation of diarrhœa were arrived at in my own mind Dr. Louis Parkes published in one of the medical journals a letter which clearly showed that his line of reasoning was traversing much the same ground. Speaking of the offensive condition of the main London streets he wrote:[5] "The nuisance from this condition of the streets is obvious and unmistakeable. The question of injury to health is not so easy to answer. The dust from horse droppings is enormously rich in the organisms known as bacillus coli communis and bacillus enteritidis sporogenes, but although both these organisms are undoubtedly pathogenic to some animals their effect upon man when inspired into the mouth, throat, and lungs or swallowed with the saliva has not yet been determined. On general grounds, however, we are entitled to say that all offensive organic effluvia are prejudicial to health. There can be no ozone in the air where such emanations exist; the air has lost its vitalising principle, and there is a possible danger in the inhalation of dust containing bacilli whose normal habitat is the bowel of animals."

The common ground taken by these observers extends over 20 years. It agrees with my own conclusion except that I would go farther in framing a working hypothesis, and suggest that both the organic material and the offending micro-organisms that act as the *causa causans* of summer diarrhœa are to be found in the horse-dung that is daily deposited in vast quantities upon our highways. That the theory falls short of absolute proof may be freely admitted; at the same time I venture to say that so far as my applications go it appears to explain more or less satisfactorily the known facts of the distribution and history of this important disease. This matter will be discussed later, but meanwhile it may be pointed out that the theory of an origin in horse-dung differs from the views of the above quoted authorities only in the view that the habitat of the pathogenic organisms is on the surface of the soil and not in the soil itself. In mentioning horse-dung as the specific polluting material I have gone a step further by narrowing down the general term "organic matters" to the more definite position of a particulate material rich in micro-organisms, some of which, at least, are pathogenic to man.

TREATMENT.

The curative treatment of summer diarrhœa leaves much to be desired. At the same time, however, it may be broadly stated that hardly any disease has reaped more benefit from the advances of modern therapeutics. The use of opiates has greatly lessened. Alcohol is the best stimulant, and astringents are at times useful, especially in the forms of the subgallate of bismuth and the newer combinations of tannic acid, such as tannigen, especially in the later stages. Intestinal antiseptics have proved on the whole somewhat disappointing, while of purgatives castor-oil and calomel are the best. An excellent plan is to keep the child for 12 hours or more upon plain sterile water. Predigested milk is of service as is the use of pepsin and pancreatin. Intestinal irrigation is most valuable, especially in cases of colitis or of entero-colitis. Sterilised water or normal saline solution are the best for injection and may be given cold to reduce fever or hot to remedy prostration or collapse. In chronic conditions various medicaments may be added. Lastly, there appears to be some possibility of future help from serum treatment.

PREVENTION.

What have we to prevent? The answer to this question is wrapped up in a number of problems which are more or less imperfectly understood. It may be said, however, that in summer diarrhœa we have to deal with a malady that is symptomatic of a bacterial infection, almost certainly of multiple origin, probably of aerial distribution, and contracted often through the agency of food. Diarrhœa is a disease of all ages, but the brunt of its mortality falls on young children between the third and twelfth months. Dr. Ballard investigated the records of diarrhœa sickness in various Poor-law and private practices. He concluded that the actual incidence upon age—using that term in relation

[1] [illegible] THE LANCET of May 19th and 26th, [illegible]

[2] [illegible] Reports of Medical Officers of Health, February [illegible]

[3] [illegible] "The Causation of Summer Diarrhœa."

[4] Op. cit. supra.

[5] Brit. Med. Jour., Dec. 9th, 1899, p. 1548.

to the population living at any particular age—is chiefly upon children under five years of age and of that class most upon th [illegible] actual [illegible] five and [illegible] children under five years of age the incidence is comparatively small upon those under three months, when it increases and begins to lessen between the ages of one and two years. The fact that it is commoner among hand-fed than suckled infants points to some special condition, which may not unreasonably be attributed to cow's milk, the article of diet [illegible] artificial rearing of infants. At [illegible] evidence to show that the infec- [illegible] be conveyed by the influence [illegible] indirect concern of the bowel discharges in the spread of the malady can hardly be doubted. Indeed, in these respects diarrhœa is strictly comparable with enteric fever. At the same time, from the facts of the case it is clear that the consumption of milk does not play the chief part in adult diarrhœa. Many grown-up persons take milk only with tea and coffee, under conditions which are not favourable to the survival of bacteria. At least we are led to that conclusion if we argue from the analogous case of enteric fever which was shown by Dr. D. S. Davies in the recent outbreak at Clifton in several instances not to have been conveyed by contaminated milk when taken in tea. So far as adults are concerned, then, we are compelled to turn to agencies other than milk. A little reflection shows that the milk simply conveys the infection and that it is stored in houses under conditions that apply to [illegible] children, the [illegible] Further, as [illegible] tion by micro-organis [illegible] under peculiar condit [illegible] from the udder of the [illegible] enter largely into the [illegible] tion of the specific [illegible] notification of the disea [illegible] predisposing causes such [illegible] have to be considered in [illegible] be necessary to note the [illegible] overcrowding, poverty, a [illegible] ing of all street and other ground surfaces.

THEIR PREVENTION. [illegible] feeding of infants as a pre- [illegible] undoubtedly great. At the [illegible] difficult to prove by exact figures. Dr. E. W. Hope's observation, already alluded to, "that infants fed solely from the breast are remarkably exempt from fatal diarrhœa, even among the low class Irish," is significant. Artificial feeding may act in two ways, by introducing into the diet (1) cow's milk, with all its possibilities of bacterial contamination; and (2) farinaceous and other indigestible foods whereby the intestines are irritated and more liable to septic influences. Prevention of the first of these dangers may be obtained by safeguarding the milk-supply at every point from source to consumption, a point that [illegible] with exciting cause [illegible] the other hand, is almost [illegible] of [illegible] evil can be met only by the [illegible] amongst those concerned, and [illegible] sion and to their efforts of [illegible] that we must mainly look for [illegible] it is a hopeful fact that many [illegible] leaflets giving concise directions as to the proper feeding of infants, following in this step the practice that has for many years been adopted at most hospitals for children.

GENERAL PREVENTION. There is no need to insist upon the necessity of conditions of wholesome environment, such as ventilation, light, drain- [illegible] and cleanliness. Defects [illegible] ons are no doubt concerned just as [illegible] and these will be more closely examined: [illegible]

There is one point of external environment that at the risk of some repetition may be again specially mentioned. In the streets of towns there is always a large amount of horse-dung. Even where the roadways are carefully swept a certain amount of this material collects in crevices and corners, whence, under favourable atmospheric conditions, it is widely distributed in the form of dust and may infect [illegible] ry tract. Con- [illegible] ge the [illegible] ditions [illegible] growth of extraneous bacterial life. Even if healthy horse-dung were shown to be free from bacteria pathogenic to man we [illegible] proportion of the articles of food, such as plums and watercress, exposed for sale in the streets must be infected by road-dust. It is a fact that plums can often be consumed in large quantities by children in the country without ill- [illegible] ld to eat [illegible] infective- [illegible] or stalls [illegible] must also be borne in mind that this same dust is blown into larders and houses. The power of penetration by dust is considerable, a fact familiar to all town-dwellers who find that a dust-proof drawer can exist only under conditions of most special construction. In the course of time, as everyone knows, dust can penetrate into the interior of most watches, thereby affording a striking proof of its [illegible] ntly be assumed that where dust [illegible] most universally distributed fæcal [illegible] hould be remembered that there is [illegible] other sources. [illegible] e pets in the [illegible] ally deposited [illegible] birds of many [illegible] ss to the fæcal surface contamination. Lastly, there is always a certain amount of such pollution from human sources, especially in the poorer districts where there are many children. In this way the dust of towns is charged with the bowel bacteria of many higher and lower animals and birds. So far as the country is concerned the relative contamination of road-dust is immeasurably less, and the deposited fæcal contamination is freely exposed to the influences of sun, air, soil, and of other natural agencies. Cow-dung, both moist and dry, may obviously play an important part in the bacterial contamination of milk. This risk will, of course, exist mainly in the country, but is also present in town byres.

If we assume this difference between the organic pollution of road-dust in town and country it might to some extent explain the comparative immunity of country populations from diarrhœa. Not only is country dust freer from organic impurity but it has not the same general access to the house storage of food possessed by town dust. As already mentioned, road dust in towns has been shown repeatedly to contain the bacillus enteritidis sporogenes, while horse-dung contains various micro-organisms found in the intestines of man. In this connexion the use of sea-water, which has a distinct inhibitive action upon the growth of germs, is worthy of careful consideration. Similar observations apply to the watering of roads in dry weather, and doubly so before the sweeping of roadways. It is likely that the addition of some antiseptic, such as chlorine, or preferably permanganate of potash, to the water in the water-carts might be of value. The main difficulty in applying disinfectants to roadways is the great bulk and the cost of the disinfecting material that would have to be used. Then, again, it is a familiar observation that rain diminishes diarrhœa, a fact which may be due to the washing of dust out of the air and from exposed surfaces, as well as by collecting and retaining dust on moist and muddy surfaces. In these ways bacterial distribution, and possibly bacterial growth, would probably be much more influenced than by the reduced earth temperature to which the inhibition of diarrhœa by heavy rain is usually ascribed. The water- [illegible] would clearly act in a manner [illegible] far as paving surfaces were [illegible] nt would purify the air by providing a moist surface to which dust would adhere. The

constant and systematical scavenging of streets is another important point.

As regards paving surfaces there is no need to point out that an impermeable paving, as asphalte or cement, can be thoroughly cleansed. The macadam road is more productive of dust and cannot be water-flushed, so that it is less scientifically desirable. The ordinary block wood paving cannot be so readily cleansed as the impermeable roadway, and when worn it is liable to harbour organic material in its interstices. Whatever the nature of the roadway in busy towns during dry weather the constant passage of vehicles and pedestrians together with currents of air must keep up a mass of floating dust. The drier the summer—that is to say, the hotter—the greater is the volume of the floating cloud and the wider is its ultimate distribution likely to be. Hence the pedestrian in our towns is obliged day after day to pass through and to breathe clouds of invisible dust charged with organic particles. In many cases he consumes more of this dust upon fruit bought in the streets or from shops opening on the streets. He takes meals in restaurants exposed to the dust. Then when he returns home he takes food that has been kept in larders to which dust has access. Apart from diarrhœa it seems not unlikely that chronic inflammatory states of the mucous membrane may be caused in town dwellers by the constant inhalation of irritant dust. Diarrhœa and coryza appear to be unknown to the relatively bacteria- and dust-free regions of the frigid zone. It seems not improbable that one of the chief benefits of a visit to the seaside or country is the change to a comparatively dust-free air. Dr. Hope of Liverpool, who has been several times quoted in the course of these lectures, has made some pertinent observations upon the relation between street cleanliness and health. His argument is based upon the cleansing power of rain and is worthy of careful extension by comparing the diarrhœa returns of a large number of districts that are efficiently and inefficiently cleansed. "The connexion between cleanliness and health," says Dr. Hope, "is indicated by the figures which I will quote, showing the association of rainfall with diminished mortality from cholera diarrhœa during the last 20 years, six of which were average wet summers, with relatively low mortality, and 14 were average dry summers with considerably higher mortality, the extremes being the years 1891 and 1895

Period.	Average annual rainfall June to September.		Annual average of deaths from zymotic diarrhœa during the third quarter of the year.
Six years.	13·8 inches.	Average wet summers.	373
14 years.	10·9 "	Average dry summers.	573
Extreme years.			
1891	16·0 "	Wet summer.	203
1895	7·7 "	Dry summer.	819

"The difference in rainfall in the two years 1891 and 1895 means that upwards of 900,000,000 gallons of water were distributed to the (then) city in the warm season of low mortality, which were absent in the warm season of high mortality. Be it remembered that the manner and time of the rainfall are important."

It seems reasonable then to assume that to systematic street-cleansing we may look hopefully for one potent means for preventing diarrhœa. Another way in which our streets will be rendered purer is by the increase of motor carriages whereby the horse will be displaced. Some zealous advocates of that form of traction even look forward to the time when it will be made illegal to use horses in our crowded centres of population. It is hardly necessary to insist upon the necessity of the daily removal of house refuse and of the careful supervision of ash-bins and other receptacles for rubbish, also of the need of proper house ventilation, sewage, and water-supply. The general relation between diarrhœa and an unwholesome sanitary environment has long been recognised.

SPECIAL PREVENTION.

Under this heading we shall consider mainly the supervision of the milk-supply from its source to its consumption. The subject may be divided into collection of milk, together with its carriage, distribution, storage, and consumption. At each step there are possibilities of bacterial contamination that demand special precautions.

Collection of milk.—This can be considered under, (1) the milker; (2) the cow; (3) the utensils; and (4) the cowshed or byre.

1. *The hands of the milker* may be infected with many micro-organisms, pathogenic or otherwise. They are not unlikely to be so contaminated if he himself be suffering from any specific infectious disorder or if he come from a specifically infected household. The possibility of milk contamination under such circumstances is so obvious that it need not be enlarged upon. It is equally clear that the hands of the milkmen should be carefully cleansed before the milking of each cow. In some cases, as at Hendon, the milker is made to wear white cotton gloves, which are sterilised by steam after each milking. In other places the milking is done by machinery. The milker should wear also a sterilised cotton overall or sterilised apron.

2. *The cow*, which may contaminate the milk locally. The teats may be charged on the surface by contact with dung or dust, which may contain tubercle bacilli, pus organisms from chance wounds, and various pathogenic and non-pathogenic bacteria. Local disease of the udder or the teats may communicate disease to the hands of the milker, as in the famous cow pox of Jenner. In that case it is easy to imagine the milk could hardly escape contamination. To prevent local infection of this kind it would be necessary to exclude cows with any disease of udder or teats. In all cases cleansing of the teats is required which can be effected by washing with warm water and brushes. General infection from the coat of the cow may to a certain extent be prevented by careful grooming and by keeping the cow scrupulously clean. The milk ducts may be infected by the entrance of bacteria, which may be got rid of by throwing away the milk first drawn. When the cow is affected with bacterial disease there is little doubt that organisms may be excreted with the milk. This seems to be the case with tuberculosis. The obvious preventive is to exclude the milk of all sick or unhealthy cows. The tuberculosis test should be rigidly applied to all cows and the use of infected milk for dairy purposes made penal.

3. *Utensils for collecting and storing milk* should be sterilised. In some places the milk-pail is covered over with a layer of sterilised cotton-wool one or two inches thick. On no account should ordinary surface-well or spring water be used for cleansing vessels. The milk should be at once conveyed to a separate building at least 100 yards away, there to be subjected to a further process of Pasteurisation or sterilisation. The milk is then ready for conveyance to consumer in sterilised bottles or vessels. The milk reception building should be light, airy, with polished impermeable internal surfaces, damp-proof walls, and concrete flooring.

4. *The cowshed or byre.*—The cowshed should be built on sanitary principles much the same as those required for man. Abundant light is necessary and ventilation should be by open or by wired windows and by exits in the roof. Cross ventilation should be insisted upon. The heads of the cows should be at a distance of two or three feet from the wall so as to allow free circulation of air. All fixtures should be of iron or hard wood with smooth surfaces capable of systematic and ready cleaning with soap-and-water and antiseptics. The walls should be as far as possible smooth and in some cases they may be whitewashed. A better surface is that of glazed tiles. The floor should slope and be channeled below the foot of the stalls so as to carry off urine. This channel should be carried outside the house either into a drain or into some absorbent substance, as dry earth or sawdust, which can be removed to a manure heap at frequent intervals. The bedding of the stalls should be of wood-shavings, fern, peat-moss, or straw, and cow-dung should be systematically removed and the whole place washed out thoroughly at least once daily.

Contrast the foregoing sketch of model processes on the dairy farm with what is the usual order of things: the dirty and ill-ventilated cow-houses, the unwashed milker, the utensils cleansed with water from surface wells, springs, or contaminated streams, the cows without veterinary supervision, and the milk when drawn kept in close and dirty premises. Yet that is the kind of surrounding to which a great deal of our milk-supply is exposed at its source. When a separator is used to obtain the cream from the milk collected from various farms the danger of contamination of the milk is increased, inasmuch as the polluted milk from a

single farm will infect that of the whole area of collection All the efforts of the dairymen to keep the milk free from bacteria will be in vain unless the milk be stored under proper conditions in the shop of the retailer and in houses of the consumers It is, therefore, necessary to examine the conditions under which this universally used article of food is distributed in our towns

THE RETAIL MILKSHOP

From inquiries made in the parish of St George the Martyr, Southwark, one of the poorest and most crowded districts in London, I find that for the most part milk is kept in open vessels standing in the shop of the retailer. The shop door is open, so that there is abundant facility for the pollution of the milk with the dust from the street, charged with bacteria of various kinds, of which I have shown that several
horse and of man
to continue to hav
central authority, s
A general recommen
open vessels for sto
of exposing the mil
the dairy might be
be drawn off as re
made by simply fitting into the top of the can a tube provided with a filtering plug of cotton wool

PUBLIC SERVICE OF STERILISED MILK

So convinced have the sanitarians in various countries become as to the part played by milk as the vehicle of infection in summer diarrhœa that public establishments have been started for the supply of sterilised milk to the poor In New York several such depots have been at work for some years past and their example has been followed in other cities in the United States A similar system was established in Paris some years ago at the Charité Hospital and afterwards at the Maternité Hospital, an example that was followed later by many other medical charities at crèches both in Paris and in the provinces This system has been adopted at St Helens, Lancashire, and the medical officer of health of that down, Dr F Drew Harris, reports excellent results as regards the diminution of infantile mortality, especially from diarrhœal diseases The daily supply for each child costs 2d and is divided among nine small bottles, which are fetched every day by the parents

A word may be said here as to the relation of organically charged street dust with bread Many of our badly constructed bakeries are freely exposed to the street-dust, of which a certain amount cannot fail to reach the dough Some years ago in a joint article read at the British Medical Association meeting in 1894[4] the view was advanced that micro-organisms were not destroyed in the interior of an ordinary loaf, so that pathogenic germs could be distributed by the agency of bread This may be a possible factor in the origin of some cases of summer diarrhœa On other grounds the re modelling of our bakehouses upon scientific principles is much to be desired, and to a less extent a similar remark applies to the shops and other places where loaves are stored There is much to be said in favour of sterilisation of the baker's loaf in the oven of the consumer

STORAGE IN THE HOUSE OF THE CONSUMER

If we ascribe to the dust of cities those undesirable qualities of fæcal pollution with which I think it may fairly be charged that conclusion leads to some principles with regard to storage in private houses The larder as a rule is placed in a cool situation and in the majority of town houses it is in the area The outer wall of the underground area is often in contact with the neighbouring soil, so that the walls of the larder become damp and mouldy This close relationship between soil and larder is of some importance if we agree with those authorities who ascribe summer diarrhœa to micro-organisms that have their habitat in earth Apart from the possibility of soil contamination in the average town larder, however, we have a constant exposure of larders, whether below ground or above ground, to the invasion of dust The wonderful power of penetration of town dust is a fact familiar to everyone and has already been mentioned. We all know how it will creep between the pages of a closely shut book or into the folds of documents that are themselves stored away in apparently dust tight drawers When we come to a larder we find that the desire to provide free ventilation is rarely tempered with any attempt to exclude dust Wire gauze and perforated zinc blinds are used to ward off flies, but nothing is done to keep out the dust The larder should be dry, with damp-proof walls and impermeable floor It should be as far as possible dust proof, a condition that could be attained by ventilating through small Tobin's tubes fitted with cotton wool filters The larder should not be near any dust heaps, water-closets, sinks, or drain ventilators In the houses of the poor food is often stored in living rooms, sometimes in cupboards, and sometimes on open shelves in rooms where the inmates sleep

NOTIFICATION OF DIARRHŒA

The notification of summer diarrhœa has been mooted from time to time and more or less cogent reasons have been advanced both for, and against, the proposal The principle has been to a modified extent sanctioned by the Local Government Board by a circular letter issued in 1894 when cholera was threatened permitting sanitary authorities to make diarrhœa notifiable That such a step, if general or universal, would entail an enormous cost is clear The question is whether commensurate advantages would accrue to the community One point seems clear—namely, that the small degree of infectiousness of summer diarrhœa would not enable the medical officer of health to check its spread by prompt isolation and disinfection. Nor would it be possible, even if it were desirable, to furnish hospital accommodation for the reception of patients suffering from so extremely prevalent a complaint On the other hand, notification would enable us to obtain regarding the disease a vast mass of facts that at present is either lost or imperfectly gleaned from the tables of mortality On the whole, the time does not seem to have arrived for the compulsory notification of summer diarrhœa It is to be hoped that with an increased knowledge of the origin of the malady and with a more perfect system of urban scavenging and general sanitation epidemic diarrhœa will be gradually reduced within more manageable limits

GENERAL CONCLUSIONS

If we imagine the source, or one of the chief sources, of summer diarrhœa to be distributed in the dust of cities we find ourselves in possession of a hypothesis that explains many of the facts of the disease As a dust it would lodge on surfaces or be floating in the air A shower of rain would wash the air and cleanse the surfaces, and if the germs of diarrhœa were contained in the dust they would be carried away in the surface and storm water Such an explanation would account for in
wet summers Dr at
he terms the "natu tes
the comparative freedom of Scotch towns from diarrhœa to the greater freedom with which nature has provided its natural scavenger and in part to the greater efficiency of municipal scavenging Then the dust distribution theory would be closely connected with the permeability of road pavings Not only would a macadam roadway provide a greater amount of dust but it would be much more difficult to cleanse of organic matter Wooden or asphalte or concrete pavements would give rise to less dust and be more readily cleansed In most towns the road paving is in a transition stage so that it is impossible to get any exact statistics as to the influence of paving upon public health Frequent and thorough scavenging is necessary to remove road dust and the cleansing of impermeable paving is brought to a pitch of almost ideal perfection by systematic flushing with hose and hydrant. An extension of this important principle has been made by some local authorities by the hosing of courts and alleys Dr Hope of Liverpool,[7] already quoted, states that in the wet summer of 1891, when the diarrhœa mortality was only one fourth of that in 1895, upwards of 900 000 000 gallons of water were distributed in Liverpool by rain which were absent in 1895 In this connexion Dr Newsholme[8] has cited the interesting experiment carried out in Leeds by Dr Spottiswoode Cameron One district, comprising nearly one-tenth of the whole town, was specially cleansed on the approach of summer That particular district was the only one in Leeds in which the diarrhœa death rate did not agree with the excessive mortality of that year in other towns

[4] Dr D Walsh and Dr F J Waldo "Does Baking Sterilise Bread?" THE LANCET, Oct. 20th, 1894 p. 90

[7] Public Health, July, 1896

[8] Public Health vol vi, p. 153.

Dr. F. J. Allan, the medical officer of the Strand District Board of Works, has furnished me with some interesting facts with regard to the flushing of courts in his district. The practice was begun in 1882. At that time and up to the year 1891 both street-sweeping and dust-removal were done by contract, but since 1891 it was taken over by the local authorities who have performed the work more thoroughly. Flushing has become the chief method of cleansing and the daily removal of dust has been gradually instituted. The deaths per thousand from diarrhœa and enteritis during the last four decades were as follows :—

—	1860-69.	1870-79.	1880-89.	1890-99.
Diarrhœa...	0·87	0·84	0·64	0·45
Enteritis	0·10	0·05	0·12	0·19
—	0·97	0·89	0·76	0·64

This steady decrease in the diarrhœa rate, whether due to the flushing or not, is encouraging in a district where the diarrhœa rate has for many years been constantly heavy. From these considerations there is evidently a strong conviction in the mind of some leading authorities in public health in Great Britain that both rainfall and efficient scavenging and flushing of streets and by-ways lessen the incidence of summer diarrhœa. They suggest two practical points: first, as insisted upon by various sanitary experts, the water-supplies of cities for public cleansing purposes should be free and unstinted; and secondly, the action of rain and flushing and scavenging must lessen summer diarrhœa by removing a surface pollution. One of the chief possible objections that may be raised against the surface or dust-distribution of the virus of summer diarrhœa is Ballard's observation that the summer rise of diarrhœa mortality does not commence until the four-foot earth thermometer has attained somewhere about 56° F., and declines with the fall of the earth temperature at that depth. He attributes little influence on diarrhœa through atmospheric temperature or through that of the more superficial layers of the earth as compared with the four-foot thermal conditions. This observation may be accepted as undoubtedly correct, but it is difficult to imagine how temperature at the depth of four feet below the earth could directly influence the distribution of so widespread a bacterial disease as summer diarrhœa. Indirectly, however, we may suppose that a deep earth temperature might have a considerable influence by maintaining a degree of surface warmth favourable to the growth of bacteria. Where the deep earth temperature is not high enough partly to compensate and check the nightly loss of heat by radiation it is clear that the surface bacteria would be exposed to the risk of inhibition or destruction by low and variable night temperatures. The localised incidence of summer diarrhœa in counties has, I think, been clearly proved by the tabular statements advanced in my first lecture. This fact is of importance as showing that under general conditions, which from year to year may be regarded as fairly common to all parts of a county, the distribution of diarrhœa therein is most unequal. Temperature, wind, and rainfall, therefore, cannot be the all-important factors of causation. Soil is a condition that often varies considerably, and many authorities have attached to it a position of first importance in the etiology of the disease. There can be no unvarying relation, however, established between particular soils and the incidence of diarrhœa. At the same time it seems highly probable that porous and made soils, especially when organically polluted, play a definite part in conveying the infection. It may also be pointed out that such soils would be dusty. In general conditions other than soil the various districts of a county will vary chiefly in the gradients and the way in which the streets and houses are constructed, arranged, and regulated.

GRADIENTS.

The flatness or the steepness of a district appears to have a decided influence in lessening the diarrhœa rate. On the theory of surface pollution this would readily be explained by the better cleansing action of rain; wind, also, under the same circumstances, would have a more thorough access between houses and streets.

ARRANGEMENT OF STREETS AND HOUSES.

Streets.—The narrower the streets the more would dust tend to accumulate and hang about in the air, as wind would not be able to sweep through them. Moreover, by the exclusion of sunlight a bactericidal agency would be shut out. The paving of the roadways is another point; macadam, for instance, gives rise to infinitely more dust than granite blocks, and these again than closely fitted wood blocks or asphalte. The cleansing of the streets is a further essential as regards the amount and the pollution of the dust therefrom. It is to be hoped that a fuller recognition of the composition of street-dust will lead to increased energy on the part of urban sanitary authorities as regards the cleansing and maintenance of good roadways.

Houses.—The grouping of the houses cannot fail to influence both the amount and the quality of the local dust. It is clear that the existence of numerous unpaved courts, yards, closes, and alleys, ill-cleansed and closely crowded by a poor population, must pollute the atmosphere with a great amount of undesirable material.

The condition, then, of narrow streets, macadam roadways, numerous unpaved and imperfectly cleansed courts, favours the creation and accumulation of dust organically polluted from various sources, human and otherwise. That danger may obviously be increased by a flat gradient and by the presence of a porous and organically polluted soil, also by a lessened average of cleansing wind and rain, and by a higher temperature that may favour bacterial growth. It is to be noted that the bad conditions mentioned are those that would be vigorously attacked by an energetic local sanitary administration. Indeed, in some instances careful attention to cleansing of streets and courts in the summer months has resulted in a definite decrease of diarrhœa. Where rainfall has been deficient an artificial substitute has been provided in the shape of systematic flushing by hydrant and hose. Where the soil has been unfavourable it has been shut out by impervious paving. Dusty and uneven roadways have been replaced by smooth hard surfaces. Courts and alleys have been first paved and then systematically cleansed and flushed. Streets have been widened to admit freely both sun and air, and their surfaces frequently and thoroughly cleansed. In addition to such precautions something is wanted in the better protection of food supples from pollution by organic dust. That may be effected to some extent by the use of sterilised milk and by the official regulation of milkshops, and in a far more universal measure by the more scientific construction and care of household larders.

The causation of summer diarrhœa is probably manifold in its microbial origin and manifold in its method of distribution. It is only by careful attention to all possible and probable causes that we hope for the reduction of a disease that causes so great a mortality amongst the inhabitants of the United Kingdom. Meanwhile, there seems to be good ground for the belief that a thorough application of the recognised principles of modern prevention will do so much to alleviate, if not altogether to abolish, the sufferings and death that follow in the train of an entirely preventable malady. Should the theory of the origin of epidemic diarrhœa in the dust of our streets be established then we should have to look for the hope of prevention in the future, not only to our local authorities for the better construction and scavenging of our roadways, but also to the engineers who provide us with horseless carriages and to the architects who design our larders and pantries. Last, but not least, we must look to the better education of the people as to the ever-present necessity of sound sanitation, and especially as regards the cleanliness and ventilation of dwellings and the proper storage of food, for, after all said and done, no great advance can be made in practical preventive medicine without the intelligent cooperation of the community.

THE PROPOSED NEW INFIRMARY AT NEWCASTLE.—To render available the bequest of £100,000 left by the will of Mr. John Hall for building a new infirmary at Newcastle to commemorate the Diamond Jubilee, the Mayor, Mr. Riley Lord, has acquired and paid into the bank the necessary £100,000. Mr. Hall's will granted three years for the completion of the fund, which has, however, been accomplished in one year. The infirmary will begin, therefore, with a capital of £200,000, and the Prince of Wales will lay the memorial-stone on June 20th.

THE AFTER-HISTORY OF 41 CASES TREATED BY OPERATION FOR DESTRUCTIVE HIP-JOINT DISEASE

By ARTHUR E BARKER, F R C S. ENG AND IRELL,
PROFESSOR OF THE PRINCIPLES AND PRACTICE OF SURGERY AND PROFESSOR OF CLINICAL SURGERY AT UNIVERSITY COLLEGE, SURGEON TO UNIVERSITY COLLEGE HOSPITAL.

IN a very able and candid paper read at the Clinical Society of London on Dec 12th, 1879,[1] Mr John Croft gave his experiences up to that date of excision of the hip for tuberculous disease. The cases then analysed amounted to 45 and appear to be the first published series of any magnitude of consecutive cases of excision of the hip occurring in the practice of one surgeon from which it was possible to estimate the intrinsic dangers of the procedure and the prospects of ultimate benefit In the course of his very careful and honest analysis Mr. Croft showed that "six of the total number of deaths were attributable directly or indirectly to the operation," or nearly 13 5 per cent Nine other cases died in the course of time but under conditions certainly not attributable to operation and one more succumbed which I gather ought not to have been operated on in his opinion At all events, 13½ per cent died as the result of the operation and within about four years 10 others This gross mortality of 35 5 per cent within about four years showed a very marked improvement on former statistics of the operation due in a great measure to the introduction of the Listerian methods of wound treatment Probably such results had never before been achieved In a later report Mr Croft showed that his mortality had fallen to 12 6 per cent[2] In the course of his remarks on his series Mr. Croft pointed out that with greater care as to the selection of cases and a clearer understanding of the nature of the destructive process, together with improvement of technique, a still further improvement would take [illegible] justified will, I think, be [illegible] venture to make of all the [illegible] in my own practice since the date of Mr Croft's communication. The number (41) is nearly the same as in Mr. Croft's series and the analysis has been made almost precisely on the same lines. In the first place, with, perhaps, two exceptions of adults, aged 32 years and 20 years respectively, suffering from what may have been chronic pyæmic infection of the hip joint, all were operated on for chronic tuberculous disease

For the purposes of contrast with the experiences of 20 years ago I will further analyse this series in the way in which Mr. Croft has so ably done In the first place, as in his work, "before operation was resorted to in any case every known reliable treatment suitable to the condition had been tried to arrest the progress of the disease" In my series this included as a rule the fixation of the limb on a double Thomas's splint, tonics and cod liver oil, fresh air, and the best food procurable, and this treatment was carried out for months and often for years. In no case was an operation undertaken until there was evidence of *extensive formation of matter in the joint* and in all grave changes were found in one or both bones, from wide reaching caries to the formation of sequestra in both the head of the femur and the acetabulum I have never operated for that early disease, which has, rightly or wrongly, been the guide for some surgeons, especially abroad, in dealing with tuberculous disease of this joint The cases have been dealt with at an obviously earlier stage than was formerly the case when this disease from its fearful mortality was regarded almost as *noli me tangere*, but never until an abscess had formed in the joint, and frequently a very large abscess extending for many inches into the thigh. At the same time my constant aim has been to operate before open sinuses had formed and the cavity had become infected with septic organisms Nevertheless, eight had open sinuses at the time of operation and eight more are noted as having abscesses about to burst and several of them as "hot" and "pointing" These are the conditions which have appeared more than immediate and remote

en the two eras is that the operation In Mr Croft's series this was shown to be either 13 5 or 15 5 if one case which he mentions apart (no doubt for good reasons) be included As to my own series *none* have died before leaving hospital But one died from marasmus some 18 months after. Whether this case should be debited to the operation or not is open to doubt, but if it is it is the only one The history is briefly as follows. The patient was a boy aged six years He had worn a double Thomas's splint for 12 months for tuberculous hip There was a large abscess in front of the joint An anterior incision was made The head of the femur and the acetabulum were carious, the remains of the head were sawn off *in situ*; the acetabulum was gouged and flushed. Iodoform emulsion (*vide infra*) Drain used for 24 hours, then removed On the tenth day there was union per primam The last dressing was saturated accidentally with urine and the stitches became infected He had to be sent to the Children's Hospital, as University College Hospital was closing for alterations There the wound broke down and became [illegible] I at [illegible] for [illegible] 17 months. [illegible] found to be perforated by a large abscess which drained into the rectum The other left hip was now found to contain a large tuberculous abscess Not long after (about 18 months from operation) the child died from marasmus

Among the remaining cases which I have followed up as carefully as I think was possible only two are known to have died up to the present The first succumbed five years after the operation from recrudescence of the disease and the formation of sinuses with apparently tuberculous meningitis The wound of the operation had healed by first intention, and after six months on a splint the patient walked about for four years without any sinus She then developed a sinus which was scraped and led down to an abscess, and she finally died with severe vomiting and a strabismus suggesting tuberculous meningitis

The only other patient whose death from any cause I can trace up to the present (May, 1900) has the following history The patient was a male, aged 20 years. He had had a kick from a horse in the groin 15 months before the operation (December, 1889) A week after the accident pain set in in the joint and lasted up to admission (Jan 8th, 1891) An abscess formed in the joint a month before operation with starting in the limb There was much solid œdema and two very large abscesses which had been twice aspirated previously on the upper and inner aspect of the thigh at the moment of operation (Jan 8th, 1891) Extensive disease of the femur and acetabulum, probably *non* tuberculous, was found. The diseased femur and acetabulum were dealt with through an anterior incision and the abscesses through two other incisions Flushing and iodoform emulsion (*vide infra*) All the incisions were *closed* without drainage. Subsequently the wound had to be drained. He went home on April 3rd, 1891, "nearly well" This patient died on Feb 20th, 1892, one year after operation, at home From the friends' account the cause was probably pyæmia

These three cases are the only ones, as I have said, whose deaths from any cause I have been able to trace during the 22 years over which the series extends I have spared no pains year after year to find out what has become of them They tabulate themselves as follows cases *not* traced after leaving hospital, 11 Of these sound union on leaving is noted in 2. Unhealed, doubtful note, or "nearly healed," 9. Died 17 months after operation, 1, died five years after operation, 1, and died one year after operation, 1. Cases *traced* after leaving hospital. for over 12 years, 1; over 9 years, 3, over 8 years, 2, over 7 years, 1, over 5 years, 3; over 4 years, 1; over 3 years, 4, over 1 year, 2, long after, 9, total, 26 Several of these were seen at a much longer period after operation, but unfortunately no note was taken Of those traced for years after leaving hospital there had been no recurrence after operation up to the time they were lost sight of in 14 Some recurrence was noted in 10 cases after some years 2 after many months But all of the 26 were in good health and walking about when last seen

As to the functions of the limbs operated on, as seen (in all cases but two) years after, they were excellent The

[1] THE LANCET Dec. 27th, 1879, p 943.
[2] THE LANCET, Feb 8 h, 1 0, p. 231.

41 CASES OF OPERATION FOR DESTRUCTIVE HIP-JOINT DISEASE.

No.	Sex, age, right or left hip, date of operation and reference.	Duration of subjective symptoms.	Duration of objective symptoms; present state.	Operation; state of parts found; mode of dressing.	Immediate result of operation.	Ultimate result.
1	Male, aged 16 years. August 8th, 1877.	Nine months.	Latterly an abscess formed and was opened shortly before excision, very extensive disease.	Posterior curved incision. Washed with carbolic lotion.	Recovered slowly and left hospital March, 1878, looking ruddy and well.	Cannot be traced.
2	Left hip August 17th, 1881.	Detailed notes missing.	—	Posterior curved incision. Washed with carbolic lotion.	Recovered and left hospital.	Cannot be traced.
3	Female, aged 11 yrs. Right hip. Aug. 15th, 1883. Hosp. Rep., vol. lxxiv., p. 191.	Seven years after a fall; lame ever since.	Sinus formed two months before followed by great swelling and pain. Flexion nearly right angle with adduction.	Posterior curved incision. Great trochanter and epiphysis removed. Disease extensive. Carbolic oil dressing with drainage.	Fomentations after first few days. Healing very tedious. Pus inclined to bag; had to be let out from time to time. Temperature usually raised.	Left University College Hospital Jan. 28th, 1884.
4	Male, aged six and a half years Right hip. August 15th, 1883. Vol lxxii., p. 594.	Duration not stated in notes.	Duration not stated in notes. Much swelling on admission. Sinus in front of joint.	Posterior curved incision. Extensive tuberculous destructive change of whole joint. Carbolic oil on lint with drainage.	Immediate result fairly good; went home with sinus. Returned much worse. Question of amputation at hip-joint. Operation refused by parents. Child taken home.	Left University College Hospital Oct. 15th, 1883. Some years later the patient came to me at my house with all sinuses closed and walking well. Alive and well June, 1892. Last sinus closed nine months ago. Leg five inches short, but very useful.
5	Female, aged four years. August 30th, 1883. Vol. lxxii., p. 542.	Four years limping with pain. No injury. Thomas's splint.	Duration of objective symptom not given in notes. On admission intense pain. Distinct clicking in joint under chloroform.	Posterior curved incision. Extensive disease of acetabulum and head, with sequestrum. Cartilage raised by granulation tissue. Chloride of zinc lotion for washing; carbolic oil dressing; Hamilton's splint.	Immediate result favourable. Temperature usually 99° F.	Left University College Hospital Oct. 11th, 1883. Last note in book says: "Healing nicely."
6	Male, aged six years. Right hip. Feb. 11th, 1883. Vol. lxxv., p. 694.	One year ago pain in knee and limping. Double Thomas's splint worn ever since at Eastbourne until March, 1883.	Duration of objective symptoms not stated. PS.—Abscess pointing in front of joint. Aspirated; only one drachm of thick fluid obtained.	Posterior curved incision. Femur sawn across close to trochanter. Acetabulum was scraped out. Two drain-tubes; carbolic gauze dressings.	Immediate result good. Temperature for a few days from 100° to 103·2° F., then nearly normal. Double Thomas's splint.	Went home with wound nearly healed Jan. 18th, 1884.
7	Male, aged six years. Right hip Feb. 11th, 1885. Vol lxxxiii., p. 159.	Pain and fixation began 19 months ago and increased steadily in spite of rest on double Thomas's splint for 12 months.	Abscess over front of joint for one month. Skin red; veins dilated; joint fixed.	Anterior incision, Gowan's osteotome. Abscess large. Head of femur removed, acetabulum scraped clean. Chloride of zinc to deep part of wound. Powdered iodoform in wound. Lister gauze dressing. Drain-tube.	Immediate result generally good. Some bagging of pus on inner aspect of thigh; had to be opened. Tubes left out at end of second month.	Left University College Hospital May 6th, 1885, with an open sinus. The latter soon healed and the patient walked about for some years quite well. Came back in 1889 with a sinus leading to the acetabulum and an abscess pointing above the ramus of pubis. This healed under prolonged treatment in University College Hospital. Limb flexed and adducted. Sinuses scraped by Mr. B. Pollard, 1894.
8	Male, aged four and a half years. Left hip. June 17th, 1885. Vol. lxxxiii., p. 157.	Injury 13 months ago; pain and limping ever since.	In December last flexion was nearly to right angles with abduction and eversion. PS.—Fulness in front and over the trochanter. No shortening.	Anterior incision. Neck of femur cut with Adams's saw. Acetabulum scraped. Carbolic spray. Zinc chloride in wound. Drain-tubes. Lister's gauze. Head of bone found to be quite broken down by tuberculous caries.	Immediate result on the whole good. By July 30th wound nearly healed. Sent to convalescent home July 31st on double Thomas's splint.	Seen April, 1888. One inch shortening; no rotation, adduction, or abduction. Can flex at will to right angle and bring heel to buttock. Wound soundly healed; walks well. Seen December, 1890. Walks well; two inches shortening; very little flexion; no adduction or eversion. Health very good. Wound perfectly sound. Seen quite recently quite well. Walks admirably.
9	Male, aged five years. Left hip. Sept. 22nd, 1886. Vol. lxxxvii., p. 418.	Pain and limping for six months. On Thomas's splint for six weeks before operation.	Duration of objective symptoms not stated. PS.—Swelling, pain, redness, and fluctuation in front of joint. Very little shortening. Head only partially dislocated; grating felt on movement.	Anterior incision. Head trimmed with Gowan's osteotome. Acetabulum scraped. Zinc chloride. Drain-tube. Sal. wool dressing. Head of femur and acetabulum extensively carious.	Immediate result good. Left University College Hospital on Oct. 30th, 1886, on double Thomas's splint with wound nearly healed.	Sinus formed October, 1888, and was scraped. Seen October, 1889. Wound soundly healed.
10	Female, aged eight years. Right hip April 27th, 1887. Vol. cl., p. 111.	Injury four years ago with much pain. Treated at King's College Hospital. Abscess opened. Second abscess opened later at Alexandra Hospital. Left "cured."	A month before admission a lump formed over the hip which soon discharged. PS.—Pain, swelling, eversion, and one inch shortening. Temperature from 103° to 104° F.	Anterior incision. Much pus in joint. Head of femur destroyed. Acetabulum fairly healthy. Two drain-tubes. Chloride of zinc wash. Sal. wool dressing.	Immediate result good. Left University College Hospital on June 31st, 1887. Returned on Dec. 22nd for removal of tuberculous glands in the groin.	Seen at my house many months later. Wounds quite healed. Very little deformity.

11	Male, aged 10 years June 24th 1837 Vol. xcii.	Injury seven years ago, since which the patient has always complained of hip. In a hip hospital for eight months and as an out patient for two and a half years	Five months before admission the patient received another blow on the hip after which a lump formed PS —Flexion to right angle, whole joint swollen, red, and tender Two sinuses in front and externally	Anterior incision Cavity opened Head of bone sawn off Cavity scraped Two drain tubes Iodo form and salicylic wool dressing Sent to Eastbourne on August 14th with wound nearly healed	Immediate result good Tem perature raised for a few days	Not traced
12	Male, aged 29 years Right hip April 11th 1837 Vol xcvii., p 76	Injury 12 months before operation Pain increased after Treatment at University College Hospital, rest and extension, much relieved Forced movement by Hutton, "bone-setter," April, 1837, followed by abscess	Re admitted July 1837 Large fœtid abscess discharging badly by one sinus Skin œdematous, general condition bad	Anterior incision. Head of femur sawn off Acetabulum scraped joint washed clean Drain tubes in wound and sinus Head partially destroyed, cartilage quite gone.	Wound healed rapidly except drain opening Rapid improvement, left University College Hospital Oct 20th, 1837, with small sinus draining a little sweet pus	Left tube out in March, 1838, everything soon healed Many months later the sinus re-opened a little but soon closed firmly Is still weak on limb, but it is quite straight. Has grown very stout Small sinus scraped October, 1895 Seen recently quite well
13	Male, aged four years. Oct 18th 1837 Vol. lxiii., p 345.	Injury 12 months ago Six weeks later began to limp and complain of pain in hip Double Thomas's splint November 1836 Pain severe June, 1837 Abscess soon formed in front.	PS —Abscess over the front of the joint, the skin was red and tender	Anterior incision Head sawn off Joint well scraped and washed Drain-tube and antiseptic dressing	Immediate result good, retarded by measles Left University College Hospital Nov 17th 1837, on double Thomas's splint.	Seen months later quite well, wound quite sound Seen April 20th, 1891 quite well Only half an inch shortening Very slight flexion and adduction, Walks well. Seen May 27th 1891 Walks very well Hip quite sound, no trace of recurrence. Seen June, 1892, quite well, walks firmly no trace of recurrence
14	Male, aged five years Right hip July 1st, 1823.	12 months. Splint worn 10 months before operation First case treated by hot water flushing and closure of wound without any drain.	Some months during which a large abscess formed in front of joint. No appreciable shortening	Anterior incision Head of femur removed, acetabulum gouged and flushed No drain tube Iodoform emulsions Head of femur nearly quite destroyed acetabulum extensively eroded Sal wool dressing	Healed per primam Sutures removed on the thirteenth day The patient was sent home on double Thomas's splint.	Splint removed eight weeks after operation by mother without my consent and patient was allowed to walk 12 months later the patient was running about without pain There was considerable mobility of the joint, also slight flexion, the scar was soundly healed During the summer of 1890 after scarlet fever a small soft nodule was observed under the scar, this was removed and healed per primam The boy was shown at the Royal Medical and Chirurgical Society on Oct. 28th, 1890, quite well, all sound Quite well 1892 (nurse's account) Seen quite well June 14th, 1892. Ran about well, no mischief about hip but had cold abscess of the size of an apple in the right buttock Seen quite well July 18th, 1893 Walked well without pain Very slight flexion and a trace of eversion and adduction. Had occasional pain in the hip Latter was quite sound Seen March, 1894 quite well Had had some aching behind the joint lately At University College Hospital July, 1896 There had been lately a nodule of tubercle in scar now nearly healed Otherwise quite well
15	Male, aged six years Right hip, July, 1838. Died from marasmus, 18..	12 months. Double Thomas's splint worn for 12 months	Duration of objective symptoms not known Large abscess in front of the joint. No appreciable shortening	Anterior incision. Head of femur sawn off, extensively eroded Carious focus on saw cut gouged Acetabulum bare Drain tube for 24 hours Iodoform emulsion Sal wool dressing Gouging and flushing	Healed completely on tenth day, when the stitches were removed and the patient was transferred to the Children's Hospital The last dressing however had been allowed to become soaked with urine and to become putrid in this way, the stitches were inoculated with septic matter and broke down later in the Children's Hospital	Seven weeks later was re admitted to University College Hospital with sinus About 17 months later this was dilated and acetabulum was found perforated by large abscess which drained into the rectum The other hip at this time also contained large tuberculous abscess Not long after the child died from marasmus
16	Male, aged seven years. Right hip. November, 18..	12 months Splint worn only for 12 days before operation.	12 months, during which a large abscess formed in front of the joint. Skin very much thinned and discoloured	Anterior incision Head of femur eroded extensively leaving very little to be removed by saw Acetabulum deepened by erosion and osteophytes round margin Gouged and flushed No drain tube Iodoform emulsion Sal wool dressing	Healed at first but scar gradually gave way again the skin being so thin An opening also formed at old aspirator puncture.	Boy got fat and strong but still had a small sinus with a trace of discharge when he left for the country Cannot be traced since
17	Female, aged nine years. Left hip. Jan 2nd, 18..	Six months. Double Thomas's splint worn four months before operation.	Four months during which abscess formed over front of joint The head of femur had slipped out of socket partially and could be pushed in with a click	Anterior incision Head removed and acetabulum gouged clean and flushed Abscess extended down thigh under femoral vessels to the inside, it was well scraped and flushed No drain tube. Iodoform emulsion Sal. wool dressing	Healed per primam Sutures removed on the fourteenth day Left University College Hospital on the sixteenth day with double Thomas's splint	Wound remained soundly healed. Wore splint for six months, then began to walk about. 10 months after operation was in excellent health, hip soundly healed The limb was shortened about three-quarters of an inch and foot was slightly everted, the limb was perfectly straight and there was considerable mobility of hip. Cannot be traced Seen July, 1893. Walks very well. Has a small open sore on outer side of thigh low down No trouble in hip Re-admitted July, 1893. Died February, 1894 apparently from bursting tuberculous abscess into the abdomen, perhaps from tuberculous meningitis

41 CASES OF OPERATION FOR DESTRUCTIVE HIP-JOINT DISEASE—(*Continued*).

No.	Sex, age, right or left hip, date of operation, and reference.	Duration of subjective symptoms.	Duration of objective symptoms; present state.	Operation, state of parts found; mode of dressing.	Immediate result of operation.	Ultimate result.
18	Male, aged two years. Left hip June 8th, 1891. Left for home September, 1891.	Six months.	Over three months. Large abscess on the outer side of the thigh. One inch shortening.	Not much fluid in the swelling, but chiefly pulpy matter. Most of bone disease in neck of the femur. Acetabulum carious, gouged and flushed clean. Head of femur sawn off. Double Thomas's splint.	Sutures removed fourteenth day, wound was healed by first intention. Left hospital in three months wearing double Thomas's splint.	Some months after leaving hospital caught erysipelas on abrasion in the perineum. This passed off without any ill effect to joint which was soundly healed. Six months after operation all was well about joint; still wore splint as before. In March, 1891, was found to have a caseous mass under the skin on the outer side of the joint. Removed by Dr. Whittle, primary union. Walked well. Caseous mass found under skin outside hip, March, 1891. Boy walking as usual. Mass removed by Dr. Whittle, who wrote on May 31st to say that primary union followed and that all was now sound and the boy looked very well indeed. Re admitted Nov. 11th with second scar breaking down and pulpy swelling round the hip. April, 1892, excellent health; all quiet about joint; one and three-quarter inches shortening. On Feb. 26th, 1893, the scar of my operation was perfectly sound. Dr. Whittle wrote that his scar on the outside of the joint where he opened an abscess had partially broken down. The tissues round the upper part of the thigh were sound otherwise and showed no abnormality.
19	Female, aged five years. June 8th, 1893. Right hip.	Nine months.	Six months. Tulness about the joint. No shortening. Deep-seated fluctuation March 6th, 1893, child the picture of health. Runs about; one and a half inches shortening. Leg is sound and muscular. Scars sound. Dr. G. W. Whittle of Brighton.	Large deep abscess opened. Head and neck of femur were carious. Acetabulum was carious with a perforation of the size of the forefinger into an intra-pelvic abscess of the size of half a large egg. Head of femur sawn off, acetabulum and abscess gouged and flushed. Double Thomas's splint.	Sutures removed on seventh day. Wound perfectly united per primam. Left hospital in four months quite well, wearing double Thomas's splint.	Wore splint for six months after operation and grew fat and strong. Then began to walk about. Blow on hip December, 1890; walked about as usual until end of January, 1891, when an abscess was found outside joint about to burst. Opened and flushed by Dr. Whittle, who writes May 31st, 1891, to say all is soundly healed and child is in excellent health. April, 1892, excellent health, all quiet about the joint; less than one inch shortening. Seen by Dr. Whittle in January, 1893, walking with a stick or crutch, in the best of health.
20	Male, aged 11 years. Sept. 3rd, 1890. Left hip.	Eleven months. Double Thomas's splint worn for six months before operation.	Five months before operation an abscess began to form in front of the joint. Half an inch shortening. Cutaneous veins dilated and skin reddened over the abscess.	A large abscess opened over the joint extending under the tensor vaginæ femoris and over the origin of the rectus. Head of femur much eroded and acetabulum extensively carious. Gouged and flushed with hot water. Iodoform emulsion.	Healed per primam and remained sound ever since. Stitches removed on the twelfth day. Left hospital on double Thomas's splint on seventeenth day quite well; limb perfectly straight.	Boy rapidly improved and grew fat. About a month after operation there was some simple thrombosis of a deep vein of the leg; soon well. Was walking about now quite well. Seen June 14th, 1892; quite well; walked firmly; no trace of recurrence; one and a half inches shortening.
21	Female, aged nine years. May 23rd, 1890. Left hip.	14 months. Splint worn eight months before operation.	Eight months before operation an abscess began to form round the joint.	Anterior incision. Abscess flushed hot water. Diseased head removed. Acetabulum gouged clean. Iodoform emulsion.	No complications. First dressing on the twelfth day. Perfect union per primam. Stitches removed.	The patient was kept on double Thomas's splint several months and then allowed to walk. Seen at University College Hospital April 21st, 1893. Limb one and a quarter inches short; leg three quarters of an inch. Femur slipped up. There were slight flexion and eversion and very slight adduction. She walked well. The hip had been sound ever since.
22	Female, aged four years. Left hip. July 4th, 1890. Left for home on August 2nd, 1890.	12 months. Splint worn for four months before operation.	Some months before operation an abscess began to form in front of the joint.	Abscess opened and flushed with hot water. Diseased head removed with loose sequestrum. Acetabulum carious; gouged and flushed. Iodoform emulsion.	First dressing eleventh day; primary union. Stitches removed.	Wore double Thomas's splint for some months, then only at night. Beginning of 1891 began to walk. Seen April, 1891, was in the best of health, sound hip, beginning to walk alone with high boot. Limb perfectly straight, free flexion in hip. Re-admitted Dec. 14th, 1891, with a fluctuating swelling under the scar; opened, washed out, and closed. March 23rd, 1892, slight superficial sore. Walked well. September, 1892, quite well—"splendid." Re admitted Jan. 14th, 1893. Since last seen had been out of splint, running about and going to school. Limb shortened and smaller than fellow, right foot six and a half inches, left foot five and three quarter inches. Total shortening one and a half inches = one and a quarter to femur, quarter to tibia. Good movement, no flexion, a little adducted, not everted. Flexion to 60°, rotation to 45°. Abscess under healed scar, which was thin. Abscess of the size of a Tangerine orange. General condition very satisfactory. Jan. 15th, 1893, abscess opened by excising old scar. Reached to upper border of acetabulum; carious bone scraped away. Flushed Iodoform emulsion. Closure with [illegible]

23	Female, aged six years. Left hip. Jan 21st, 1891 Left for home May 2nd, 1891	Began to limp about one year before operation. Wore double Thomas's splint seven months Mother died from phthisis.	An abscess began to form a month before operation and reached soon down the front of the thigh for five inches Adduction and shortening	Two incisions one into front of abscess, the other in usual position into front of joint. Head of femur, much diseased trimmed off with saw. Sequestrum in acetabulum, which was caseous Free gouging and flushing with hot water Iodoform emulsion Complete closure.	Primary un[illegible] ounds Soon after [illegible] re evi dently inc[illegible] within with tube [illegible] re ex cised and [illegible] was re flushed. [illegible] r evi dently re[illegible] below, was agai[illegible] n two curved in[illegible] moved. The cavit[illegible] lined with tub[illegible] r, was flushed ar[illegible] closed without [illegible] n was perfect au[illegible]	It was perfectly plain that in the fir some pocket of the large abscess ha sufficient tuberculous matter to re-infe cavity But from the first the child be health and the last flushing was eff however, was effectually cleared by an l remained sound It was only the al showed re infection In February, 18 sound about all wounds, the child wa about May, 1892, quite well, all one and three-quarter inches shor of recurrence Beginning to wa November, 1892, walked well, no tr only a trace of flexion and a littl fibrous union Jan. 20th, 1893, sh and ran about, no sign of recurren all sound.
24	Female aged three and a half years Right hip, Feb 12th, 1891	On admission inversion adduction and flexion with much pain and three eighths of an inch shorten ing	Abscess above and below Poupart's ligament for a month, fluctuation from one to the other General condition good	Extensive disease of the head and acetabulum Three incisions were made two into the abscess and one in the usual position into joint. Head of femur removed, acetabulum and abscess flushed with hot water, filled with Iodoform emulsion Complete closure of wound	Union per primam. Stitches removed on the twelfth day	Returned June 22nd, 1891 Scar sli and anterior abscess slightly refilled dissected out, small track found leadi scraped, filled with iodoform emu Abscess of the size of a bantam's egg t way. May, 1892, seen lately by Mr A was quite well, all quiet about join seen by house surgeon at University Everything sound about the wound.
25	Male, aged 10 years. Left hip, Feb. 20th 1891 Died Feb 20th, 1892	Kick of a horse 15 months before operation in groin A week later pain set in in joint and had lasted ever since. Thomas's splint since May, 1890	Abscess formed in January 1891, with starting of limb Aspirated twice before operation. Two large abscesses in the upper and inner part of the thigh with solid œdema and discolouration of skin	No deformity! no shortening Extensive disease of the femur and acetabulum, probably non tuberculous Two large abscesses were opened and the head of the femur was excised by a third anterior incision Acetabulum was gouged and flushed with hot water Iodoform emulsion Suture of all incisions without drainage	Temperature rose to 103·6° F on the third day Abscess distended A few stitches were removed 12 ounces of turbid fluid escaped Drain tubes were put in in all incisions. After this the temperature fell and the cavities shrank up well. The wounds were almost well on April 3rd, when he went home.	Wounds still discharging some week heard of He died on Feb 20th, 1 according to friends' account, one year
26	Male, aged five years. Left hip March 21st, 1891	Three months symptoms.	Seen for first time 10 days before operation. Treated with extension and weight. Fluctuation and three-quarter inch shortening	Anterior incision, head of femur half destroyed with two small sequestra Acetabulum carious large abscess under adductors Head sawn off socket gouged and flushed with hot water, also abscesses Extension by weight for 10 days after operation then double Thomas's splint Iodoform emulsion. No drain tube.	Stitches removed on the tenth day Healed everywhere except small superficial wound from pressure The temperature rose the first 24 hours, then fell	Sent home on April 25th. Skin wou wearing double Thomas's splint Ref lent by Mr S H Burton of Norwic Report by patient's mother Novembe well, never complains of his hip, f crutches, is lame, of course
27	Male aged 12 years Right Hip April 2[illegible] 1891 Left for home May 21st, 1891	Severe pain set in in hip three years ago Hospital for Children, Great Ormond street weight and extension 10 weeks Then Thomas's splint and high boot on opposite limb 14 days Seemed quite well after this Six months ago pain set in again. National Orthopædic Hospital Thomas's splint again five months Latterly in bed.	Extreme adduction and eversion Very little flexion pelvis was much tilted, producing two and three-quarter inches apparent shortening real three-eighths of an inch Much inflammation at out the joint. Abscess forming in front of the joint with clear fluctuation Glands in the iliac fossa enlarged Boy seemed in fairly good health	Anterior incision Abscess flushed out, remains of head of femur removed with saw acetabulum gouged and flushed with hot water Iodoform emulsion. Silk sutures no drainage Salt wool dressing Sequestra removed and last sawing of great trochanter where it touches the neck	Weight and extension for want of good splint, which was being made First dressing tenth day Primary union, all the stitches were removed There was a little chafing on the edges of the wound Second dressing six teenth day Union was good, a small sore patch where the upper part of scar looked chafed	Temperature rose to 100·6° F the day a fell and kept below 100° always Wl home on May 20th he looked very w was soundly healed everywhere. I 1891 The wound had soundly healed was still on splint Seen at Universi March, 1892 all sound position goo wear splint at night. Seen October walked about
28	Male, aged four years Jan 15th 1891 Left for home July 1st 1891	Good health up to seven months ago Good family history Thomas's splint three months Pain—Flexion adduction, great rotation outwards, shortening bowling soft hardness half way down the front of the thigh and on the outside	Great eversion, flexion, and adduction	Anterior incision, large abscess extending down the thigh and over the trim of the pelvis to the back of the acetabulum which was bare. Head was removed and the acetabulum scraped out. Abscess cleaned, scraped, and flushed with hot water, dried filled with iodoform emulsion, dried out again and closely stitched up. Thomas's splint.	First dressing seventh day Much serous oozing Dressed as before. Second dressing, fifteenth day Stitches removed, wound looked well Collodion Third dressing collodion removed. Wound soundly healed and dry Left for home on the thirty eighth day looking well	Temperature rose to 103° F on the day fell to under 100° for the rest of the again for unassignable cause

41 CASES OF OPERATION FOR DESTRUCTIVE HIP-JOINT DISEASE—(*Continued*).

No.	Sex, age, right or left hip, date of operation, and reference	Duration of subjective symptoms.	Duration of objective symptoms; present state.	Operation; state of parts found; mode of dressing.	Immediate result of operation.	Ultimate result.
29	Male, aged six years. Oct. 2nd, 1891. Right hip.	Six months ago began with pain in the knee. Coughed up blood and sweated at night. Double Thomas's splint.	Wasting and quarter-inch shortening with slight adduction. Large abscess in front and behind.	Carious pits in front and large abscess. Gouged and scraped; flushed. Head was not removed.	Healed by first intention. Sent out to all appearances quite sound.	Not traced.
30	Male, aged eight years. Left hip. Nov. 24th, 1891. Left for home. Jan. 2nd, 1892.	General health had been good. Measles three months ago. Chicken-pox when an infant. Was now strong. Father and mother were healthy. Admitted Nov. 4th for pain in left hip and knee. Weakness five months but no pain at the beginning, only last three months. Weight extension.	Apparent lengthening half an inch. Real shortening five-eighths of an inch. Abduction and eversion; no permanent flexion. Enlarged inguinal and iliac glands. In front of joint and under tensor vaginæ femoris was an abscess. Pain on movement of the hip. No swelling behind the joint. Temperature 101·8° F.	Anterior incision two and a half inches. One ounce of brownish fluid was let out of abscess in the joint. Acetabulum and head of the femur were eroded and pitted and denuded of cartilage. Neck was sawn across. Calcareous sequestrum in acetabulum. Flushing and gouging of the whole joint with hot water; much granulation tissue evacuated. Iodoform emulsion. Deep silk sutures. Sal. wool dressing. No drainage. Double Thomas's splint.	Head pitted with tuberculous ulceration. Tubercles under periosteum of the neck. First 17 days the temperature was under 101°, then rose for 11 days gradually to 106·7° on the twelfth day; it remained between 105° and 101° for 16 days longer, then fell to normal and remained so until discharged for home. During all this time the wound was healing without any reaction and the boy had no other serious symptoms; he got thinner. The stitches were removed on the tenth day. The wound had quite healed; there was no swelling. The patient left University College Hospital on Jan. 2nd. Wound quite healed. Temperature was normal.	Re-admitted Feb. 9th, 1892, from convalescent home, with small tuberculous sore in the middle of scar of the size of a sixpence. There were no swelling and no tenderness. On Feb. 24th the scar and abscess were excised; both were superficial. Flushing. Iodoform emulsion. Wound stitched without drainage. Wound healed almost by first intention. No rise of temperature. The patient went home on March 9th. He had a moist spot in the scar for some months. When last seen, October, 1892, the scar had quite healed. The boy was very well. He was only to wear a splint at night. Seen Nov. 22nd, 1892. He was quite well and strong. He walked with crutches; had only recently left off splint. There was no trace of recurrence. Free movement above the hip. Re-admitted Nov. 1st, 1893, for chronic tuberculous abscess in left buttock. Scar of old wound sound. The boy walked without pain. Movement, flexion to right angle. Limb was usually flexed 10 degrees and slightly adducted. Shortening one and three quarter inches = one and a half in femur, one quarter in tibia. Abscess was opened, flushed, and closed after iodoform emulsion Nov. 2nd. Second dressing fifteenth day. Union was perfect; wound was dry. Left University College Hospital on the twenty-first day. Temperature rose to 102·8°, then fell to normal. On Jan. 21st, 1893, the old scar was excised and the wound was scraped and flushed. He went out healed in 25 days.
31	Female, aged nine years. Jan. 1st, 1892. Right hip.	Under treatment of Thomas's splint and for four years before the operation. Adduction.	Wasting, but no shortening. Large anterior abscess. Eczema and pustules in various parts. Abscess hot.	Much destruction of head and acetabulum. Gouged, scraped, and flushed through two anterior incisions.	Did not heal well. Scar was cut out with renewed flushing and scraping on Jan. 20th, 1892. Went out with sinuses.	Re-admitted June 8th, 1895, for sinuses.
32	Female, aged 14 years. Feb. 10th, 1892. Left for home, April 9th, 1892. Left hip.	Always strong except for present affection. Family history was not good. Fell downstairs four years ago. About a year later became lame, with pain in left hip. Rest on splint 11 weeks, then crutches. Then hospital for three weeks, without benefit. Crutches and splint ever since. Pain growing worse.	Large abscess now on outer anterior aspect of the joint from two inches below the trochanter to the middle of the thigh very deep among muscles. One and a quarter inches shortening. There was no deformity. There was great pain on movement. Large iliac gland. No abnormal temperature.	Operation as in last case. Large quantity of matter evacuated from joint, together with several sequestra. Head of femur was destroyed. Acetabulum partially destroyed; cartilage flaking away during operation. Gouged, flushed with hot water; iodoform emulsion; sutured with silk; sal. wool dressing. Double Thomas's splint.	Dressed third day with fresh wool. On twelfth day wound was perfectly healed. Stitches removed on the nineteenth day. Wound perfectly healed. March 23rd scar was excised on account of small nodule of tubercle in the centre. Small track under it going down to the acetabulum. The wound healed perfectly in a few days per primam.	Child went home on April 9th looking quite well and with everything quiet about the hip. After the first operation the temperature rose to 102·2° F., then came down to normal on Nov. 19th, 1892. I heard from Mr. T. P. Lowe of Bath that patient was well and nimble on her feet. *Ran* downstairs. Limb considerably shorter than the right. Absolutely no pain. There was a very small sinus in the centre of the scar. On Nov. 18th, 1892, Mr. Lowe wrote that the patient ran about nimbly. There was no pain. She was growing fat. There was a small sinus in the centre of the scar.
33	Male, aged nine years. Right hip. May 25th, 1892. July 19th, 1892.	Well until six weeks ago. Family history was consumptive. Limping began more than two years ago. Thomas's splint. Then extension at home. Abscesses formed, appetite fell off, with emaciation. Now looked thin and delicate.	No flexion but strong adduction and eversion. Shortening half an inch. Swelling of the trochanter. Small sinus on the outer part of trochanteric region; two recent scars. Movement very painful. Temperature 101° F.	Sinus was enlarged, scraped, and flushed with hot water. Then usual anterior incision into the joint which was full of broken-down tubercle. Head of the femur was very carious. The neck was sawn through. Focus on cut surface gouged out. Acetabulum gouged out and whole wound flushed with hot water. Iodoform emulsion. Sinus dissected out with strip of damaged skin. Silk sutures. Sal. wool dressing. Drain tube in outer wound.	The portion of head removed was riddled by tuberculous osteomyelitis. First dressing fifth day. Tube removed from outer wound, appeared to be healing. Parts swollen. Second dressing seventh day. A probe was passed into the wound and much matter let out. Drain-tube in anterior wound. The abscess was difficult to drain. The child's general health was good. June 29th, under gas and ether, incision was made on the inner aspect of the thigh into the abscess which would not drain. Scraped and flushed. Drain-tube. Boric dressing. Left for St. Mary's Hospital on closing of University College Hospital. Sinuses were still open.	Not seen since. The temperature was 103·3° after operation (101·3° before operation), then fell to under 101°, with occasional rises.

34	Male, aged two years. March 15th 1893. Left hip. Discharged May 11th 1893	Family history of phthisis on mother's and father's side. Both phthisical. Disease began at seven months. No shortening. Movement restricted. Tightness of buttock. Flexion to right angle. Two sinuses	Two sinuses discharging foul pus	Skin connecting sinuses excised. Carious head of the femur and acetabulum removed and scraped and flushed. Sequestra of the size of the tip of the little finger were removed with small pieces of cartilage. Iodoform emulsion. Wound sewn but without drain. Sublimate wool dressing	Portions of the head and acetabulum with much pyogenic membrane removed. First dressing ninth day all stitches breaking down. No union. Sloughing of skin. Hot fomentations. Healed up to small sinuses with few drops of pus by April 14th	Temperature fluctuated between 105·4° F and 99° until the end. The wound had almost healed when the patient left the hospital.
35	Male, aged five and a half years. Jan. 11th 1893. Left hip.	Fall two years before operation. Pain and lameness ever since. July, 1892. Under splint treatment since onset	Swelling in groin since onset. Great flexion. Slight shortening. Joint fixed	Caries of the head and acetabulum with much broken-down tubercle. Remains of head removed. Cavity gouged and flushed, closed without drain	Union per primam in spite of the dressings being wet with urine.	Examined December, 1899. Small union ever since, no trace of fresh disease
36	Male, aged 12 years. Jan. 17th 1893. Right hip. Chronic pyæmia	—	—	Capsule full of gelatinous stuff. Destruction of cartilage and caries of head, not of acetabulum. Gouged, flushed, and closed. Iodoform emulsion, no drain.	Did not heal per primam but very little pus. Was healed in 56 days	Seen later soundly healed and beginning to walk
37	Female, aged nine years. March 7th, 1894	Symptoms for four years. Treated on splint ever since with some improvement at first	Abscess has recently formed but position is good	Extensive caries of the head, neck and acetabulum. Gouged, flushed, and closed without drain	Union per primam	Remains well up to date (1899). Goes about on a tricycle. Is quite sound. (Mr W. Beresford of Bigham.)
38	Male, aged 3½ years. May 28th 1894	Sciatica in 1894. Treated from October to December 1894 at University College Hospital. On splints up to date	—	Very large abscess in Scarpa's triangle and behind the trochanter. Head very carious and cartilage destroyed. Acetabulum was much diseased. Sequestrum was loose, gouged, flushed and closed without drain	Notes not quite clear, but there was accumulation of serum which required evacuation. Went out on third day on double Thomas's splint	Seen at University College Hospital January, 1896 with firmly healed scar. Walked well without the splint, which was then left off
39	Male, aged 10 years. February 18th 1894. Right hip	Inflammation of the lungs. Recovery. Ill health ever since. Typically tuberculous. April 1896 great weakness of the right leg and unable to walk	Abscess formed 14 days before admission and burst a few days before. Discharging ever since	Anterior incision, large abscess. Head and neck were carious, acetabulum also. Flushing, iodoform emulsion. Wound closed without drain	Wound healed per primam but opened later and discharged for a long time. The wound was repeatedly Mr B. Pollard, Sept. 5th 1896, flushed and scraped as before. After this it became septic and very severe suppuration lasted a long time	Readmitted Feb. 1st 1899 for foul sinuses. Scraped and drained. Last seen June 16th 1899. Sinuses were still open. Seen at University College Hospital on Jan. 8th 1900. All the sinuses had healed soundly. He walks well. The limb is straight. Probably now has tubercle of left kidney
40	Male, aged 14 years. Left hip. Left hip	Lain in the knee for four months. Treated in hospital at Hastings, where for 14 weeks	Great swelling of the upper part of the thigh. The skin was tender and fluctuating. There was fluctuation at one spot. There was one inch shortening. The limb was extended, everted, fixed and painful on passive movement	Anterior incision, much matter evacuated with sequestrum. Head and acetabulum were largely carious. Remains of head removed, acetabulum gouged, flushing, iodoform emulsion, wound closed, no drain	Wound did not heal perfectly. The patient left the hospital on the fifty-third day, the wound apparently healed. Splints	Mr F. Stokes of Bishopsstone reports, April 1900, "Goes about without any trouble. No special flexion."
41	Male, aged 21 years. October 1896	Fell on left hip, Christmas 1896. Treated in hospital in April 1898, and were there until operation in October 1898	Abscess recently formed in front of joint	Large abscess. Head of bone and acetabulum carious. Head removed, gouged, scraped, flushed. Closed without drain	Wound healed per primam. Cavity was filled with serum and required aspiration. He left University College Hospital in 1898 healed on splint which he wore until March 1899. At Whitsuntide he felt tightness in the hip and soon after a swelling appeared. He was admitted in June 1899, with sinus behind and thin at outer side of old scar. Sinus around the scar was excised, the tracks were washed out, filled with iodoform emulsion, and stitched up	Old scar and some skin were excised and an abscess was found underneath. Flushed, closed without drain. Wound healed per primam. Seen May, 1900. Quite sound, looks in good health, is walking with stick

The contrast between his visual memory for words and letters and his auditory memory was very striking. Although he had not been able to learn to recognise by sight the letters and words in his little primer he could repeat the contents of the book by heart. He could repeat the alphabet correctly and rapidly, but he could only recognise some of the letters by sight and that often after many mistakes. He could spell rapidly and correctly most words of one syllable such as "cat," "dog," "boy," "man," &c., but he could not recognise by sight one of these words. Even such common words as "the," "of," "in," "to," &c., he could not recognise by sight although he could spell them quite correctly. The failure of visual memory was for words and letters only. It did not extend to objects, persons, or places. Pictures of all kinds he recognised at once. It was therefore perfectly clear that the difficulty lay in the failure of the visual memory for letters and words. In this lad's case the defect was extreme, as even after years of practice he had not been able to acquire the visual memories of all the letters of the alphabet. On testing his visual memory for figures I found that this was not so defective. He made many mistakes, but he knew them much better than the letters of the alphabet. He had not practised them for some time and his father said that he knew them pretty well at school. In order to compare the visual memories for letters and for figures I asked him to spend the next four weeks in learning the alphabet and also in learning the figures up to 50. He had thus nearly the same number of visual images to acquire in each case. When he returned I found his knowledge of the letters to be somewhat improved, but he recognised correctly all the figures up to 50. His father has observed that he learns the figures much more rapidly than the letters. As he expressed it "they come more readily to him." He could perform mentally simple sums in addition.

In my second case the lad, although reading imperfectly and with great effort, had no difficulty whatever in reading figures even in the most complex combinations. In the third and fourth cases quoted there was no difficulty with figures The facts observed in these four cases regarding the reading of figures confirm the observations previously made and the deductions drawn therefrom in my book on "Letter-, Word-, and Mind-Blindness." It is there argued that the complete functional independence of the visual memories of letters, words, and numbers, as evidenced by the fact that many patients completely word- and letter-blind can still read figures, could only be satisfactorily explained by anatomical independence—i.e., that these memories were registered in different areas of the cerebral cortex. From this point of view it is easily understood how these four patients, while experiencing the very greatest difficulty in learning to read letters and words, had little or none in learning to read figures.

The second case belongs undoubtedly to the same category as the first, but the defect is not present in such a marked degree. The patient had passed the first stage in learning to read—i.e., he had acquired the visual memory of all the letters of the alphabet. His difficulties had been manifested in the slowness with which he had acquired the visual memory of words. After being three years at school he could recognise by sight the most common and familiar words, but his stock of word memories was very limited, so that in reading he had to pause at most of the words and spell them out letter by letter and so get the word by appealing to his auditory memory. Even unfamiliar words of one syllable, such as "tub" and "rug," he was unable to recognise by sight alone until he had spelt them out aloud letter by letter. Another very significant fact about this boy, who was otherwise very intelligent, was the fact, told us by the father, that he never read for amusement. As his father expressed it, "reading seemed to take a good deal out of him." There can be no doubt that in the case of this boy there is some congenital deficiency in the centre for the visual memory of words whereby the functional activity is lowered and, therefore, the process of acquiring and storing up the visual memories of words is rendered enormously more difficult. In the case of this boy, however, the fact that he has already made considerable progress causes us to entertain the hope that with patience and perseverance he may yet learn to read fluently by sight.

Dr. Pringle Morgan's case briefly quoted was a very similar one. Great difficulty was here experienced in the acquirement of the letters, but by dint of perseverance these were mastered. The patient, however, had been unable to acquire the visual memories of words, unless a few simple and common words, and could only read by spelling out aloud the words letter by letter. Dr. Bastian's case, where the patient, intelligent and alert in other respects, experienced the greatest difficulties in learning to read, although not recorded with sufficient detail, no doubt belongs to the same class.

Although I have not been able to bring forward more than these four cases as illustrations of this congenital form of "word-blindness" I have but little doubt that these are by no means so rare as the absence of recorded cases would lead us to infer. Their rarity is, I think, accounted for by the fact that when they do occur they are not recognised. It is a matter of the highest importance to recognise the cause and the true nature of this difficulty in learning to read which is experienced by these children, otherwise they may be harshly treated as imbeciles or incorrigibles and either neglected or flogged for a defect for which they are in no wise responsible. The recognition of the true character of the difficulty will lead the parents and teachers of these children to deal with them in the proper way, not by harsh and severe treatment, but by attempting to overcome the difficulty by patient and persistent training.

Glasgow.

THE INCUBATION PERIOD OF PLAGUE.

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THE term "incubation period" has frequently been employed in a somewhat vague and indefinite manner. If, as there is every reaon to believe is the case, infective diseases are caused by specific organisms which gain access either to a mucous surface—as, for example, in cholera—or by penetrating the tissues—as in bubonic plague—the term "incubation period" should have a strictly limited significance. It should be held to cover that period which elapses between the time when the organism gains access to the surface or tissues and the onset of the symptoms of the disease. In this sense it is probable that the incubation period of most infective diseases is comparatively short. But the term in question has more often than not been employed as indicating the period between the mere exposure of the patient to infection and the onset of the disease. The difference between these two uses of the term is obvious. A person may be exposed to the infection of plague or any other disease, and he may carry away some of the infectious material with him, clinging to his clothes or to some article taken by him from the infected room or district, and days, weeks, or even months may pass before the infectious material gains access to his tissues. It is therefore quite possible that instances that have been regarded as examples of very long periods of incubation are not so in the proper sense of the term It is only, in fact, at the other end of the scale—in those instances where the incubation period has appeared to be strikingly short—that anything like certainty is possible in attempting to measure its duration.

In regard to plague, there is one class of cases in which the incubation period can be accurately measured. I refer to those cases in which medical men or hospital attendants have been inoculated through wounds or abrasions at necropsies upon plague cadavers. In these cases it is important to remember that the mode of invasion of the virus differs essentially from that which occurs in the enormous majority of plague patients. There is in these cases a definite introduction into a fresh wound of (probably) a considerable quantity of virus which is (probably) accompanied in most instances both by the products of commencing decomposition and by extraneous micro-organisms of a particular class. In the mass of patients, on the other hand, who contract plague in the ordinary manner, the amount of the virus received is (probably) very much smaller, the bacillus gains access to the body either by some old and minute or even invisible abrasion or through the respiratory or alimentary tract, and if it is accompanied by other micro-organisms these are (probably) different from those in the other class of cases. This difference between the two modes of invasion is obvious, and it appears to be associated with a difference in the length of the period of incubation.

In cases of plague contracted through a wound or abrasion becoming infected during a necropsy on a plague cadaver the incubation period is almost invariably two days, rarely three, and perhaps never longer. A considerable number of cases of this nature have now been recorded and almost all agree in the onset of symptoms being upon the second or at latest the third day after the reception of the virus.

The following example came under my own observation in the Parel (Old Government House) Hospital, Bombay. A hospital assistant took part in the performance of a post-mortem examination, on March 14th, 1898, at 3 P.M., on the body of a patient who had died from pneumonic plague 13 hours before. During the examination he pricked one of the fingers of his left hand. He began to feel ill on the evening of March 16th and died on the 20th from acute bubonic plague with a supra-trochlear bubo and later an axillary bubo. Here the incubation period slightly exceeded two days.

Major C. R. M. Green, I.M.S., has recorded the following instances: "A medical officer made a post-mortem examination on a plague case in Madras one hour after death on Oct. 7th. He was assisted by a native who pricked his finger in sewing up the body. The medical officer felt ill on Oct. 9th, was very ill on Oct. 10th, temperature being 103°, and continued so until the night of Oct. 16th when the temperature became normal and he convalesced. The native who pricked his finger absented himself from work on Oct. 10th and died on Oct. 15th. The autopsy showed that he died of plague."[1] Here the incubation period was apparently two days in the case of the (European?) medical officer; and uncertain, but less than three days, in that of the native assistant. The same observer has recorded the following case.[2] A *dome* assisted at the post-mortem examination on a patient who died from plague on June 3rd. He was reported to be very ill on June 8th, and was then said to have been ill for two days. If the necropsy was made on the 3rd the incubation period was apparently in this case of three days' duration. Some doubt, however, exists about this case. The man was at first stated to have cut his finger at the post-mortem examination, but on examining his hands a small nearly healed cut was found on the right thumb and no wound or abrasion on the left upper extremity, while it was on the left side that the (axillary) bubo was present. Mr. J. Nield Cook has recorded a similar case in which a *dome* scratched himself on a point of bone at a necropsy, and plague developed two days later.[3]

Captain S. E. Prall, I.M.S., has published a case in which a native Christian wounded his right index finger on May 19th, and developed plague on the 21st.[4] The original wound, a quarter of an inch in length, healed rapidly and was not to be seen on the 21st. Here the incubation period was of two days' duration.

In the case of Dr. Sticker of the German Plague Commission, who suffered from an attack of plague contracted in this manner, the duration of the incubation period was also stated to have been two days.

It would appear exceedingly probable that in many of these and similar instances the infection has been a mixed one, other organisms and the products of commencing decomposition being received into the tissues in addition to the plague organism, and that this hastens the onset of symptoms.

Two cases, at least, have been recorded which are somewhat analogous to the above in that, though the virus was not received into the patients' tissues at a post-mortem examination, the exact moment at which the virus did enter the patients' tissues could be determined, at all events approximately. The first case of this kind came under my own observation. The patient was one of the English nurses sent to Bombay by the Secretary of State. A patient coughed in the nurse's face on Feb. 15th, 1893, and a portion of the sputum entered the conjunctival sac of one eye. The eye smarted and felt sore until the 18th, when there were feverishness and tenderness below the ear on the side of the affected eye, and the patient died from plague on the 22nd. Here the incubation period was apparently three days. The second case of the kind was recorded in Hong Kong. The patient was, as in the last case, an English nursing sister. The incident which led to her contracting the disease is described as follows. "One of the patients in his delirium coughed in her face on April 20th. She became ill on April 25th and it was soon found that she was suffering from pneumonic plague."[5] In this instance the incubation period was apparently five days. The case is one of great interest when taken in conjunction with the one just described. In that, it will be observed, the infection was, there is every reason to believe, introduced through the conjunctiva. (It is the only instance which I have met with in which the disease was contracted in this manner.) The incubation period was, as already stated, three days. In the second case, on the other hand, the virus was, there is equal reason to believe, inhaled or it entered the tissues by way of the mucous membrane of the mouth or nose or upper respiratory passages, and in this case the incubation period was five days. It is impossible, of course, to form any general conclusion from single instances, but these two cases, as they stand, appear to suggest that when the virus enters the tissues by the conjunctiva the incubation period may be considerably shorter than when it enters by the lung or by the mucous membrane of the nose, mouth, or upper respiratory passages.

The modes of contracting plague hitherto mentioned are, it need scarcely be pointed out, of rare occurrence, and it is of more importance to ascertain the duration of the incubation period in those instances where the disease is contracted in one of the more frequent modes. What those various modes are need not be discussed here. The evidence hitherto published points to the possibility of very great variations in the duration of the incubation period. It will be convenient to take some instances of a short incubation period first, to follow these by some general evidence of the average period of incubation, and to conclude with a brief discussion of some examples where the incubation period has apparently been of remarkable length.

In two recorded instances the incubation period has appeared to be of not more than 24 hours' duration. The first case was that of a woman who, after a prolonged stay in a plague-f[illegible] infected town and sickened with [illegible].[6]

Another rece[illegible] ly short incubation period was observed in a village in Mongolia where plague has been endemic for the last nine or ten years. A labourer from this village had been absent for eight days; he returned to his house one afternoon; a person was lying ill suffering from plague in this house. He developed symptoms of plague on the following day within 18 or 20 hours of his return to the house. It is just possible that this man had contracted the infection before leaving the village eight days previously, but the published account of the incident does not state whether he had been exposed to infection before leaving the village, while he certainly was so exposed on his return.[7]

A third example of a short incubation period is recorded in the report of the Bombay Plague Research Committee. The patient was a fireman on board the s.s. *Hydaspes*, which arrived at Bombay from Shanghai (a plague-free port) on Jan. 7th, 1897, and entered dock on the same evening. He did not complain of illness during the voyage to Bombay. Probably on the evening of the 7th, and certainly on the morning of the 8th, he visited the city where plague was prevalent. On the morning of the 9th symptoms of plague developed. Here the incubation period was almost certainly not more than 36 hours. The possibility of the infection having been brought in some unexplained way from one of the plague centres in China to Shanghai, and thence carried by the patient to Bombay, only to develop after his arrival there is so remote that it may be practically ignored.

In most places the average duration of the incubation period of plague has been believed to be from two or three, to five, six, or seven days or even longer. In Bombay, in 1896-97, it was believed to have varied between four and six days, but to have been sometimes shorter and sometimes longer.[8] It is rare in ordinary plague hospital practice in India to be able to determine even approximately the length of the incubation period, for reasons which are too obvious to require explanation; but in one case admitted to the Mody Khana Hospital in Bombay the period could, it was

[1] Indian Medical Gazette, October, 1898.
[2] Ibid., August, 1898.
[3] Ibid.
[4] Ibid., July, 1898.
[5] THE LANCET, June 11th, 1898, p. 1[illegible].
[6] [illegible] the Propagation of Plague [illegible]. Archives de Médecine et de Pharmacie Militaires, June 1898.
[7] [illegible]
[8] Report of the Bombay Plague Research Committee.

stated, be determined as not exceeding three days. This patient arrived in Bombay from Calcutta (where plague was not then present) by sea, on April 6th, 1897, and he stated that his symptoms developed three days after landing.[9] Dr. T. S. Weir, the health officer of Bombay, has also observed cases in which the incubation period seemed to be less than two days in length.[10]

In Hong-Kong the incubation period was thought to have been usually from three to six days.[11] In the case of three European soldiers who were attacked by the disease in Hong-Kong in 1894 the fever developed respectively three and a half, four, and six and a half days after clearing out some infected houses.[12] In the case of another soldier the incubation period was four days.[13] The proof, however, in these cases does not appear to be absolutely conclusive that the infection was contracted on the particular day in question, and not either before or after. Other observers of the same epidemic estimated the incubation period as varying between four and six days[14] and between two and seven days[15] respectively. In Formosa, in the autumn of 1897, the incubation period was reckoned at from four to five days.[16] In Mauritius the incubation period is stated to have never exceeded five days.[17] In Alexandria the case has been published of a hospital assistant, who is said to have washed the body of a septicæmic plague patient on May 29th, 1899, and to have developed plague five and a half days later.[18] Here, however, further details are required to prove that the infection was contracted from this particular source and not from some other.

The following are some examples where the incubation period has appeared to be unusually prolonged. Surgeon-General R. Harvey, I.M.S., has recorded the cases of two stable-boys in his employ. One was attacked with plague and was at once removed to a separate tent; the other boy (who had slept with this one) and all the remaining servants were kept under observation. The second boy developed plague eight days later.[19]

Leumann has recorded three cases in which, he states, the incubation period was definitely ascertained to be 17, 19, and 20 days respectively. "Each of these cases," he adds, "came under my own observation; was kept aloof from all sources of contagion or infection during the times specified, in a camp where the examining hospital assistant had to reside day and night; could not have been infected by me as I had no occasion to examine any of them until reported to me as suffering from a disease suspiciously like plague, and they undoubtedly developed plague. I have also heard of similar experiences from other medical officers on plague duty in the Bombay Presidency."[20] In these instances, however, the term "incubation period" is clearly employed as covering the period between the time of exposure to infection and the onset of the disease, and not the period between the reception of the bacillus into the tissues and the onset of the disease.

In 1896 a Chinese laundryman died at the Kennedy Town Plague Hospital in Hong-Kong.[21] His only known exposure to infection had been 11 days prior to the commencement of his attack. In this case also, as the man was employed in washing clothes, it is just possible that he may have contracted the disease from some infected clothes and that the incubation period was, therefore, shorter than it appeared. In another instance in the same epidemic "a Chinaman in the gaol at Hong-Kong developed plague after being nine days under lock and key. From June 11th until June 20th he was apparently well, but on the evening of the 20th he became feverish and developed plague. ..... Dr. Lowson, however, states that the man complained of being ill for two days before being placed on the sick-list, thus reducing the period to seven days, and although the man was put in the cells on the 11th it was not until the 12th that he was really beyond contact with the outer world."[22]

A large number of analogous cases of plague developing in prisoners after much more prolonged separation from the outside world have been observed in Bombay. A smart outbreak of plague occurred, it will be remembered, in the Byculla House of Correction late in 1896. In 1898 I had two patients in my wards at Parel who had developed plague in the common gaol in Bombay. One of them had been in prison for six months before the onset of the attack. In a similar case in Karachi the patient had been in prison for five months before he developed plague.[23] In all such cases the most probable explanation is that the infection has been conveyed to the prisoners in some way by means of rats, these animals being known to be common enough in many gaols.

In like manner in the very numerous instances in which plague has developed on board ship or in a distant port at long intervals after the ship has left an infected port, it is impossible to regard them as instances of excessively prolonged incubation period, and their explanation is most probably to be found in the preservation of the plague virus in clothes or other fomites before it gains access to the tissues of the patients.

From the facts and considerations here brought together it may, then, be asserted that when plague is contracted through a wound or abrasion received during a necropsy on a plague cadaver or through the conjunctiva, the incubation period is usually from two or three days and is probably somewhat shorter than when contracted in the more usual manner. When contracted in the ordinary manner the interval between exposure to infection and the onset of symptoms is usually from two to seven days, but it may be as short as 24 hours, and it may be extended in rare cases to a period of several weeks. In the vast mass of cases it is impossible to know at what moment the virus actually enters the tissues of the patient, but it is reasonable to believe[24] that in those cases where the interval between apparent exposure to infection and the onset of symptoms has been very long the virus has for a considerable portion of the period been preserved in fomites outside the body of the patient.

For practical purposes it has been generally agreed to regard the maximum incubation period of plague as 10 or 12 days. The compiler of the Government of India Report upon Plague in India in 1896-97 has recorded the belief "that there has not been a single authenticated instance in the present epidemic of a period of incubation of more than 10 days."[25] 12 days have been accepted as the maximum period by the framers of the Venice Convention. Plague, it is true, has in some instances developed on a vessel, at sea or in port, considerably more than 12 days after leaving an infected port; but these cases have been exceptional. In some of these instances the disease has developed three, four, and even six or more weeks after the ship has left the infected port.[26] It is probable that these cases are to be explained in the manner suggested above; and it is certain that any attempt to extend the conception of the incubation period for quarantine or observation purposes so as to include all possible cases of this kind would be fore-doomed to failure.

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[9] General Gatrere's Report, p. 31.

[10] Report of the Municipal Commissioner of Bombay on Plague in Bombay 1898-99, p. 97.

[11] Wilm.

[12] Lowson, Indian Medical Gazette, January, 1897.

[13] Ibid.

[14] Yersin, quoted in the Government of India Report on "Plague in India, 1896-1897," compiled by R. Nathan, I.C.S., vol. i., p. 13.

[15] Schouler, Ibid.

[16] Mathieu, James, July-August, 1898, "La Peste de l'Ile Formose."

[17] Borel, in the Bulletin de la Société de Médecine Sanitaire Maritime, Marseilles, [illegible] No. 3.

[18] Brit. Med. Jour., June 24th, 1899.

[19] Report of the Sanitary Commissioner with the Government of India, 1897.

[20] Indian Medical Gazette, October, 1898.

[21] Transactions of the Epidemiological Society, New Series, vol. xvi., 1898-99, p. 33, "The Spread of Plague," by James Cantlie, M.B. Aberd., F.R.C.S. Eng.

[22] [illegible] p. 307, "Plague in Sind," by [illegible] I.M.S.

[23] [illegible] on the occasional occurrence of excessively long incubation periods in a disease such as hydrophobia, a more positive assertion than that contained in the text would scarcely be justifiable.

[24] Government of India Report, vol. i., p. 19.

[25] Two cases of plague occurred on ships in the Thames in the autumn of 1896; in one the patient had left Bombay 39 days before his attack, and in the other the patient had left Calcutta 45 days before developing the disease. A case of plague on the s.s. *Golconda* developed in December, 1893, at least three weeks after the ship had sailed from India. Many other instances of the kind might be quoted, as, for example, the case of the two Indian natives who developed plague in the Transvaal in the year 1893.

BARRY PUBLIC HOSPITAL.—At the meeting of the Barry District Nursing Association held on May 8th, under the presidency of Major-General Lee, J.P., it was stated that the expenditure during the year amounted to £1373 and the income to £1387. 471 cases had been treated during 1899. At the accident hospital 82 cases had been admitted.

ON THE INEFFICIENCY OF THE BOARD OF TRADE TESTS FOR THE DETECTION OF COLOUR-BLINDNESS.

BY F. W. EDRIDGE GREEN, M.D. DURH., F.R.C.S. ENG.

WHEN I read a paper over 11 years ago drawing attention to the inefficiency of Holmgren's test for colour-blindness not a single one of the specialists who heard my paper agreed with me; now I do not know of a single man who has specially devoted attention to the subject who would say that this test is an efficient one. But there are many who, though acknowledging that the test is not an efficient one, still adhere blindly to the theory and method. I hope to be able in this paper to show that a test to be efficient must be based upon the facts of colour-blindness and not upon any theory.

It would surprise the public and those in authority if they knew how many colour-blind men there are in the seafaring and railway professions, but I am, of course, absolutely prohibited from giving the name of any colour-blind man who may consult me to his employer without the consent of the man in question. Incredible as it may seem, shipowners are able to and do employ colour-blind officers who have been rejected by the Board of Trade, and who may have been discharged by other companies for nearly causing accidents.

The reports of the Board of Trade show that Holmgren's test has been used by the Marine Department since September, 1894. Let us consider whether there has been any improvement in the results obtained since the adoption of the test. The percentages of failures in colour vision since 1885 are as follows: 1886-86, 1·39; 1886-87, 1·12; 1887-88, 1·01; 1888-89, 1·03; 1889-90, 0·94; 1890-91, 1·19; 1891-92, 0·82; 1892-93, 1·17; from June, 1893, to August, 1894, 1·27; from September, 1894, to December, 1895, 1·39*; and from January to December, 1896, 1·02; from January to December, 1897, 0·67*; and from January to December, 1898, 0·81. The percentage is really less in those years marked with an asterisk, as in each year one of those [illegible] the subsequent year. This is in [illegible] d on appeal in the same year as [illegible]

It is not my intention to give in this paper all the objections to Holmgren's test, but only to show that in practice the results have been as I predicted. Anyone who wishes to consider the subject in all its details will find these objections in full in my book on "Colour-Blindness" in the International Scientific Series. I can only say that my nine years' subsequent experience of the subject only makes me more certain of the statements I have there made. One of the chief arguments that was used by the advocates of this test against the old tests of the Board of Trade was that, as the known percentage of colour-blind persons in the community was at least 4, a test that detected a little over 1 per cent. must be inefficient. But it will be seen from the above figures that the percentage of those rejected has not been increased since the alteration in the method of testing. This is all the more worthy of note because candidates are able to be examined for the colour test alone. The percentage for the last two years is very low.

I may mention incidentally, in order to show the unreliability of this test to detect colour-blind persons, that I have [illegible] colour-blind that he could not be passed this test with ease. [illegible] to detect colour-blind persons but normal-sighted persons are rejected by it, particularly when the examiner adheres very carefully to the directions accompanying the test. It was never suggested that other than colour-blind persons were rejected by the older tests. Those who criticised the tests always declared that they were not stringent enough. It will therefore be seen that the test is more inefficient than that previously used. Of those who were rejected as colour blind in 1895 21 appealed and eight were found to have been wrongly rejected. I may also mention that another passed at a date later than that of the report. Of those rejected in 1896 12 appealed and five were found to be normal-sighted. In 1897 nine were re-examined on appeal and of these one passed and eight were rejected. The number of officers already in possession of certificates who on coming up for examination in the year 1897 failed to pass the sight test was seven, one mate and one second mate failing in form-vision, while two mates and three second mates failed in colours. The second mate who failed in form-vision passed on re-examination, and one of the three second mates who failed in colour-vision afterwards appealed and passed. Of those rejected in 1898 for colour-blindness six were re-examined on appeal and one passed. It will be noticed that only a small proportion of those rejected appealed.

In order to show how normal-sighted persons are rejected by this test I will relate the following case. A man was sent to me as colour-blind. On examining him I found that he was normal-sighted. I then examined him with Holmgren's test, carefully adhering to Holmgren's directions. He put several confusion colours with the test green but no greens. In answer to my inquiry he said that all were of the same colour. I then said, "Are they all [illegible] urple- [illegible] d not [illegible] : you [illegible] it are [illegible] the differences between matching and naming colours? When a person is asked to name a colour without being allowed to compare it with other colours he has to compare the present impression of colour with those impressions already in his mind. In order, therefore, that he may be able to name colours he must at least have an elementary knowledge of colour names. A person who has been educated with regard to colour will be chiefly influenced by colour, but a man who has only an elementary knowledge of colours will be influenced considerably by shade. If we compare the two methods with persons belonging to the educated classes we shall see how inferior the method of matching is to that of naming. Let us take 150 wools and examine two similar colour-blind educated persons with them. The first is asked to classify the wools, putting all those of similar colour together; the second is asked to name the whole of the wools one by one. It will be found that the second person will make very much more numerous mistakes than the first. The reason of this is obvious: in the case of naming colours the person has only the impression present in his mind to enable him to name a colour correctly; in the case of matching colours he has other colours present with which he can compare the test. We all know what to do when we are doubtful what to call a colour—namely, compare it with some other colour about [illegible] differences of colour become [illegible] in testing the [illegible] ignore colour [illegible] names as Holmgren says that we should do. I contend that it is absolutely necessary that the person to be tested should pick out the colours as colours and not as shades. It is not necessary that he should know the names applied to nondescript colours but only the names of the fundamental colours—red, yellow, green, and blue. If we test a person without making him clearly understand that he is to match the wool by its colour and not by any other quality we are very likely to reject normal-sighted persons as colour-blind. A man who names a green light as red must either be colour-blind or dangerously ignorant of colours. I have never met with a case of the latter kind and doubt whether it could be met with in the class of men tested. The Board of Trade have used a test for colour ignorance, but no failure to pass the test has been reported.

One very common mistake which many writers on colour-blindness have made is that colour-blind persons guess the names of colours when naming them. I can say most emphatically that they do nothing of the kind—at least, until they know they are colour-blind. A colour-blind person [illegible] with his colour perception and [illegible] class he belongs. A man who [illegible] was incompetent. As a colour- [illegible] his defect he answers as he [illegible] He does not guess because he feels certain that he is right, and therefore in all good faith would run a ship or a train to destruction. It must be remembered that the colour-blind have never seen colours as the normal sighted see them.

I will now give another example of the effect of ignorance of colour names. The following case is recorded in the report [illegible]

of the Board of Trade. A sailor was examined on June 9th 1894, by the old tests and failed. He made the following errors as to coloured lights. He designated pink as green, green as neutral or blue, and bottle-green as salmon. He was examined again on July 7th, 1894, and he again failed. He called pink green and green neutral. After the introduction of the new tests he appealed and has been specially re-examined and passed! This is the result of the absurd neglect of colour names when examining a person as to his colour-vision. I have no hesitation in saying that this man is colour-blind and was rejected rightly in the first instance by the old tests. Could a normal-sighted person after four and a half years' experience at sea mistake pink for green, green for neutral, or bottle-green for salmon? It will be seen that the man made the ordinary mistakes of the colour-blind and even used such terms as "salmon."

A very simple illustration may help to make my point quite clear. Let it be supposed that I wish a man or a child to separate a roomful of people into men and women. I take him to the room and say, "Now I want you to separate those persons. I want you to put all that look alike in one class and the remainder in the other." When I return I find that he has put all the big people in one class and all the small people in the other. If I then say, "You have classified them wrongly, I wanted you to put the men in one class and the women in the other," he could reply, exactly like the man who was wrongly rejected by Holmgren's test, "Why did you not tell me that you wanted me to separate them into men and women?"

A person with central scotoma will escape detection if examined by this test. For example, I examined a person with central scotoma with my pocket colour-test (in which small pieces of coloured material are ranged in rows) and found him perfectly colour-blind with regard to red, green, and grey. I then examined him with Holmgren's test and he went through it correctly with the greatest ease. As a light at a distance occupies the central portion of the field of vision, these persons will be found to recognise colours when close to them but not when they are at a distance. The red end of the spectrum may be considerably shortened, so much so that a person may scarcely be able to distinguish red from black. It is obvious that this will not prevent him from matching a light-green wool with other green wools.

When I ask a member of the general public whom he thinks are employed as examiners by the Board of Trade he almost always replies, "Trained oculists, of course," and is astonished beyond measure when I tell him that not a single medical man is employed either for conducting the ordinary examination or appeal.

The tests which I use are constructed on the facts of colour-blindness apart from any theory and so will hold good whatever theory be adopted. They are two in number. One I have called the "classification test" and the second the "lantern test." The "classification test" is not essential but is a great help in ascertaining the colour perception of an individual. It consists of four test colours and 180 confusion colours, 150 coloured wools, 10 skeins of silk, 10 small squares of coloured cardboard, and 10 small squares of coloured glass. The whole series of colours is represented, both simple and compound. In addition, there are a large number of colours which have been chosen by colour-blind persons as matching the test colours. The test colours are orange, violet, red, and blue-green, labeled one, two, three, and four respectively. The whole series of colours is chosen with the view of presenting as much difficulty as possible to the colour-blind person and as little as possible to the normal-sighted person.

The apparatus of the lantern test consists of a lantern and 13 slides, seven slides containing coloured glasses and six containing modified glasses. The slides are numbered as follows:—Coloured glasses: (1) standard red (A and B), (2) yellow, (3) pure green, (4) standard green, (5) blue, and (6) purple. Modifying glasses: (7) ground glass, (8) ribbed glass, (9) neutral No. 1, (10) neutral No. 2, (11) neutral No. 3 and (12) neutral No. 4.

Space will not permit me to do much more than refer to these tests which are described in detail in my book on "Colour-Blindness." I will, however, mention the advantages which the lantern test possesses over Holmgren's. On account of the arrangement of signals by sea and land it is necessary that persons employed in the marine and railway services should be able to recognise and distinguish between the standard red, green, and white lights under all conditions in which they are likely to be placed. These conditions are represented by the test. The test demonstrates perfectly to an onlooker the incompetence of those rejected. The test demonstrates to the colour-blind person himself that he is colour-blind. In one combination a red light is shown, visible to the normal-sighted at a considerable distance. With the colour-blind if the red end of the spectrum be much shortened the red light will not be perceived at all. I have only to show a case of this kind to convince the most obtuse disbeliever in colour-blindness. The light is dazzling in its brightness and yet the person examined declares that the room is absolutely dark. Yet this man may have just passed Holmgren's test with ease. A person with central scotoma is at once detected as the light occupies the central point of the field of vision. In another combination the intensity of the lights is altered so as to make them appear changed to the colour-blind whilst leaving them unchanged to the normal-sighted. With the unmodified lights the green is lighter and bluer than the red. When modified with a neutral glass the green appears the darker and yellower of the two, exactly as it does in a mist or fog. The two-unit colour-blind, therefore, at once call this combination red, because the colour is made to look so much like their red. I have not met with a two-unit colour-blind person who has named this combination correctly; the answer has almost invariably been "red," usually with some positive exclamation, as, "There is no doubt about *that* being red." The importance of this fact cannot be over estimated, because I have tested educated colour-blind persons who have found no difficulty in naming the colours when unmodified with the neutral glasses. These would be most dangerous persons at sea because they would deliberately mistake the red light for the green and *vice versâ*. At the same time they would feel positive about the nature of the lights. It seems to me that in all probability this is how many accidents have occurred.

The material of the test is the best possible, as a coloured glass will not fade or become soiled like all dyed substances. Again, a coloured light has none of the accessory qualities which enable the colour-blind person to pass through other tests. Thus many two-unit colour-blind persons will call the yellow glass red or green who would not think of putting a yellow with a green or red wool on account of the difference in luminosity. The method is better than that of direct comparison because the candidate is forced to use his colour perception and has to compare the colour seen with previous impressions of colour in his mind. By the use of neutral glasses I have obviated the objection to the method of naming colours (namely, that an individual can distinguish between colours by their intensity) and forced the examinee to depend upon his colour perception and not upon some other accessory quality of the object seen. No amount of coaching will enable a colour-blind person to pass this test, whilst almost any other may be passed in this way. The test also has a quality possessed by no other—namely, that of enabling the examiner to reject dangerous persons and dangerous persons only.

It is incredible that the subject of colour-blindness and defects of sight in seamen and railwaymen should be so much neglected by those in authority, as it ought to be evident to every thinking man that anyone who cannot distinguish red from green or who cannot see red at all is not a proper person to be employed in occupations in which it is necessary to distinguish between these colours. I know of no case in which, an accident having occurred through a sailor or engine-driver mistaking the signals, the man's sight has been examined at the subsequent inquiry to see whether he was colour-blind or his sight defective in any way. In accidents which have seemed to me to have occurred through colour-blindness, others as well as myself have written to the authorities asking, but ineffectually, that the men's sight should be examined. At the same time the men examined have a right to expect an efficient test conducted by a properly qualified medical man. We ought not to hear of so many cases of normal-sighted persons being rejected as colour blind. Let those in authority put themselves in the places of the unfortunate officers who have been wrongly rejected.

As I propose shortly to give several demonstrations of colour-blindness I should be glad if anyone who would like to be present would communicate with me. I should be glad to test then any doubtful case of colour-blindness, especially one which has escaped detection by any of the tests in ordinary use.

Harley.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

SIMULTANEOUS EXCISION OF BOTH MAMMÆ FOR CANCER.

By G. P. NEWBOLT, F.R.C.S. ENG.,
HONORARY SURGEON TO THE ROYAL SOUTHERN HOSPITAL, LIVERPOOL.

IN THE LANCET of May 12th, p. 1356, Dr. Herbert Snow published a note on a case of double excision of the mammæ with axillary glands for cancer done simultaneously. As I have recently operated simultaneously upon a case of cancer of both breasts it may be of interest to report the case.

The patient, aged 64 years, consulted me on April 4th, 1900, concerning a lump in her left breast. She was a fairly healthy-looking woman and had married twice. She had borne no children and had been a widow for seven years. She had worked hard with the left arm and had noticed a lump in the left breast for about 12 months and it was now becoming painful. On examination there was a lump of the size of a small orange in the left breast and a sanious discharge coming from the left nipple which had retracted. The right breast, about which she did not complain, was hard and infiltrated, but the nipple was not retracted. I could not feel any glands in either axilla though she was a spare woman. She had a mitral murmur and a trace of albumin in her urine. On April 6th I removed both breasts, opening the left axilla as I excised the left breast first, but as I found no glands I left the right axilla untouched. The patient suffered somewhat from shock but rallied well and was about at the end of three weeks, the wounds having healed. Microscopically the left growth was a duct carcinoma, that of the right side a glandular carcinoma. If, therefore, I had opened the right axilla I probably should have found some glands, but a naked-eye section of the growth at the time of operation was inconclusive.

Remarks.—A case of this nature offers several points for consideration and I think it will generally be acknowledged that removal of both breasts and axillary glands simultaneously in a woman, aged 64 years, with albuminuria is a severe procedure. The question arises, Would it not be better to remove one breast and clear out one axilla at a time? To this the objection can be raised that in the meanwhile the growth on the opposite side increases and there is also the chance that the patient will not face the second operation, especially if, as in this case, she does not think much of the growth which she has not noticed but which has been pointed out to her. As Dr. Snow remarks, the cases must be few in which operation is justifiable. It is interesting to note that one growth was a duct and the other was a glandular carcinoma. I intend, if possible, to keep my patient under observation and to clear out the right axilla on the first indication.

Liverpool.

A CASE OF MULTIPLE PAPILLOMA OF THE VAGINAL SURFACE OF THE CERVIX UTERI.

By JAMES OLIVER, M.D., F.R.S.EDIN.,
PHYSICIAN TO THE HOSPITAL FOR WOMEN, SOHO SQUARE, W.

PAPILLOMA of the vaginal surface of the cervix uteri is an extremely rare disease. A patient suffering from this affection who came under my care was 41 years of age. She had had two children and had been a widow for ten years. She consulted me on account of a slight hæmorrhagic discharge from the vagina which she had noticed occasionally for five months. At no time had any alteration in the frequency or amount of the menstrual discharge been noted, and during the inter-menstrual period preceding her visit to me there had been no hæmorrhage but merely a profuse white discharge from the vagina. A digital examination of the vagina detected a sluggy polypoid growth of the size of a small hazel-nut springing from the vaginal surface of the left half of the cervix about three-eighths of an inch from the os uteri. There was no evidence of any infiltration of the cervical tissue either in the neighbourhood of the growth or around the os. The examination caused the tumour to bleed freely.

After snipping off this growth with scissors two smaller growths of the same character of about the size of millet seeds, which had been concealed by the main growth, were revealed. Each growth possessed a small arterial vessel which spurted bright blood—immediately its continuity was severed. The site of each growth presented the appearance of a highly vascular spot from which the mucous membrane might have been removed by a circular punch of the size of a small goose-quill. These islets were separated from each other by apparently healthy mucous membrane and there was no evidence of induration of the cervical tissues. To include the bases of all three growths I removed a wedge-shaped piece of tissue from the left half of the cervix and brought the wound together with deep catgut sutures, creating thereby a linear wound one and a quarter inches in length. The operation did not interfere in any way with the integrity of the os uteri or the cervical canal. Union was effected by first intention. (*Note.*—If my patient had been living a marital life vaginal hæmorrhage would have been observed more frequently and would probably have been more profuse.)

Microscopic sections of the growths presented generally the appearances of a simple papilloma, but sections of the base of the largest growth revealed the presence of a few cells of such a character as to arouse suspicion regarding the innocency of the tumours.

Gordon square, W.C.

PLAGUE CONTRACTED FROM THE BITE OF A RAT.

By J. BELL, L.R.C.P.LOND., M.R.C.S. ENG.,
MEDICAL OFFICER IN CHARGE OF POST MORTEMS AT THE GOVERNMENT CIVIL HOSPITAL, HONG KONG.

THE following case of plague resulting from the bite of a rat may be of interest.

On April 12th, amongst the bodies lying at the public mortuary at Hong-Kong was that of an adult Chinaman, in the Government employ as a turncock, who resided at No. 3 Police Station, in the centre of the area where most of the cases of plague are at present occurring. The police report stated: "His daughter reports that her father was bitten by a rat on the thumb and that he treated the wound himself." On the ball of the left thumb were two small wounds and the hand and forearm were much swollen. In the left axilla was a brawny œdematous swelling, in the midst of which was an enlarged gland with hæmorrhages in the centre. From this a smear was taken on a slide and after staining with carbolised fuchsin it showed typical plague bacilli. Through the kindness of Inspector Ford I ascertained from the man's wife that about ten days ago, in one of the streets in the neighbourhood of the police station, he was opening an iron door guarding the street water tap and in this space there was a rat. In trying to catch it he received the bite, and three days afterwards he noticed the arm getting painful and tender.

Government Civil Hospital, Hong-Kong.

CARDIFF INFIRMARY.—The annual report for 1899 which has just been issued shows that during the year 1700 in-patients had been admitted against 1521 in 1898, the number of patients daily in the institution being 133 as against 124 in the previous year. The average cost per bed occupied was £54 4*s.*, an increase of £2 7*s.* as compared with the previous year. The out-patients numbered 13 556, an increase of 513 over 1898. The prescriptions dispensed for these cases were 25 010 against 27 323 in the previous year. The Infirmary Saturday collection showed an increase of £277 over 1898. The "Sunbeam League" contributions amounted to £315, sufficient to maintain six cots in the Children's Ward. During the year Mr. Bell contributed £1500 in memory of his late uncle, Mr. Nixon. Legacies of £1000 and £100 had been received from the late Mr. J. Davies and Mr. C. Morris respectively, and Mr. T. Webb had given £1500 for the purpose of erecting a new operation theatre as a memorial to his late wife.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

LIVERPOOL STANLEY HOSPITAL.

A CASE OF RETRO-PERITONEAL FIBRO CYSTIC TUMOUR; DEATH FROM PULMONARY EMBOLISM TEN DAYS AFTER OPERATION.

(Under the care of Mr. D. DOUGLAS-CRAWFORD.)

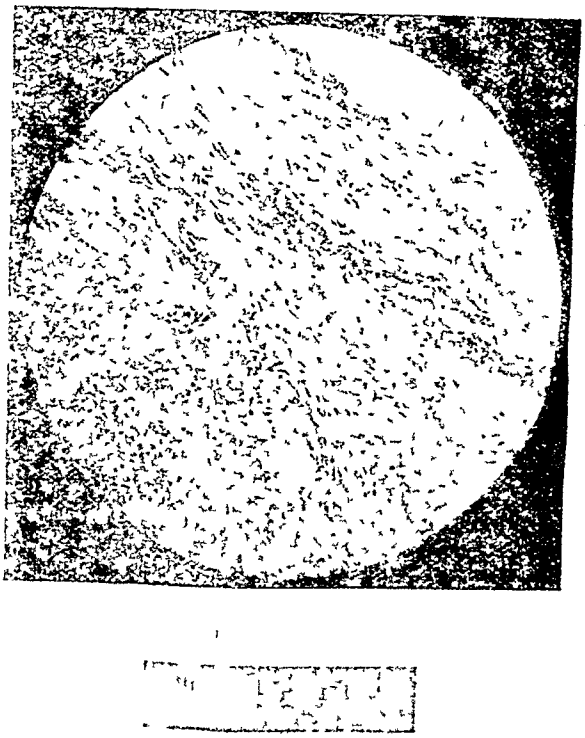
ALL forms of retro-peritoneal growths are far from common. The tissue in which they arise is the loose fibro-fatty layer which is immediately beneath the peritoneum and is called the sub-peritoneal fat, and therefore these tumours would more accurately be named sub-peritoneal. As the layer is composed of fat and fibrous tissue, the new growths which most commonly occur are lipomata and fibromata; myxomata also and sarcomata are found. Cystic tumours may arise in this situation in connexion with remains of the Wolffian body or Muller's duct, or by cystic degeneration of new growths; occasionally a chylous cyst is found.[1]

A virgin, aged 34 years, was placed under the care of Mr. Douglas Crawford in July, 1899, having been sent to him by Mr. C. Jordison of Malpas. The patient had noticed a lump in the abdomen for four years, and it was on account of its gradual increase of size that she sought medical advice a few days previously to her admission to hospital. Menstruation had always been quite regular.

On examination a large elastic tumour was seen occupying the hypogastric and umbilical regions and extending somewhat into the left hypochondrium. The percussion note was dull over the lower part of the tumour but was resonant above and to the left. A distinct percussion thrill could be elicited. Per vaginam the uterus was found to be tilted well forwards and downwards and of normal length. The right ovary could be definitely palpated. There was, however, considerable doubt about the left. The tumour appeared to be filling the pelvis behind the uterus, pushing that organ in front of it. The opinions expressed were in favour of a fibro cystic tumour springing either from the left ovary or from within the broad ligament.

The patient having been prepared in the usual manner an operation was undertaken on July 22nd. A small mesial incision was made through the abdominal wall below the umbilicus and at once a thick-walled cyst presented. This was tapped and a large quantity of clear fluid was drawn off. Owing to the incision being too small to enable the fingers to be swept around the tumour it was enlarged upwards three inches beyond the umbilicus. On bringing the upper end of the tumour into the wound it was found to be covered by small intestine. The emptying of the large cyst allowed the pelvis to be explored and it was found that both ovaries and tubes were apparently normal. It was evident that the growth was a retro-peritoneal tumour, whether primarily abdominal or springing originally from the [illegible] and which later had become sepa[illegible] to say. A longitudinal incision was made through the peritoneum over the tumour and its enucleation was proceeded with, this being a difficult and tedious process owing to the intimate connexion between the tumour and the peritoneum. In order still further to reduce its size one or two small cysts were tapped and a thick mucoid fluid was drawn off. On reaching the base of the tumour a number of large veins were seen passing between it and the right common iliac vein, and here the surface was studded with nodules which looked like small fibromata. The attachment of the base of the tumour extended from the left side of the lumbar vertebræ downwards over the aorta and vena cava [illegible] the sacral surface lying between the common iliac arteries, and so adherent was it to the large veins (vena cava and iliacs) that separation was impossible, consequently the bulk of the tumour was cut away and the remaining portion was clamped, and the edges, together with the peritoneal layers, were sutured to the edges of the recti, a glass drainage-tube was placed in the lower end of the wound, and the patient, much collapsed (after an operation lasting over an hour), was sent back to bed.

During the two days following the operation the patient's condition was decidedly critical, but after that she rallied and for the next eight days progressed splendidly. The



Section of tumour showing muscle cells. One division on the scale corresponds to 10 μ.

wound and stump kept sweet and were dressed daily with iodoform and cyanide gauze. On August 1st, at 5 A.M., the house surgeon (Dr. R. G. Henderson) was called to see the patient and found her left leg much swollen, but she complained of no pain and her pulse was good. When Mr. Douglas-Crawford saw her at noon her pulse was becoming rapid and shortly afterwards she showed signs of respiratory difficulty and died about one o'clock.

Necropsy.—On post-mortem examination it was found that the wound was healthy and that the peritoneal adhesions were good. The remains of the tumour were with great difficulty enucleated, and from a narrow area extending from the left second lumbar vertebra to the fourth it was only possible after cutting through the superficial layers of the anterior common vertebral ligament. At the commencement of the vena cava a clot was found extending into the left common iliac vein but not at all into the right vein. The other abdominal organs were healthy. The uterus, broad ligaments, ovaries, and tubes were quite normal. The right ventricle was filled with clot extending into both divisions of the pulmonary artery, and one or two small clots were found in the lungs. The section of the tumour kindly photographed by Mr. H. A. Clarke shows it to be a fibro-myoma which had evidently undergone cystic degeneration.

Remarks by Mr. DOUGLAS-CRAWFORD.—The literature of tumours growing from the retro-peritoneal tissue is extremely scanty. In an exhaustive paper on the subject read by Mr. William Anderson before the British Medical Association at Carlisle in 1896 he mentions lipoma, fibro myoma, and sarcoma as the tumours likely to be met with in this region and of these the lipoma appears to be the commonest. He considers the fibro-myoma to be much rarer and refers to two cases—one in which a series of 21 fibro-myomata was removed from a girl, nine years of age, by Professor Sancyoshi at the Tokio Charity Hospital. This patient died from shock half an hour after the operation;

[1] Sarwey, Centralblatt für Gynäkologie, 18[illegible], No. 16.

and another case in which Péan removed one weighing 18 pounds from the root of the mesentery. In discussing the etiology of these fibro myomata Mr. Anderson points out the existence of unstriped muscular tissue in different parts of the retro-peritoneal tissue, especially between the layers of the broad ligaments and in the suspensory fibres of the mesentery. Amongst the more recent literature is an interesting paper by Mr. Marmaduke Sheild read before the Royal Medical and Chirurgical Society[1] in which he gives an excellent description of a large fibro-myoma which was successfully removed from the retro-peritoneal space. My own case appears to resemble Mr. Sheild's except that it had undergone cystic degeneration and I am inclined to think that it arose from the muscular tissue found at the root of the mesentery.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The Wounded in the Present War.

A MEETING of this society was held on May 22nd, Dr. F. W. PAVY, the President, being in the chair

Mr. CLINTON T. DENT . . . . . the Present War. He c . . . . . scope of the surgical fi . . . . . present war; he would, however, confine his remarks to certain questions relating to the accommodation and to one or two classes of gunshot wounds. He much preferred tent hospitals to huts The patients in them certainly did better. The only objection was in case of wet weather, but this objection was more apparent than real. The tents were more sanitary and the ventilation was more perfect, , on the whole, the most ne whole campaign. It level and had 500 and ools, and public build- surgical cases, though l visitor. Of the latter . . . there were too many and their absence would have been an advantage. The additional air space in a marquee was very desirable. There should be always some kind of flooring. The regulation pattern of bed was too wide. The operating theatres should be of a more permanent kind than a tent. In this campaign the climate, altitude, and environment medical department, quite and high velocity arms. bullets had assumed quite es When retained a bullet had very often struck a bone, but it nevertheless went a straight course. The rapidity of rotation was enormous and that was one of the reasons why it had an expanding effect on bone. A fair proportion of bullets were lodged. When retained a bullet might after a time become a source of irritation, physical or psychical. If the bullet were sterile it did but little harm by being retained, but if septic it made itself known in that way. One of the most remarkable cases he had met with was that of a man who was shot through the frontal bone from side to side, the bullet lodging in the helmet on the other side. Under certain circumstances a bullet should be removed—viz., (1) when it was subcutaneous; (2) when it was pressing on nerves or important or vital structures; (3) when it was much deformed, especially if the mantle was split; (4) when it was likely to interfere with the union of a bone which it had split; and (5) generally shrapnel bullets should be removed. On the other hand, a bullet might very well be left unremoved when in the abdominal or thoracic cavity, or when lodged deep in cancellous tissue of bone or deep in muscular tissue, or, again, when the division of important muscular tissue was necessary for its removal. He had never advocated that all bullets should be left. The effect of range was very uncertain. Less injury would be done in a living than in a dead body. In the dead body subcutaneous bullets were rare, but in the living body they were not at all uncommon. The nearest escape he had seen was the case of an officer who was struck by a bullet precisely in the centre of the sternum which it perforated excepting the inner table. Long bones were rarely drilled but often fissured and splintered. The bone became slightly expanded and it might remain expanded. A feature of small-bore wounds was the large amount of callus afterwards thrown out, and therefore a neighbouring joint might become fixed. As to the effect of transport on fractures he (Mr. Dent) could fully indorse Mr. Treves's remarks. He thought that injuries to nerves were more common with high velocity bullets. The nerve might be engaged in the callus. He had seen three cases where Mauser bullets had gone clean through a nerve trunk. The function of the nerve might be disturbed when the bullet went quite close to the nerve trunk without actually cutting it. Nerves might be involved in cicatrices and he mentioned cases in illustration. Head injuries were some of the most successful surgical cases he had met with. "Gutter fractures" of the skull should always be trephined; the injury of the diploe in such cases was often very great. That old dictum of Guthrie that injuries of equal extent were more serious in the frontal than in the mid-cerebral region, and in the latter than in the post cerebral region, was certainly not borne out by the experience of the present war. Mr. Dent exhibited lantern slides of skiagrams and of Mool river hospital and Boer trenches.

Sir WILLIAM MAC CORMAC also gave an address on the Wounded in the Present War, which appears in full at p. 1485 of the present issue of THE LANCET. He exhibited a 100 pound shell which had been presented to him by Colonel Downing and the officers of the Royal Artillery. It was fired from the Boer Long Tom gun, "Umbulwano Bill," and 20 of such shells were fired into Ladysmith during the siege daily excepting Sundays. This gun was mounted on a disappearing carriage and it was capable of carrying 10,000 yards (six miles) Another smaller shell, the first fired by the Beers into the English lines at the battle of Colenso, was also shown.

Major WILLIAM DICK, R A M C. (Netley), had only had experience of wounds after the men came back from the seat of war. There had been a large number of cases of paralysis of the musculo-spiral nerve. In one case he thought the nerve was divided, but he found at the operation that it was intact. It was only damaged, and the patient completely recovered. He believed small-bore bullets were more often deflected than was supposed, and he mentioned cases in point. He also mentioned several cases of abdominal wounds, and he believed that their successful issue had been favoured by the fact of the patients having been wounded when starving.

OTOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Exhibition of Cases and Specimens.

AN ordinary meeting of this society was held on May 7th, Sir WILLIAM DALBY, the President, being in the chair.

The PRESIDENT announced that Professor Politzer of Vienna had been elected an honorary member by the council.

Mr. C A BALLANCE showed a case of Epithelial Grafting of the Labyrinth after Removal of the Semicircular Canals. A woman, aged 54 years, had had a discharge from the left ear since childhood. On May 7th, 1898, she was admitted into St. Thomas's Hospital with a large mastoid squamous abscess, foul otorrhœa, and extreme vertigo. The old mastoid operation was performed, but discharge from the ear and vertigo still persisted and deafness was absolute. On Feb. 6th, 1900, Mr. Ballance found a sinus leading into the petrous portion. The semicircular canals were in part removed, and the vestibule was opened, the remaining cavity being repeatedly swabbed out with absolute phenol. For several days the patient was very sick and giddy. On the 17th the cavity was grafted. No giddiness or sickness occurred after the grafting On removing the plug on the 22nd the patient at once said that she could hear well. When shown at the meeting the wound was soundly healed, the hearing being good, and the patient could run, being free from giddiness and also from tinnitus. Mr. Ballance pointed out that the

[1] Transactions of the Royal Medical and Chirurgical Society, vol. lxxx.

case illustrated the boundless possibilities of epithelial grafting when applied to the labyrinth for the cure of deafness.—The PRESIDENT thought that Mr. Ballance's procedure opened up an enormous field for the future.—Dr. WILLIAM MILLIGAN thought that the procedure could be adapted to all cases of dry catarrh of the middle-ear, and for certain cases of post-suppurative fixation of the stapes; he had accordingly operated on three cases of advanced dry catarrh in which long previous treatment had been tried. He first performed the complete post-aural operation and then endeavoured to remove the stapes, or if the foot-plate was too ankylosed for removal he burred through it and the adjacent part of the promontory, thus exposing the vestibule and providing a path for the direct transmission of sonorous vibration to the internal ear. The final measure consisted in grafting, as in Mr. Ballance's suppurative cases. In one case the hearing had been somewhat improved. The marked tinnitus had been to a great extent relieved.—Mr. HUGH JONES had performed Malherbe's operation in one case, but the result was disappointing.—Mr. ARTHUR CHEATLE thought that opening the posterior labyrinth would be of use in all cases of increased tension as indicated by giddiness and tinnitus. In cases of dry catarrh of the middle-ear he suggested that the promontory should be opened through the meatus.—Mr. ERNEST WAGGETT thought that in all cases of increased labyrinthine tension the scalæ should be tapped through the round window before attempting Mr. Ballance's operation.—Dr. URBAN PRITCHARD, Mr. CUMBERBATCH, Dr. DUNDAS GRANT, Dr. MACNAUGHTON JONES, and Mr. C. H. FAGGE joined in the discussion.

Mr. BALLANCE also showed a case in which an Alveolar Sarcoma had involved the Petrous Bone, paralysing the seventh, eighth, ninth, tenth, eleventh, and twelfth nerves and on which he had operated with success. A woman, aged 32 years, was admitted into the National Hospital, Queen-square, on Feb. 7th, with left facial paralysis, severe pain in the left ear, and difficulty in swallowing. A polypus filled the meatus and there was some foul discharge from the ear. The left side of the tongue was wasted and it was protruded to the left. Taste was absent on the same side. The voice was nasal, the left side of the soft palate was paralysed, and fluids regurgitated through the nose. The left side of the pharynx was insensitive. The left vocal cord was fixed in the cadaveric position. Complete paralysis of the trapezius and sterno-mastoid muscles with atrophy was also present. On March 9th on opening the bone behind the ear a tumour was found which had destroyed the mastoid and petrous portions. Rapid enucleation of the tumour was performed, very considerable hæmorrhage resulting. The growth was adherent to the dura mater in the region corresponding to the anterior and posterior surfaces of the petrous portion. On May 7th sound healing had occurred.

Mr. ARTHUR CHEATLE showed (1) a case of Epithelioma of the Meatus which had involved the Middle-ear and the Parotid Region; and (2) a case of Chronic Middle-ear Suppuration with loss of the Head of the Malleus, the Incus, and the Crura of the Stapes.

Mr. C. H. FAGGE showed (1) a case in which Healing had occurred after Ossiculectomy (discharge had been present for 18 years); and (2) a case of Functional Nerve Deafness.

Dr. DUNDAS GRANT showed a case of Old-standing Perforation healed by the Application of Trichloracetic Acid.

Dr. MACNAUGHTON JONES showed a case of Contracted Meatus arising out of Chronic Otitis Media.

Dr. JOBSON HORNE exhibited the specimens and read the notes of a case of Septic Thrombosis of the Right Lateral and the Superior Longitudinal Sinuses occurring with broncho-pneumonia, associated with pus in the middle-ears, the membranes being intact. The diplococcus of pneumonia and pyogenic organisms were cultivated from the clot in the sinuses and from the middle ear. It was suggested that the infection of the sinuses had occurred by way of the petro-squamosal sinus (which was very marked) from the middle-ear.—Mr. ARTHUR CHEATLE in discussing the case alluded to Dr. Still's investigations on the presence of infective pus in the intact middle-ear of infants. He thought that if pathological changes in the lining membrane were present the condition could not be considered normal, and he showed a drawing and specimen of an illustrative case.—Mr. BALLANCE stated that the middle-ear of every child under five years of age contained muco-pus, but he was not prepared to say that the presence of an infective organism was normal.

EDINBURGH OBSTETRICAL SOCIETY.

Exhibition of Specimens.—New Handle for Axis-traction Forceps.—Vaporisation of the Endometrium.—Vulvar Hæmatoma in Labour.

A MEETING of this society was held on May 9th, Dr. R. MILNE MURRAY, the President, being in the chair.

Professor A. R. SIMPSON showed (1) an Anencephalic Fœtus and (2) a Bi-partite Placenta with a Single Amnion and a Single Child.

Dr. J. LAMOND LACKIE showed the Bladder and Kidneys from a case of Suppression of Urine in which there had been evidence of tuberculous kidney for nine years.

Dr. G. MATHESON CULLEN showed (1) the Cervix and Part of the Vagina which had been thrown off after separation in a syphilitic patient, the cause not being known; and (2) Radiograms of Polydactyly. Out of a family of 13 children three had deformed thumbs and the mother had also double thumbs on both hands.

Dr. R. MILNE MURRAY showed a Cyclops Fœtus which lived a few hours.

Dr. J. FOULIS showed a New Handle for Axis-traction Forceps.

Professor A. R. SIMPSON read a paper on Vaporisation of the Endometrium. In 1895 Dr. Neugebauer of Warsaw gave a preliminary notice of a paper by Professor Sneguiveff of Moscow, who had for some years previously been making observations on the effect of steam as a hæmostatic. It had proved serviceable in various hæmorrhages and when applied to the endometrium acted as a caustic, hæmostatic, anæsthetic, and antiseptic. The apparatus consisted of a small boiler for generating steam and a double catheter for conveying the steam in and out of the uterine cavity. Dr. Ludwig Pincus of Danzig had tested the applicability of this apparatus to a variety of cases and had studied the conditions under which it might be employed. The operation with the fenestrated catheter, where steam came directly into contact with the endometrium, he termed "atmokausis." Another operation with a non-fenestrated catheter, the steam not being allowed to escape, he termed "zestokausis." Pincus gave the following conclusions regarding the method of treatment:—1. Atmokausis and zestokausis were both effective and serviceable therapeutic methods; they were not more dangerous than other intra-uterine procedures if the rules were carefully followed. 2. The technique might be regarded as settled. 3. The best results were obtained when it was applied apart from curetting, without narcosis, and with previous dilatation and protection of the cervix. The patient should rest in bed till the slough separated, in slight cases till the third or the fourth day. 4. A dosage of the cauterisation from a superficial influence to the most complete destruction of the mucous membrane was absolutely possible. The dosage depended on the temperature of the steam (which was regulated by a thermometer attached to the boiler) and the consistence of the uterus. The higher temperatures from 110° to 115° C. were to be preferred. The shortest possible duration with the highest temperature was best, especially till experience was gained in its use. 5. Both procedures might replace or supplement curettage, and they were indispensable when the curette failed. 6. The method acted as a specific against uterine hæmorrhages from whatever cause, and it gave good and rapid results in all forms of endometritis, metritis, and sub-involution. 7. Obliteration or atrophy of the uterus could be obtained to take the place of extirpation by applying it for a longer period. 8. When atmokausis fails or produces only a transitory effect the contractile elements of the uterus have been quite lost. 9. It was the best palliative in inoperable intra uterine cancer. 10. It produced excellent results in the early stage of sepsis following abortion or labour. It could also be used for preliminary disinfection of the uterus before total extirpation and abdominal operations. 11. Submucous myomata and malignant neoplasms must be excluded from the treatment 12. It was absolutely necessary that the adnexa should be quite free from disease. Professor Simpson had, he said, employed this vaporisation in 14 cases; the application was continued in some cases for 45 seconds, in others for 60 seconds, and in one for 90 seconds. All of the patients in these cases were under chloroform at the time, but only one patient complained of any suffering after it. The cases were all those of endometritis with menorrhagia or metrorrhagia. Out of 14 cases 11 were cured and the rest improved. Against atmokausis was

the possible production of a stenosis or atresia of the cervix, and to prevent this the catheter could, as Duhrssen suggested, be covered with a piece of indiarubber tubing. The germicidal power claimed for the operation must be doubted, if not discarded, in view of the experiments of Flatau who found it took a minute before the temperature rose from 75° to 80° C., and that the available heat after 60 seconds was only from 75° to 85° C. The best results were obtained where the anterior walls were firm with good power of muscular contraction. *The only disastrous accident* recorded occurred in a case of soft-walled uterus where the fundus was perforated by means of the zestocauter. Pincus advised that the operation should be performed without chloroform, as when the steam has produced too deep effects on the mucosa painful contractions occur in the muscular wall. He applied it in ambulants, but advised rest in bed for three or four days after its application. Professor Simpson had had no untoward effects even though in some of the cases there were traces of old-standing salpingo-ovaritis. Professor Sneguiveff had also employed steam for the arrest of hæmorrhage in surgical practice—as from the surface of the liver—with satisfactory results. Bleeding *wounds* treated in this way healed by first intention. His instrument case was provided with a tube for the application of steam for this purpose.

Dr. J. W. BALLANTYNE contributed Clinical Notes on a case of Vulvar Hæmatoma in Labour. On being called to the patient he found that in about 50 minutes the vulvar swelling had attained the size of a fœtal head. The patient was a primipara, aged 20 years. Her pregnancy had progressed normally and there was no pendulous abdomen, and no varicose veins in the labia had been noticed by the student in charge. The first stage of labour had passed satisfactorily, but with the onset of the second the patient began to complain of sharp pain in the left side of the genitals and the vulvar swelling speedily formed. It was very tense, the skin appearing as if it would burst, and no pulsation was felt in it though there was an obscure sense of fluctuation. The fœtal head was at the pelvic inlet and in the left occipito-anterior position, *well flexed*, and no contraction of the brim could be detected. Forceps were with difficulty applied and the head was brought down to the perineum. As the head was distending and passing over the perineum the vulvar tumour bulged into the fenestra of one of the blades and ruptured with an almost clean-cut tear. A huge mass of blood-clot was [illegible] The child was [illegible] e nor was the [illegible] e expulsion of the clot from the left [illegible] remained due to infiltration of [illegible] ing soon ceased, and after careful [illegible] solution the edges of the wound were brought together by four or five sutures. Owing to the thickened condition of the labium the centre of the wound could not be closed and it was packed with iodoform gauze. The wound healed well and the labium returned to its normal size. In the treatment of this condition for [illegible] hoped to deliver the child with [illegible] but it would have been better to [illegible] before the application of the forceps, as the cut could then have been made at a point of election and with more prospect of a better union. The etiology of the hæmatoma was obscure. Traumatism, twin-labour, large fœtus, excessive ossification of the fœtal head, and unusual varicosity of the labial veins were absent in this case. There was a small amount of albumin in the urine which disappeared in a few days after labour. This may have been a predisposing cause. Ferret in examining a specimen of this condition found a sliding or displacement of the layers of tissues in the pelvis, and that hæmorrhage had occurred into the space thus produced.

An adjourned discussion took place on Dr. F. W. M. HAULTAIN'S paper on Pathological *Amenorrhœa from* other than Constitutional Causes read at the previous meeting.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

Ovarian Tumour without Uterine Attachment.—Sarcoma of Both Ovaries.—Porro's Operation.

A MEETING of this section was held on April 20th, Dr. A. V. MACAN, the President, being in the chair.

Dr. FLYNN exhibited a *specimen of Ovarian Tumour* without any Uterine Attachment at the time of operation.—Dr. W. J. SMYLY said that he had an opportunity of seeing the case. It was one of the most interesting he had seen for a long time because of the impossibility of making a diagnosis. What struck him as most peculiar was that the tumour was in the upper part of the abdomen and there was a clear, resonant space immediately over the pubes. He agreed with Dr. Flynn's view as to the cause of the condition—viz., *that the tumour was pushed up into the left* hypochondrium and formed adhesions there, and as the uterus afterwards descended into the pelvis there was a drag on the pedicle causing atrophy and complete separation from the tumour. There could hardly have been twisting of the pedicle because it would have given rise to violent symptoms.

Dr. KIDD read short notes on a case of Round-Celled Sarcoma of both Ovaries, illustrated by specimens. After *reviewing the literature of the subject he drew attention to* the extreme rarity of these tumours, having failed to find any account of a similar tumour being brought before that section, and also failing to find any authentic record amongst the Proceedings of the older Obstetrical Society or amongst the Transactions of the old Pathological Society. The patient was 39 years of age and was much wasted, the wasting extending over 12 months she said, although she only noticed the enlargement of the abdomen. When the *left ovary was being removed there was quite alarming* hæmorrhage from the pedicle owing to its being cut through by the ligature. The tissues were infiltrated with disease, although there was no [illegible] Finally, after great [illegible] The difficulty of dealing [illegible] The peritoneum and pelvic glands were found to be infiltrated with the disease. The abdominal wall through which the incision was made was not a quarter of an inch thick, and no sign of *muscle could be detected owing to emaciation* and probably separation of the recti. She recovered well enough to be able to sit up for a day or two, but gradually sank from extension of the disease in the abdominal cavity and in a large gland at the base of the neck on the left side. The ovaries were of the following dimensions: Left ovary: length, 8 inches; breadth, 4½ inches; and thickness, 3½ inches. Right ovary: length, 7½ inches; breadth, 3½ inches.; and thickness, 3 inches.—Dr. SMYLY, Dr. COLE-BAKER, and the PRESIDENT discussed the case.

Dr. COLE-BAKER read a paper on Porro's Operation (extra-peritoneal) for Ruptured Uterus complicated by Myoma and five and a half months Pregnancy. He first saw the patient on August 6th, 1899. Her age was 38 years. She had been married two years. She had had an abortion (about the third month) in February, 1898. She was then pregnant (for the second time) from five and a half to six months. She had been taken ill with *vomiting and (1)* "cramps" four days previously. Her pulse and temperature were normal. Dr. Cole-Baker found the "fundus" reaching to the umbilicus and labour pains existing, and per vaginam he found the true *pelvis tightly* filled with a tense elastic tumour. At first no cervix or external os could be felt, but on more *careful examination* the latter (the posterior lip only of which could be reached with much difficulty) was discovered about two inches above [illegible] publs. He came to the [illegible] a case of retroverted and [illegible] terior sacculation), with labour pains present, and that prompt action was necessary or rupture of the uterus must ensue sooner or later. The patient was then admitted to the Coombe Lying-in Hospital. Under anæsthesia palpation now gave the *impression* that the tumour was a uterus bicornis, the right cornu being somewhat the larger and harder of the two. On August 10th Dr. Cole-Baker came to the conclusion that the so-called right cornu was a myoma which had become damaged in the pelvis or during its replacement and that the extreme tenderness was due to localised peritonitis. Dr. W. J. Smyly concurred in this [illegible] Her temperature, when he saw her, was 103·4° F. [illegible] a half months, with the membranes intact. There was no hæmorrhage. On August 13th she looked thoroughly septic. Her temperature at 9 A.M. was 100·6°, and her pulse was 104. She was drowsy and dull, but when roused said she "felt splendid and had no pain at all." There was scarcely any tenderness, even when pressure was exerted, over the

abdomen—in fact, she was in the condition of euphoria, the most dangerous of all conditions in such cases. At 4 P.M. her temperature was 105°, her pulse could not be counted, and she was, in fact, moribund. With Dr. Kidd's assistance Dr. Cole-Baker performed an abdominal hysterectomy by Porro's extra-peritoneal method. The appendages were removed with the uterus. By 8 P.M. (i.e., in three and a half hours) the temperature had fallen to 97·4° and the pulse to 90. Convalescence was complete in 26 days; the sutures were removed on the ninth day and the stump separated on the twelfth day. The patient was seen by Dr. Cole-Baker on Jan. 4th, 1900. The cicatrix was perfect and much diminished in length and breadth. The patient was fat and said she never felt better. There was no vesical trouble whatever—in fact, micturition was not nearly as frequent as before the operation. The tumour after removal revealed a condition of things that certainly had not been suspected. The diagnosis of a myoma was correct, no doubt; but it was found that this myoma (which was of about the size of a fœtal head at term) had caused a rupture of the uterus at the fundus between the two orifices of the Fallopian tubes, and that the myoma was sitting in the uterine wall much as an egg does in an egg-cup. There had been no hæmorrhage whatever into the abdominal cavity, and there was only some congestion of the blood-vessels on the surface of the portion of the myoma that protruded through the rent in the uterus. Dr. Cole-Baker said that it had been objected that the operation he performed was not Porro's on the ground that the patient was not "gravid" at the time. However, it was performed by Porro's method and the uterus was a puerperal one.—Dr. KIDD, Dr. SMYLY, and the PRESIDENT discussed the case.

BRITISH GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on May 10th, Dr. W. J. Smyly, the President, being in the chair.—Dr. Herbert Snow read the notes of Two Cases of Recto-vaginal Excision for Cancer.—Dr. J. Macpherson Lawrie read a paper on the Indications for the Removal of the Uterine Appendages. After pointing out that the former practice of extirpating ovaries and tubes upon the slightest provocation had given place to a reaction in favour of extreme conservatism, he expressed his belief that the tendency was a healthy one but had gone too far. He offered a contribution to the question based on an experience of 43 cases in which the appendages had been removed for various causes during the last four years. The full notes of all the cases had already been given in two papers read before the British Medical Association in 1897 and 1898. He treated of the following indications for the removal of the appendages: (1) non-suppurative salpingitis; (2) chronic ovaritis; (3) small cystic ovaries; (4) pyosalpinx; (5) suppurating ovarian cysts; (6) uterine fibro-myoma; and (7) tubal pregnancy. The first three conditions were often found associated, as were also the fourth and fifth; this gave four groups of cases in which he had operated as follows: (1) for salpingitis, ovaritis, and cystic ovaries, 32 cases; (2) for pyosalpinx and suppurating ovarian cysts, six cases; (3) for uterine fibro-myoma, three cases; and (4) for tubal pregnancy, two cases. There was only one death among the 43 cases, and this was in the first group, in the case of a patient who was very enfeebled, the operation having been delayed too long. In the first group of cases the principal symptoms were great pains of several years' duration, dysmenorrhœa and dyspareunia, profuse and constant leucorrhœa, sterility, pallor, emaciation, and general ill-health incapacitating the patient from attending to her employment or household duties. He had always tried palliative measures for a longer or shorter time, but had never found them efficacious. Several arguments had been used against operating on these cases. Some said that these patients were hysterical and that no operation would cure them; others considered that time was all that was necessary to effect a cure; some argued that the condition was not one that destroyed life and that therefore no operation was warranted; and, lastly, it was urged that the ovaries and tubes in these cases were not unhealthy and therefore ought not to be removed under any circumstances. All these arguments were reviewed in detail and their fallacies exposed. Conservative methods of surgery had been recommended in these cases, but Dr. Lawrie contended that in most cases nothing short of removal of the offending organs was of any avail. In the second group the point at issue was not as to the propriety of operating but as to the best method. He shared the view of some surgeons that some cases were best approached by the vaginal route, but contended that in the majority of cases the abdominal route answered best in dealing with pyosalpinx. With regard to the third group he believed that in spite of the progress of hysterectomy there were still cases in which fibro-myoma was best treated by the removal of the appendages. Such cases fell into two classes: firstly, cases in which the tumour was small and the appendages were unhealthy; and secondly, cases in which the patient was in a very enfeebled condition through profuse hæmorrhage. The latter indication had been dwelt upon in a recent paper by Mr. Furneaux Jordan. If a second operation were required later this was better than to do a more brilliant operation in the first instance and lose the patient. He did not enter upon the question of neurosis as an indication for operation because he did not consider it to be such. It was the practically unanimous experience of a large body of operators in former years that the [illegible] only ineffectual for the cure of neurosis, [illegible]—The discussion on the paper was postponed to the next meeting.—Various specimens were exhibited by Dr. William Walter, Dr. Frederick Edge, Dr. F. W. Ramsay, and Dr. Herbert Snow.

SOCIETY OF ANÆSTHETISTS.—A meeting of this society was held on May 4th, Dr. J. F. W. Silk, the President, being in the chair.—Mr. Carter Braine read notes of three cases of Failure of Respiration under Anæsthesia. In the first case, a male, aged 59 years, was operated upon for very extensive malignant disease of the tongue and mouth. Chloroform was given throughout and the patient struggled violently during the induction of anæsthesia, but subsequently he became quiet. The breathing ceased very suddenly before the operation was commenced. Owing to the fixation of the tongue it could not be drawn forward. Compression of the chest and hyper-extension of the neck produced practically no results, and [illegible] be resorted to. The patient recovered, [illegible] was abandoned on account of the extent of the disease. In all probability the cessation of respiration was due to œdema of the larynx. The second case was that of a male, aged 65 years, who showed marked senile changes—e.g., tortuous arteries and arcus senilis. He was anæsthetised with nitrous oxide and ether. While the colour and pulse remained good the respirations gradually faded away but were re-established by artificial respiration. This failure of respiration occurred in the same way every now and then during the course of the operation which lasted over an hour. In the third case, a male, aged 45 years, thick-set, stout, and flabby-looking, was operated on for the radical cure of a hydrocele. Nitrous oxide and ether were administered from a small Clover's inhaler, the patient struggling and becoming blue during the induction. The lividity gradually increased, the mouth became tightly closed, and breathing ceased. After much difficulty owing to the clenched teeth the mouth was opened and rhythmic tongue traction was employed, and the patient recovered.—Dr. Dudley Buxton thought that in the first case it would have been better if the surgeon had performed tracheotomy earlier. He had met with cases similar to the second and he thought that in these cases the condition was sometimes preliminary to vomiting. Rhythmically jerking the jaw forward and upward improved the respirations. Cases of spasmodic closure of the jaws were difficult to deal with, but he did not think that laryngotomy was often called for under these circumstances.—The President suggested that the anæsthetist should urge the performance of tracheotomy preliminary to the operation in cases such as the first of those mentioned by Mr. Carter Braine. He did not think that spasmodic closure of the jaw called for such a severe measure as laryngotomy.—Mr. R. W. Lloyd, Mr. G. Eastes, Mr. H. C. Crouch, and Dr. E. A. Starling also discussed the cases, and Mr. Carter Braine replied.—At the annual meeting, held subsequently, the following officers of the society were elected for the ensuing year:—President: Dr. J. F. W. Silk. Vice-President: Mr. F. Woodhouse Braine. Treasurer: Mr. George Eastes. Members of Council: Dr. E. H. Grant Morris and Mr. W. G. Copestake (Derby). Secretaries: Dr. R. J. Probyn-Williams and Dr. Harold Low. Auditors: Mrs. F. M. Dickinson Berry, M.D., and Dr. F. W. Cock.

ÆSCULAPIAN SOCIETY OF LONDON.—A meeting of this society was held on May 18th, Mr. A. W. Galloway, the President, being in the chair.—Dr. Alexander Morison read a paper on the Use of Mercury in the Treatment of

Cardiac Failure due to Arterio-Sclerosis. He founded the paper on the case of a man, aged 67 years, whose legs were swollen, as was the abdomen up to the waist, who was sleeping badly,
little urine and
much more freq[illegible]
weeks' treatment by another physician with hypnotics, one grain of calomel daily, light diet, rest in bed, strophanthus, and later digitalis, his condition was worse than at first. Then Dr. Morison put the patient on pulvis digitalis, pulvis scillæ, pilula hydrargyri, and extractum hyoscyami, of each one grain three times a day, with brandy one ounce thrice daily and a full hospital diet. The result was that in three weeks he was as well as he previously was ill. Dr. Morison discussed the effect of mercury, expressing a view that the resulting good was partly due to a direct vasodilatation and partly to an increased elimination of metabolic products.—Mr. E. Campbell Hearne showed a man, aged 21 years, who had a congenital and increasingly marked central depression of the lower end of the sternum not due to external pressure and whose heart was displaced somewhat to the left.

EPIDEMIOLOGICAL SOCIETY OF LONDON.—At the last meeting of this society certain changes were made in the composition of the council. Dr. Franklin Parsons, the outgoing President, will be replaced in that office by Dr. Patrick Manson, C.M.G., while Dr. Bruce Low becomes foreign secretary for South America, Dr. Armand Ruffer foreign secretary for Egypt and the Red Sea, Dr. W. J. R. Simpson foreign secretary for India, and Dr. A. Shadwell foreign secretary for Portugal. The society is about to celebrate the fiftieth anniversary of its foundation by a commemoration dinner which will be held on July 13th, and it is expected that on this occasion there will be a large attendance not only of members but of many distinguished epidemiologists who will be the guests of the society.

Reviews and Notices of Books.

Dictionary of National Biography. Edited by SIDNEY LEE. Vol. LXI., Whichcord-Williams. London: Smith, Elder, and Co. 1900. Pp. 476. Price 15s.

THE most important historical personages in this volume are no doubt two of the kings—viz., William I. in the eleventh century and William III. in the seventeenth century. Art is represented by Sir David Wilkie (1785-1841); mechanical engineering by Sir Joseph Whitworth (1803-1887); natural history by Gilbert White (1720-1793); and philanthropy by William Wilberforce (1759-1833), whose three sons (Robert Isaac, Henry William, and Samuel), belonging partly to the Anglican and partly to the Roman communion, were very prominent in the theological controversies of the period.

The medical biographies are 20 in number, including those of one president of the Royal College of Physicians of London, one president of the Royal College of Surgeons of England, and one president of the Royal College of Physicians of Edinburgh. Of the whole number only six were born during the present century. Daniel Whistler was born in Essex in 1619, studied medicine at the University of Leyden, and graduated there as M.D. in 1645. His inaugural dissertation at Leyden was the first printed book on rickets; it was reprinted in 1681. Whistler's thesis contained no original observations and took nothing from the originality of Glisson's elaborate "Tractatus de Rachitide" published in 1650. Whistler proposed the name "paedossplanchnosteocaces" for the disease, but no subsequent writer has used the word. He was incorporated M.D. at Oxford in 1647, was elected Professor of Geometry at Gresham College in 1648, and was at the same time Linacre reader at Oxford. He was elected Fellow of the Royal College of Physicians of London in 1649, delivered the Harveian oration in 1659, was 12 times censor, registrar from 1674 to 1682, treasurer in 1682, and president of the College in 1683. His house was in the College in Warwick-lane. He was negligent as registrar and as president of the College he took little care of its property. He died in 1684. Robert Whytt was born in Edinburgh in 1714, studied medicine in Edinburgh and London and on the continent, and took the degree of M.D. at Rheims in 1736. In 1737 the degree of M.D. was conferred on him by the University of St. Andrews, in 1738 he was elected Fellow of the Royal College of Physicians of Edinburgh, and in 1763 he became President of the College, an office which he retained till his death in 1766. In 1761 he was made first physician to the King in Scotland. He was the author of several medical works, from which translations were made into French and German. He was great-grandfather of George John Whyte-Melville (1821-1878), sportsman, novelist, and poet. Anthony White, a native of the county of Durham, where he was born in 1782, was apprenticed to Sir Anthony Carlisle, and was admitted M.R.C.S. Eng. in 1803. In 1831 he delivered the Hunterian oration, and he became vice-president in 1832 and again in 1840, serving the office of president in 1834 and 1842. He graduated as M.B. at Cambridge University in 1804, joined the surgical staff of the Westminster Hospital in 1806, and also filled the office of surgeon to the Royal Society of Musicians. He died in 1849. He was the first to excise the head of the femur for disease of the hip-joint, a proceeding then considered to be so heroic that Sir Anthony Carlisle and Sir William Blizard threatened to report him to the College of Surgeons. He performed the operation with complete success and sent the patient to call upon his opponents. Sir William Wilde was born in the county of Roscommon in 1815, received his medical education in Dublin, and obtained his diploma as a surgeon in 1837. He subsequently spent three years in studying otology and ophthalmology in London, Berlin, and Vienna, and, settling in Dublin in 1841, he practised in these specialties. He applied the first thousand pounds he earned at his profession to founding St. Mark's Ophthalmic Hospital in Dublin. His works, "Epidemic Ophthalmia" (1851) and "Aural Surgery" (1853), obtained for him in 1853 the appointment of surgeon-oculist-in-ordinary to the Queen in Ireland—a post which was specially created in his honour. He wrote several books on other branches of medicine and anatomy, founded and edited the *Dublin Quarterly Journal of Medical Science*, and produced some important works on Irish antiquities and topography. He wrote in three volumes a descriptive "Catalogue of the Contents of the Museum of the Royal Irish Academy"—the first volume appearing in 1858—which is described as "a monumental work of archæological erudition and insight." He was knighted in 1864 and died in 1876. Tobias Whitaker was born probably in 1600 or 1601, and practised physic first in Norwich and then in London. In 1638 he brought out a book in praise of wine, which he regarded as a universal remedy against disease. In 1660 he was appointed physician-in-ordinary to the household of Charles II. with a salary of £50 a year. He died in 1666. Charles White, only son of Thomas White, a medical man, was born in Manchester in 1728, and studied medicine in London and Edinburgh. Returning to Manchester, he joined his father, and in 1752 was instrumental, along with Joseph Bancroft, merchant, in founding the Manchester Infirmary, to which he was afterwards surgeon for 33 years. He was admitted M.R.C.S. Eng. and F.R.S. on the same day in 1762. In 1781 he took an active part in the foundation of the Manchester Literary and Philosophical Society and was one of its first vice-presidents. In conjunction with his son and with the assistance of Edward and Richard Hall he founded in 1790 the Manchester Lying-in Hospital, now St. Mary's Hospital, and was consulting surgeon there for 21 years. White "was the first to introduce what is known as 'conservative' surgery." In 1763 he removed the head of the

humerus for caries; in 1769 he first proposed excision of the hip, and was one of the first to perform excision of the shoulder-joint. He was also the first to describe accurately "white leg" in lying-in women. He died in 1813. Francis Buchanan White White was born at Perth in 1842, studied medicine in Edinburgh University and graduated there as M.D. in 1864. Being independent of his profession he devoted himself entirely to the study of plants and animals, his contributions to the *Entomologist's Weekly Intelligencer* beginning as early as 1857. In 1867 he joined in founding the Perthshire Society of Natural Science of which he was president for many years and his communications to which were 100 in number. He also contributed articles to many journals and collections of "reports" and wrote two separate treatises, one on the lepidoptera of Perthshire and the other on the flora of the same county. He died in 1894. James Whitehead was born at Oldham in 1812 and attended the Marsden-street School of Medicine in Manchester; he took the diploma of L.S.A. in 1834 and that of M.R.C.S. Eng. in 1835; in 1845 he was admitted F.R.C.S. Eng. after examination; he graduated as M.D. St. And. in 1850 and became M.R.C.P. Lond. in 1859. In 1838 he began to practise in Manchester, and in 1842 he was appointed demonstrator of anatomy at the Marsden-street School of Medicine. In 1856 he founded, jointly with Dr. Scheepf Merei, the Clinical Hospital and Dispensary for Children which became subsequently the Manchester Clinical Hospital for Women and Children. He was lecturer on obstetrics at the Royal School of Medicine, and for 15 years he acted as surgeon to St. Mary's Hospital for Women and Children. He died in 1885. John Wigan, son of the rector of Kensington, London, was born in January, 1695-6, entered at Oxford University in 1714, and graduated in Arts in March 1720-1. In 1726 he became principal of New Inn Hall, Oxford, and about the same time was appointed secretary to the Earl of Arran, the chancellor of the university. He graduated as M.D. in 1727 and was admitted F.R.C.P. Lond. in 1732, when he resigned his office at New Inn Hall, settled in London, and was elected physician to Westminster Hospital in 1733. As early as 1718 Wigan published a translation of a treatise upon the cure of fevers from the original of Longinus. His great work was a splendid folio edition of Aretæus, issued from the Clarendon Press in 1723. When Boerhaave published his edition of the same author in 1735 he acknowledged himself indebted to Wigan's work, and Dr. Francis Adams of Banchory, Aberdeenshire, spoke highly of it in his edition of Aretæus in Greek and English, published by the Sydenham Society in 1856. Wigan died in Jamaica in 1739. Robert Wight was born in East Lothian in 1796, studied medicine at Edinburgh University, and graduated there as M.D. in 1818. In 1819 he entered the East India Company's Medical Service as an assistant surgeon, and from 1826 to 1828 was naturalist at Madras. He retired from the Company's service in 1853 and died near Reading in 1872. Between 1831 and 1853 he published several important works on Indian botany, some of them with the assistance of George Walker-Arnott, who was subsequently professor of botany in the University of Glasgow. James John Garth Wilkinson, a native of London, where he was born in 1812, took the diplomas of M.R.C.S. Eng. and L.S.A. in 1834, and practised homœopathy at rooms in Wimpole-street. He was a voluminous writer, chiefly on the doctrines of Swedenborg, and in opposition to vaccination. He died in 1899. Robert Willan was born in Yorkshire in 1757, studied medicine at Edinburgh University and graduated there as M.D. in 1780. Having settled in London, he was appointed physician to the Public Dispensary on its establishment in the early part of 1783, a position which he resigned in 1803. The work by which he is best known is "The Description and Treatment of Cutaneous Diseases." It was published in parts, the last of which appeared in 1808. He died in Madeira in 1812. Charles James Blasius Williams was born in Wiltshire in 1805, studied medicine in the University of Edinburgh, and graduated there as M.D. in 1824. In 1835 he was elected F.R.S.; in 1839 he became professor of medicine to University College and physician to University College Hospital, in 1840 he was admitted F.R.C.P. Lond., and soon after his admission he endeavoured to alter the constitution of the Royal College of Physicians of London. He took part in 1841 in founding the Consumption Hospital at Brompton. When the Pathological Society was formed in 1846 he was elected its first president. He was the author of several published works and in 1874 was appointed physician extraordinary to the Queen. In 1875 he gave up practice and retired to Cannes, where he died in 1889. Before leaving London he made an attempt to alter the constitution of the Royal Society. Richard D'Alton Williams was born in Dublin in 1822 and began to write verses at an early age. In 1843 he commenced the study of medicine at St. Vincent's Hospital, Dublin, joined the Young Ireland movement, published ballads and war songs in various newspapers, and was tried for treason felony but acquitted. He obtained his medical diploma in 1849 and soon afterwards went to the United States of America, where he died in 1862. Robert Williams was born in London about 1787, graduated as M.D. at Cambridge University in 1816, was elected assistant physician to St. Thomas's Hospital in the same year and physician in 1817, an office which he retained till his death in 1845. He discovered the curative power of iodide of potassium in syphilis and introduced bromide of potassium into English practice, though he did not employ it in the treatment of epilepsy.

Diseases of Children: a Manual for Students and Practitioners. By GEORGE M. TUTILE, M.D., attending Physician to St. Luke's Hospital, &c. Series edited by BERN B. GALLAUDET, M.D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York. Illustrated with five plates in colours and monochrome. London: Henry Kimpton. 1900. Pp. 366. Price 7*s* 6*d*.

THE author states in his preface that in preparing this manual for publication he has had especially in view the requirements of the beginner in the study of pediatrics. He has endeavoured to cover the subject fully yet in a concise form, "dealing more largely with the physiology of infancy and with artificial feeding than with the pathological states found in childhood." The normal development of the infant is well described, but the consideration of the "diseases of the new-born infant" is much too brief. Students or practitioners who have studied larger works may find sufficient material to refresh their memories, but we doubt whether a student knowing nothing about diseases of children would be much benefited by a perusal of these pages. For instance, the whole subject of "spina bifida" is disposed of in 18 lines, five of these being occupied with the "definition."

On the other hand, the subject of "feeding of infants" is discussed at great length, out of proportion to the space devoted to other matters, and is more suited for an elaborate treatise on "diseases of children" than for an elementary text-book. We doubt whether any practitioner would care to devote the necessary time to a study of "Coit's decimal method."

Some of the best sections of the book are those on Diseases of the Intestines. The acute affections are well described and some useful hints are given as to treatment. Many of the sections in the chapter on Diseases of the Nervous System are also interesting.

A good deal of information is also contained in the chapter on Infectious Diseases and especial stress is laid on the treatment of the various affections.

Practice of Medicine: a Manual for Students and Practitioners. By GEORGE E. MALSBURY, M.D., Assistant to the Chair of Practice, Medical College of Ohio, University of Cincinnati. Series edited by BERN B. GALLAUDET, M.D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York. Illustrated with 45 engravings. London: Henry Kimpton. 1900. Pp. 400. Price 7s. 6d.

WE are not advocates for condensed manuals of scientific subjects. A student of medicine should endeavour to obtain as thorough a knowledge of his profession as possible and should, therefore, study the best text-books available. Dr. Malsbury, however, in his preface makes no suggestion that this manual should take the place of larger works. He states that as "medical progress is so rapid in our day the manuals have special value, in that they may be published in the shortest possible time, and thus place before the reader the more recent advances in medicine. Moreover, a brief epitome presents the subject to the busy practitioner and student in a form more readily accessible than is possible in a lengthy treatise." If such be the intention of the writer we have nothing to say against it. A student may refresh his knowledge by skimming the book through immediately before an examination, but we are quite sure he would fail to satisfy the English examining boards if he trusted to this "manual" only. A practitioner also might find it useful for reference. The descriptions of the symptoms of the various diseases are clear and concise and the remarks on treatment are also good, but consideration of pathology is conspicuous by its absence. The book is essentially written from a clinical point of view. The author is rather behind the times in placing croupous pneumonia amongst diseases of the lungs instead of amongst infections, although in speaking [illegible] it is the [illegible] bacillus [illegible] articular [illegible] gonorrhœal rheumatism, and muscular rheumatism are all placed under the heading of infections, a classification which is not universally recognised.

L'Année Chirurgicale: Revue Générale et Spéciale. (The [illegible] pedic Review of General an[illegible] par le Docteur A. DEPAGE, [illegible] de Bruxelles, Chirurgien des Hôpitaux de Bruxelles. Première Année, 1898. Bruxelles: Lamertin. 1899. Pp. 1970. Price 30 francs.

AMONG the many annual *résumés* of the progress of the medical sciences there is none which is more thorough than the volume before us. It deals only with surgery, and this is its first appearance. Its chief competitor in this branch of medical science is a German year book, the third issue of which we reviewed a few weeks ago. Every paper dealing with any department of surgery and appearing in the year 1898 is in this volume to be found classified and in most cases a *précis* of the article is added. The amount of work involved must have been enormous and the able editor, Dr. Depage, has been assisted by 58 contributors, and especially by Dr. A. Dekeyser and Dr. L. Dekeyser who have acted as sub-editors. The book commences with the history of surgery. Then follows an account of the treatises on general surgery. The chief statistics published during the year are next given, but statistics relating to any special portion of the body are with the surgery of that region. Radiography, general therapeutics, and anæsthesia follow, and then the various surgical diseases are taken in order. First come those affections to which all tissues are liable and then follows the surgery of special organs. An idea of the method pursued will be best given by an example of one organ. For instance, commencing at page 1218 we have a list of the titles of 37 papers and works dealing with the spleen published in 1898. Of these there are 12 from French sources, seven from German, seven from Russian, five from English or American, five from Italian, and one from Spanish. Of nearly everyone of these an abstract is given, and these abstracts are classified, so that we find first the 10 summaries relating to congenital malformations and to injuries. In the next section appear seven extracts dealing with inflammatory affections, parasites, and new growths of the spleen, and lastly we have, in the [illegible] ating to the operative surgery [illegible] Three small papers are onl[illegible] [illegible]ed. In some cases the *précis* occupies a whole page or even more, while in others it fills only a line. Striking variations in the type employed draw attention to the subjects dealt with and the authors quoted. It will be seen that such an aid is invaluable for any author who has to write a paper on any surgical subject, or even for a surgeon who wishes to know what advances have recently been made in any department of surgery. Here the surgeon will find an account of the latest methods of performing any operation, with the statistics relating thereto; should he require even fuller particulars than are given here he can turn at once in any good medical library to the original papers, though this can be but rarely necessary. We have had occasion to refer to this volume many times recently and we bear willing testimony to the value of its help and the general accuracy of its extracts and references. The library of every medical school should contain this useful volume. An index of names is provided, and the only improvement we can suggest is that there should be an index of subjects. It is difficult to think that such a colossal undertaking as this can prove remunerative to its editors and publishers, but we sincerely hope that the results will be sufficiently favourable to justify them in continuing the issue of this valuable work.

The Student's Handbook of the Practice of Medicine. By H. AUBREY HUSBAND, M.B., C.M. Edin., &c., formerly lecturer on Medical Jurisprudence and Public Health in the Extra-Academical School, Edinburgh. Fifth edition. Illustrated. Edinburgh: E. and S. Livingstone. 1900. Pp. 783. Price 10s. 6d.

THIS handbook is "designed for the use of students and junior practitioners," and as the fifth edition has been called for we may fairly assume that the efforts of the author have been appreciated. Chief stress has been laid on the clinical aspects of disease and on treatment. The symptoms of the various diseases are clearly described and the whole work has been brought thoroughly up to date. The diagnostic tables which are found scattered throughout the book will be found very useful for reference and contain a large amount of information in a small space. The headings of the sections and sub-sections are also well devised. The English synonyms of each disease are given, and also the Latin, French, and German terms correspondingly used. A long list of prescriptions is given at the end of the book, written in full, together with the conditions in which they may be employed. This may be useful to junior practitioners. The work terminates with a "glossary" giving the meaning of a large number of medical terms.

JOURNALS.

The *Veterinary Journal* for May consists mainly of papers which have been read recently before various veterinary medical associations. These include one by Professor W. Pritchard on Sutures, another by Mr. W. Hunting on

Shoulder Lameness in Horses, and a third by Professor Stockman on the Method of Infection in Black Quarter. The last-named contains many interesting facts and an account of several original experiments made to test the vitality of the organism which is known to cause the disease. Abstracts are made from the lectures of Professor Rose Bradford on "Rabies" and the address on "Heredity in Disease" by Professor D. J. Hamilton. Original articles are poorly represented.

The *Veterinarian*.—The Veterinarian for May commences with an account by Professor Mettam of an interesting post-mortem specimen of a mare's heart with large cauliflower-like vegetations upon the valves. The mischief had been diagnosed during life, but of course no treatment other than complete rest could be prescribed. Photographs are given of an interesting cyclopean monster, the head of which was dissected and carefully described. The papers on Soundness by Mr. Wallis Hoare and on Louping-ill, by Mr. E. G. Wheler are continued, the latter being concluded by a summary of measures suggested for prevention. The proceedings of the Council of the Royal College of Veterinary Surgeons and scientific jottings occupy the remainder of the number.

Analytical Records

FROM

THE LANCET LABORATORY.

CHINA TEA.

(THE EPICUREAN TEA CO. AGENTS: MCINTYRE AND CO., 9, MINCING-LANE, LONDON, E.C.)

WE believe this to be, as stated, a pure China tea, judging from the results of our analysis. On infusion it yields a minimum amount of those astringent principles which are undoubtedly responsible for the ill-effects produced by powerful Indian teas. The infusion of China teas on cooling yields, as a rule, no deposit, whereas a similar infusion of Indian tea yields a heavy deposit, consisting largely of tannin with some caffeine. This fact affords a simple means of discriminating between powerful and delicate teas. The sample under examination yielded an excellent tea of delicate character and quite free from the so-called pungent qualities of the heavier teas. It is well known that China tea is much more suitable for the invalid than is India tea. Indeed, much of the harm arising from the taking of copious and strong draughts of tea would be avoided by the use of lighter tea, which, moreover, contains just the same proportion of the stimulating principle, caffeine, as do the heavier teas. The results of analysis were quite normal. The moisture amounted to 12·24 per cent., the mineral matter to 5·75 per cent., and the alkalinity of the ash was found to be equivalent to 1·56 per cent. reckoned as potash. This last result is a useful factor in demonstrating whether exhausted leaves are present. This tea is worthy of recommendation.

DRUMALBAN WHISKY.

(FINDLATER, MACKIE, TODD, AND CO., LONDON-BRIDGE, LONDON, S.E.)

This spirit gave normal results of analysis on examination which were as follows: alcohol, by weight 40·30 per cent., by volume 47·67 per cent., equal to proof spirit 83·54 per cent.; extractives, 0·17 per cent.; mineral matter, *nil*; and acidity reckoned as acetic acid, 0·027 per cent. A feature worthy of remark in this analysis is the comparatively small amount of extractive matters, though judging from the mellow character of the spirit it has evidently been matured. In wood of course this means the extraction of a certain amount of resinous bodies. It possesses the character and taste of a pure Highland whisky but is somewhat sweet, which, however, is not due to saccharine matters but to peculiar ethylic products formed during maturation. There is no suggestion of the presence of objectionable alcohols of the "higher series."

NAO FOOD PREPARATIONS.

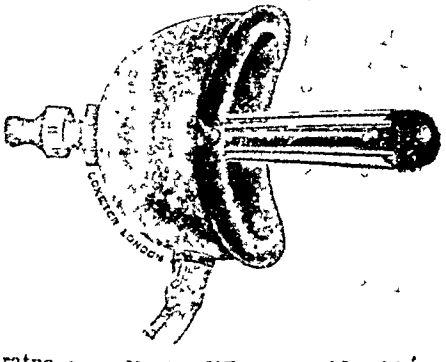
(THE NAO FOOD COMPANY, 2, GREAT GEORGE-STREET, LONDON, S.W.)

We have received a number of food preparations from this company which are of distinct merit. For the purposes of analysis we have taken the "Nao Cup" as a type. This may be called a liquid beef preparation. Its proximate analysis was as follows: moisture, 63·85 per cent.; mineral salts, 11·18 per cent.; and organic matter, 24·97 per cent. The organic matter contained 5·27 parts of insoluble matter consisting chiefly of the albuminous clots which occur in ordinary beef-tea, some fat, and a little husk of some added flavouring substance, proteids 18·37 per cent., and non-nitrogenous matters 3·17 per cent. The liquid contained a small quantity of unaltered albumin but no syntonin. Bromine precipitated proteoses to the extent of 1·18 per cent. The preparation yields a pleasant beef-cup which is at the same time nourishing, stimulating, and appetising. From the dietetic point of view it is important to note, too, that some amount of fat is also retained in the preparation. The same manufacturers prepare the following articles in portable form: albuminoid thick soup, clear dinner soup, beef rations, chicken essence, beef essence, mutton essence, and albumin and marrow paste. The last is a powerful and nutritious food, while the rest give evidence of a knowledge of the requirements of preparations of this kind in which are retained the nourishing as well as stimulating elements of the original meats.

New Inventions.

NEW FORM OF VAGINAL DOUCHE TUBE.

IN the appliance depicted in the accompanying illustration the flushing current is altogether from above downwards and the tube is adjustable to the length of the vagina, while the walls of the latter are kept apart by stout unrustable wires surrounding the central tube so as to make the flushing more complete. The perforations at the top of the tube through which the fluid is forced are so placed that they cannot possibly come into contact with the vaginal walls, which of course would prevent exit of the fluid.



The apparatus accordingly differs considerably from any other vaginal douche tube extant. The receptacle for waste has an inflatable indiarubber edge which should make it comfortable to the patient and prevent any wetting of the bed or person. The fluid collecting in the receptacle (which is held in close proximity to the vulva) finds exit through an indiarubber tube attached, the end of which can be dropped into any convenient vessel. The appliance can be used with any indiarubber vaginal syringe as well as douche, and will be found on trial to commend itself more especially to obstetricians and gynæcologists. The makers are Messrs Coxeter and Son, London.

ALEXANDER DUKE, F.R.C.P. Irel.,
Ex Assistant Master to the Rotunda Hospital, Dublin.
Cheltenham.

THE LANCET.

LONDON SATURDAY, MAY 26, 1900

THE conduct of vessels at sea as well as the present system of railway travelling is controlled and directed during the day either by well understood rules of the road, as in the case of a vessel, or by the exhibition of signals, as on railways A ship is not easily overlooked, its movements are obvious enough by day and collisions are on the whole rare, and the same may be said of railway traffic, for the accidents are certainly not numerous when the enormous number of trains running is considered It is only when a proper look out is not kept that an accident occurs and then blame falls on the watch or on the driver No one would dream of putting a man who was unable to see ten yards before him in charge of an express or of a fast steamer At night both vessels and trains are guided by coloured lights, and the rapid recognition and quick discrimination of such lights are essential to determine whether the ship shall be steered to the right or left or whether the engine driver may proceed at full speed, or "slow down," or stop A failure to discriminate the lights leads in both instances to disaster

As so much depends upon the appreciation of colour it might be supposed that every care would be taken by those in authority that the vision of men placed in charge of vessels should be perfect, that their appreciation of colour should be the same as that of the usual run of mankind, and that they at least should not belong to the small minority who perceive no difference except one of shade or tone between red and green As red both at sea and on land is the danger signal it follows that if the responsible person in charge be unable to recognise red the danger signal is to him valueless, and if he mistakes it for green the lives of many may be sacrificed With the knowledge that a confusion between red and green might easily lead to destruction whilst a clear perception of the difference meant safety would anyone trust himself on a ship with a colour blind man at the helm? Yet our readers will be surprised to learn from an article on this subject written by Dr EDRIDGE GREEN and published in another column of our present issue that not a single medical man, far less a trained ophthalmic surgeon, is employed in the examinations conducted by the Board of Trade to determine the presence of colour blindness in the candidates, that such tests as are commonly applied are uncertain and misleading, that men who have been pronounced defective have actually been passed on appeal, and that so inadequate and imperfect are these tests that men who have been rejected can be shown to possess good perception of colour Such confusion, such errors, constitute some of the unsatisfactory results of the present practice The small percentage of men rejected by the Board of Trade for defective colour vision is itself remarkable During the last 12 years it has ranged between 0 67 and 1 39 per cent, and Dr EDRIDGE GREEN remarks that, incredible as it may appear, shipowners are able to, and really do, employ colour blind officers who have been rejected by the Board of Trade and who may have been discharged by other companies Dr EDRIDGE-GREEN takes exception to the Holmgren method of testing colour vision, which, as every one knows, consists in directing the candidate to select wools from a large number to match a particular specimen given to him by the examiner, maintaining that in addition to this the examinee should be required to name the several colours, on the ground that in selecting the wools he may be guided by tone as well as by colour, and may be therefore unduly rejected, whilst if he points to a red light and calls it green he is either colour blind or dangerously ignorant of colour A source of danger to which little attention has been hitherto given is also dwelt upon by Dr EDRIDGE GREEN—viz, the occurrence of a central scotoma, or blind spot, of limited extent It is manifest that a person whose retinæ are insensitive owing to choroiditis attacking the fovea centralis and its immediate vicinity may be very well able to distinguish and name the colour of a considerable mass of any coloured object that may be placed before him because it affects the peripheral portions of the retina, and yet may wholly fail to see the small beam of light that proceeds from a ship's lantern or a signal post's bull's eye

The time has surely come when the Board of Trade should institute a properly conducted examination by an expert who might hold a series of inspections at each of our seaport towns and should have authority to call before him all sailors of whatever class, from the captain to the able bodied seaman, and subject them to definite tests There are many men who, whilst they can readily discriminate a piece of green from a piece of red glass—that is, can recognise and name correctly two saturated colours—yet are unable to distinguish a piece of wool of a light green from one of a pink colour Such men are partially colour blind and are, if anything, more dangerous than those who are colour blind for the saturated colours The latter as a rule know their defect and proceed accordingly relying on someone else for information At any rate, the futility of the present mode of examination is sufficiently shown by the statement made by Dr EDRIDGE-GREEN that he examined a man who was so colour blind that he could not see a red light at all and yet he passed the Holmgren wool test with ease The tests proposed by Dr EDRIDGE GREEN, whose paper will be read with interest seem to possess considerable advantages over the wool test since being made with a lantern and with coloured slides they approximate much more closely the conditions under which the importance and value of colour vision are ordinarily observed.

As regards the increase of nervous diseases in the more restricted sense Professor LIEP of Heidelberg, one of the most eminent neurologists of the day, has recently called attention in a lecture published in the *Berlin*

Scientifique to some of the more important etiological factors concerned in the production of the neuroses. He dwells upon the increase of the causes of nervous irritation and depression, the greater anxiety, hurry, and mental toil of life, the overtasking at school, the increasing amount of irksome study men have to go through in order to enter the learned professions, the more exciting nature of their amusements, the more stimulating character of their diet, and the restlessness introduced into their lives through the facilities of travel and intercommunication. The causes being thus increased the effects are bound to follow. It may be said that the strains and stresses incidental to the above-mentioned causes fall most severely upon the lower and middle classes. The increase of competition and of struggles among aspiring persons of a lower class to rise to a higher, the wars of labour *versus* capitalism, the anxieties of disputes and strikes, and the formation of big hydra-headed companies which swallow or crush up smaller men and businesses, are all part of the social conditions which make life harder and less agreeable to many. At the same time compensating influences have been at work in many respects. Housing, warming, and ventilation are better, the standards of bodily comfort are raised, the progress of hygiene has diminished the ravages of communicable diseases, and drainage and sanitation are improved. To estimate the net result a balance has to be struck, and if the balance persists on the wrong side of the account then Professor ERB's contention is right that the causes of insanity and nervous affections tend as a whole to increase.

The seriousness of the lunacy problem is, as a matter of fact, getting more evident year by year, and two recent papers published respectively by Dr. W. W. IRELAND[1] and Mr. W. J. CORBET, M.P.,[2] call for special notice in this connexion. Dr. IRELAND addressed a number of questions to a number of medical men as to whether an increase had been observed in the relative frequency of diseases of the nervous system, whether new forms had come into prominence, and whether any change of type had been observed in such diseases. As was to be expected experiences and impressions varied as recorded in the replies received. Amongst those who gave a categorical reply that nervous diseases were on the increase were Sir FREDERIC BATEMAN of Norwich, Dr. EDDISON of Leeds, Dr. JAMES GOODHART of London, and Dr. ERNEST REYNOLDS of Manchester. Dr. JULIUS ALTHAUS considered the increase to be decided among the functional and trophic cerebro-spinal diseases. Of the organic nerve affections due to syphilis he stated that they had in his experience decidedly diminished during the last 20 years, and that it was difficult to say that actually new forms had sprung up in our time, except perhaps the neuroses due to influenza. Dr. A. R. URQUHART of Perth, Dr. C. H. HUGHES of St. Louis, U.S.A., and Dr. OSLER of Baltimore were of opinion that nervous diseases were much increasing. Dr. BYROM BRAMWELL was inclined to think that there had been an increase in some of the functional neuroses, and he had definitely formed the opinion that disseminated sclerosis had during the past few years become commoner, and that this was attributable to the fact that in many cases this sclerosis followed from, or had its starting-point in, influenza. Dr. STRACHAN laid much stress upon the evil effects of overtasking children at school, a subject to which he had given much attention. On the other hand, Dr. G. W. BALFOUR of Edinburgh, Dr. D. W. FINLAY of Aberdeen, and Dr. H. BARNES of Carlisle had noticed no increase of neuroses, and Dr. D. J. LEECH of Manchester inclined to the same statement. An interesting note was recorded by Dr. HALLIDAY DOUGLAS, for many years physician to the General Post Office in Edinburgh, who saw many cases of nervous derangements and failures of health amongst the employés, "especially those who did their work under high pressure. The female clerks often required leave of absence from illness." From a table compiled by Dr. S. A. K. STRAHAN of Berry Wood Asylum in his work, "Suicide and Insanity" (London, 1893), it appears that the death-rate in England and Wales in the 25 years between 1866 and 1890 had increased for nervous diseases by 10·2 per cent., for diabetes by 10·3 per cent., for renal disease by 63·4 per cent., and for cardiac disease by 65·9 per cent. From the extensive statistical returns which he discusses, Dr. IRELAND concludes "that the graver forms of diseases of the nervous system have increased in Great Britain as they are said to have done in France and Germany during the last 45 years." In Scotland there seems to have been a pause in the increase from 1885 to 1897 which remains unexplained.

Regarding the increase of insanity generally in England Dr. IRELAND does not limit himself to a dry and bare statistical enumeration. His statement that idiocy and imbecility have largely increased in Sweden and in Norway, although he is assured that drunkenness has much diminished in those two countries owing to the working of the Gothenburg system, is a weighty fact in favour of the belief of the increase of cerebral diseases. The steady and progressive increase of the number of the insane throughout Europe has now begun to attract public attention and physicians such as KOCH, KOLLMANN, LUNIER, and KRAEPELIN, who have devoted great care to the statistics, have after making every allowance come to the conclusion that there has been a real increase in the absolute number of the insane. In quite recent years this increase in the number of "official lunatics" has become remarkable and has opened many eyes, and Sir JAMES CRICHTON BROWNE has been one of the most explicit exponents of the view that such increase was a real one. In dealing with the official statistics of the United Kingdom both Dr. IRELAND and Mr. CORBET are on common and incontrovertible ground. The lunacy problem is growing more serious year by year and the demands made on society for public lunacy treatment and care are increasing enormously as time goes on. The following remarks by Dr. KRAEPELIN in his "Lehrbuch für Psychiatrie" (1899) are weighty and should be pondered over. "The regular census returns with us indicate with certainty a rapid increase of the insane which far overtops the general increase of the population. The rise is partly accounted for by the greater care of the numeration and the better knowledge of insanity, nevertheless it is undoubted that we have actually to reckon with a very considerable increase of insanity. This is proved not only by the

[1] Scottish Medical and Surgical Journal, May, 1900.
[2] County Councils Gazette, Dublin, March 9th, 16th, and 23rd, 1900.

alarming increase in the number of the insane, but also by the simultaneous rise of the frequency of suicides and the contrast presented by the town and rural populations"

AN article which lately appeared in the *Londoner* on the metropolitan water-supply deserves notice It is of interest chiefly because the writer, Mr WHITMORE, has represented Chelsea in Parliament for many years and has also been a prominent member of the London County Council. In either capacity he has been brought face to face with the London water question. Mr. WHITMORE, referring to the report on the London water-supply which has lately been made by Lord LLANDAFF'S Commission, says that this document is now more favourably thought of than it was when it was first issued, and he urges the Government to carry out the recommendations which it contains without delay. Mr WHITMORE does not, however, state that the recommendations made by Lord LLANDAFF'S Commission are on many points diametrically opposed to the advice which he tendered in the evidence which he gave to that Commission. It may, therefore, be not without interest at the present time to recall the substance of some of the evidence which he gave—evidence founded, it must be remembered, on many years' experience.

At the sixteenth and seventeenth sittings of the Commission, which were held on March 21st and 28th, 1898, Mr. WHITMORE pointed out that he had been a member of the London County Council for three years and that he had given his particular attention to the question of the London water-supply. One of the conclusions at which he had arrived was that the London County Council was not a fit body to undertake the duties of a water authority for London. With this opinion, as readers of THE LANCET know, the report of Lord LLANDAFF'S Commission entirely agrees and the technical evidence given by engineers has conclusively shown that severance of the water undertakings between London and the surrounding authorities on the lines suggested by the London County Council would have been a most expensive, a most inconvenient, and indeed an absurd arrangement. Mr. WHITMORE in his evidence went on to say that if purchase of the companies' undertakings were carried out it would follow that the London County Council must necessarily either nominally or virtually become the water authority. He referred to a Government Bill (commonly called Lord JAMES'S Water Bill), in which an attempt had been made to create a Water Board for the County of London and the area within the jurisdiction of the county councils which make up the area of "Water London"—that is to say, the districts at present supplied partially or entirely by the London water companies (and including the whole of their authorised areas of supply). The Government thought it necessary to give a preponderating voting power to the London County Council, and it would, Mr. WHITMORE argued, be necessary that such a preponderating voice should be given to London if a Water Board were formed. The Bill encountered so much opposition from the county councils whose districts surrounded London that the Government found it necessary to drop it Now, in the Water Board proposed by Lord LLANDAFF'S Commission no such preponderating voice is suggested for London. Mr. WHITMORE thought the demand for "control" of the water-supply was really a "sentimental" one, and the "sentiment" would not be satisfied unless the London County Council became the controlling body. It was, he urged, unwise to increase the number of governing bodies in London by forming a new board. There were already too many boards. But the public "sentiment" of London would not be satisfied by a secondarily elected body. The Metropolitan Board of Works had died with "universal satisfaction" The Thames Conservancy was not a popular body, the Metropolitan Asylums Board was always being abused. Both these bodies were elected by secondary and not by direct methods. Now if a new Water Board were called into being and another directly elected body were formed the result would not be satisfactory, for there was at the present time great difficulty in getting people to vote at the elections of the bodies already existing and another new body was not wanted If, on the other hand, a paid nominated body were appointed it would not satisfy the "sentimental" feeling which existed that such a monopoly as the water supply should be controlled by a popularly elected authority. Another and a very important point Mr. WHITMORE urged, was that the financial difficulties of purchase could not be lightly faced. An amalgamation of the water companies would doubtless be a good thing, but the grievances which existed had been very much exaggerated. The President of the Local Government Board might "benevolently" conduct negotiations with the chairmen of the water companies with a view to forcing an amalgamation Lord LLANDAFF very pertinently asked in what manner the negotiations could be benevolently conducted and what "birch rod" the President of the Local Government Board should have up his sleeve. In answer to this Mr. WHITMORE suggested that the high functionary might threaten legislation and that the legislation might have reference to control, but he professed that for his own part he did not understand what was meant by control. An amalgamation of the companies however, was much to be desired and a general water-rate should be fixed for the whole of London. The companies might "voluntarily" reduce their charges to the lowest rate now charged and they might be led to do this from a fear of oppressive control or of confiscatory purchase.

It is evident that Mr WHITMORE has largely modified his views between the date at which he gave evidence before Lord LLANDAFF'S Commission and the present time. Which view is correct? The recommendations of Lord LLANDAFF'S Commission are not very fully given by Mr. WHITMORE in his recent article with a reference to which we commenced, and he gives no adequate account of the recommendations made with regard to control of the water supply, yet the Report advises that new measures of control should be instituted, whether the companies are bought by a newly constituted board or the undertakings continue in the hands of the companies The recommendations with regard to control are of the greatest value, and in the case of each particular recommendation there is good reason for it. Mr WHITMORE naturally looks upon the water question from the point of view of the Londoner, and in his double capacity of county councillor and Member of Parliament As a county councillor he would like to

satisfy any "sentiment" which he thinks it possible there may be in favour of the management of the water-supply by a public authority instead of a private company. As a metropolitan Member of Parliament he must be anxious to be quit of the whole subject. So long as the water-supply is in the hands of water companies any failure of supply in a particular district leads to the abuse of the Parliamentary representative by his constituents. It does not, of course, follow that severe frost would not cause a congelation of water in the pipes even if they were in the hands of a popularly elected Water Board, but in that case it is not the Member of Parliament who will be abused; on the contrary, he will be able to abuse the Water Board; and doubtless all metropolitan Members would be extremely glad if in the future they could be held free from worry in case of any deficiencies in supply or increase in water rents by piously throwing the blame on a body of which they are not members. But quite apart from the expediency or otherwise of giving statutory life to the model Water Board suggested by Lord LLANDAFF'S Commission it is most unlikely that the Government would be able to pass such a measure. The County Councils of Kent, Surrey, Middlesex, and Hertfordshire are altogether opposed to the purchase of the metropolitan water companies' undertakings, and should a serious attempt be made by the Government to pass a Bill diametrically contrary to their wishes and to their interests in this connexion, it is at least possible that the effect of the Bill would resemble that produced by Lord CROSS'S celebrated measure in the year 1878.

Annotations.

"Ne quid nimis."

THE BIRTHDAY HONOURS.

THE list of birthday honours this year is, contrary to all expectation, a very short one. No medical man receives a baronetcy, but four have been made knights—viz., Dr. Hector Cameron, the President of the Faculty of Physicians and Surgeons of Glasgow, and the representative of that body upon the General Medical Council; Dr. J. W. Moore, the President of the Royal College of Physicians of Ireland; Dr. William Bisset Berry, Q.C., Speaker of the House of Assembly of the Cape of Good Hope; and Dr. David Palmer Ross, C.M.G., Surgeon General of British Guiana. Surgeon-General H. S. Muir, Deputy Director-General of the Army Medical Service, upon whom an enormous amount of work has lately fallen, and Lieutenant-Colonel B. B. Connolly, late of the same service, receive the C.B. Lieutenant-Colonel R. N. Campbell, I.M.S., and Captain C. H. James, I.M.S., receive the Kaisar-i-Hind medal for Public Service in India. This exhausts a singularly meagre list of honours given to medical men, but the whole roll, as we have said, is a very short one. Among other honours which have a distinct interest to medical men it may be mentioned that Veterinary Colonel Henry Thomson of the Army Veterinary Department, and Professor T. E. Thorpe, the Director of the Government Laboratories, receive a C.B., and Mr. A. J. R. Trendell, assistant secretary to the Science and Art Department of the British Museum, is knighted; while the peerage of Strathcona and Mount Royal, which in recognition of the present owner's imperial spirit has been re-granted with remainder to his daughter, will now devolve upon the children of Mr. Bliss Howard, F.R.C.S. Eng. Mr. John Glover, chairman of the City Liberal Unionist Association, who has been knighted, is brother of Dr. Glover, a Direct Representative of the profession on the General Medical Council.

THE LONDON POLYCLINIC.

THE Whitsun term at the Post-Graduates' College in Chenies-street commenced on May 14th and another six weeks' course of practical instruction in the various departments of medicine and surgery is now fairly entered upon. The consultations go on uninterruptedly and are, we understand, attracting increasing numbers both of patients and members. Invitations are issued for an afternoon conversazione for to-day (Saturday, May 26th), when in addition to music and an interesting collection of scientific exhibits opportunity will be afforded for inspecting the new museum which is just out of the builder's hands. This is a handsome room and is well suited for the reception of the valuable collection which, thanks to the generosity of Mr. Hutchinson, will immediately be housed within its walls. This conversazione has been specially arranged that the council's guests may meet Lord Strathcona and Mount Royal, the chairman-elect of the annual dinner which will take place at the Trocadéro Restaurant, Piccadilly-circus, on Thursday, May 31st. The main purpose of the dinner is, of course, to help the funds, for the London Polyclinic, in common with many other institutions which look for public support, is finding the financial outlook unpromising this year on account of the numerous demands on benevolence entailed by the war.

FALSE MEDICAL CERTIFICATES.

A RECENT prosecution at Leeds has decided an important point in connexion with the issue of medical certificates of the cause of death under the provisions of the Births and Deaths Registration Act of 1874. It appears that on the death of an infant, 14 days after it had been seen at the Leeds Public Dispensary, the mother applied at that institution for a medical certificate, which was filled up by a medical practitioner acting as locum-tenent for the medical officer of the institution, who had previously seen the child, but who was temporarily absent from Leeds. The locum-tenent used for the purpose of this certificate one of several blank forms signed by the medical officer and apparently left for use during his absence. When this "partnership certificate" was produced to the registrar he ascertained from the mother of the infant that the certifying practitioner had not seen the infant for 14 days and therefore reported the case to the coroner, who decided to hold an inquest, at which all the facts of the case were fully disclosed, including a statement by the dispensary authorities that it was a usual practice, when a medical officer intended to be absent, for him to leave forms signed in blank for use during his absence. On the case being reported to the Registrar-General he instructed the Leeds superintendent registrar to prosecute both the medical practitioners concerned in this case for contravening Section 40 of the Births and Deaths Registration Act in making and giving a false certificate of the cause of death of the infant referred to. The certificate was false because it purported to be the certificate of one practitioner, whereas the practitioner whose signature it bore had not really certified the cause of death. At the adjourned hearing of the case on May 15th before the Leeds stipendiary magistrate the counsel for the defence advised his clients to plead guilty, pointing out, however, that in the course they adopted they were only conforming to the usual custom when a house surgeon was temporarily absent from the dispensary. The prosecuting solicitor, while pressing for a decision in the public interest of correct death certification, disclaimed any desire on the part of the Registrar-General for heavy penalties. The stipendiary magistrate

pointed out that the defendants had no improper motives in making or giving this false certificate, but considered that the case had very properly been brought before the court, especially as the practice of signing certificates in blank had been admitted, and also expressed the opinion that the Registrar-General deserved the thanks of the public for instituting the prosecution Having regard to all the facts of the case the magistrate decided to fine the practitioner who signed the blank certificate £2, and the practitioner who filled in the cause of death without having seen the infant £1, "the amount of the penalties being payable as the costs of the prosecution" The grave danger from many points of view of signing blank forms for medical certificates under any circumstances whatever induces us to subscribe to the stipendiary's views, though we are sure that the medical men acted in perfect good faith

NEW HILL STATIONS FOR INDIA

IN his extremely interesting, but unhappily posthumous, work, Lighteen Years in the Khyber,[1] Sir Robert Warburton mentions several elevated sites in the vicinity of the celebrated pass which in his opinion could with advantage be made use of as hill stations The first of these, which is known locally as Tor Sappar, is situated due north of Landi Kotal, 32 miles to the westward of Peshawar, at an altitude ranging between 5300 and 5600 feet above the level of the sea, and is tersely described by the author as "A natural hill fortress, capable of holding 1500 soldiers (Europeans)" The rainfall is insignificant, being "limited to five or six showers," so the plateau is "free from the three to three and a half months of incessant mist, fog, rain, thunder, and lightning, which are the normal characteristics of the Himalaya hill stations from the middle of June to the end of September." This freedom from dampness must be a very great boon, as anyone who has experienced the discomfort of a rainy season at the Himalayan sanatoria will admit, and since, owing to the prevailing breezes which in one direction blow over the Canbul river and in another across the moist delta of the Doaba, the place enjoys an almost complete immunity from the hot dry winds that elsewhere are so trying its meteorological advantages should suffice to attract visitors from India who are in search of a moderate temperature under an unclouded sky Being well acquainted with the principal Indian health resorts Colonel Warburton was in a position to judge, and has recorded his deliberate opinion that in spite of its slight inferiority in the matter of altitude, Tor Sappar as regards climate is far superior to Murree, Dalhousie, Simla, Mussoorie, or Landour "Lying far away from Mohmands and Afridis, there was no reason," he adds, "why we should not have made a hill station of this spot, which is inestimably superior to Cherat in every way—in climate, in extent, in its superior water supply, and in its safety from lurking thieves And, what was more to the point the place had no owner." The next elevated site eulogised by Colonel Warburton is the Dabrai hill, which is distant about a day's journey from Tor Sappar. Here "2000 Europeans could be well and safely located for the summer months"; and close by, in the neighbourhood of Lwara Miana, there are several places capable in the aggregate of accommodating "2000 Europeans or even more with abundance of water" The Khyber district, as a rule, is very bare and barren owing to the lack of water, or rather to the lack of means for storing and regulating the supply The precious fluid does exist, but for most part it is allowed to run to waste without any attempt to retain it in tanks or to direct its course That it is not the soil which is blamable for the scarcity of vegetation is evident from the following description of a halting place near Dabrai "What a change as we penetrated the gorge for some distance! The hillsides were perfectly green with grass and very large trees imported from Hindustan, for they did not belong to the Khyber Range, abounded, showing that once upon a time some resident of these hills had made a good garden in this sheltered locality. And what was of even greater interest a splendid spring giving 100 000 gallons of water daily gushed out of the mountain side" When Colonel Warburton left Peshawar for England in May, 1897, "the horizon of Khyber politics was unclouded and bright" Then came the "Khyber *Débacle*", but although "ready and most anxious" to resume his post the "Warden of the Khyber" was not recalled until it was too late The concluding sentences of an unsigned introductory notice to this remarkable book convey a moral as sad as it is pathetic. "The hard work of the Tirah campaign which followed, the exposure and fatigue coupled with unceasing attacks of dysentery, may be said to have undermined his bodily strength and finally to have caused his death—but the loss of the Khyber after his faithful guardianship of so many years preyed most heavily upon his mind It is no exaggeration to say that it broke his heart" In a letter to a friend written shortly before his death Colonel Warburton said "My mind is very heavy over this hideous disaster, which I feel could have been staved off even up to the day of mischief. It makes me quite sad to think how easily the labour of years—of a lifetime—can be ruined and destroyed in a few days"

[1] John Murray, Albemarle-street, London, 1900.

ASSURED PENSIONS FOR ASYLUM WORKERS.

IN a recent leading article we referred to an unfortunate omission in the Lunacy Bill for 1900, this Bill containing no provision relating to the superannuation of the officials, attendants, and servants of lunatic asylums. Under the Act of 1890 county councils are empowered to grant pensions, but the exercise of this power is not obligatory and hence, while some authorities have behaved liberally and justly, others have adopted a different course and thus an element of uncertainty attaches to the service which must sooner or later tend to exclude from it those whose ability and industry will ensure for them better treatment in other paths of life This is not only unfair to the officers but is unfair to the insane. Those who are best able to judge of the absolute necessity of securing good service in the asylums have not failed to express their opinion of the importance of providing an adequate and certain superannuation allowance for all officials We have now received an "Open Letter to Members of Parliament and Others," signed by "A Medical Officer," in which the case of asylum officials in respect to pensions is fairly stated and which urges the need for the Government to deal with the subject by legislation With this letter is a memorandum prepared by the executive committee of the Asylum Workers' Association which comprises upwards of 3000 persons. The nature of the duties performed by those in attendance on the insane is properly discussed and it is pointed out that the wear and tear and the strain of life in an asylum make the provision of pensions very necessary to those engaged in this arduous work and that after 50 years of age men and women become gradually unfitted for these duties The Bill of 1899 proposed to provide a remedy for the uncertainty attaching to the administration of the superannuation section of the Act of 1890 by making the granting of pensions obligatory The Bill of the present year, owing apparently to the opposition of county councils, does not contain this provision and hence the uncertainty as to their future, which is so trying to officers in a public service, will continue We hope that it is not too late for the

impartially and to transfer the *venue* of the investigation from Melbourne to London will not be without obvious advantages, although to do so may cause additional trouble in the procuring of evidence. On the one hand, for a medical man to be mixed up, however indirectly, in a company having for its object the sale of contraceptives constitutes a breach of professional ethics so complete that removal from the roll of the profession rather than expulsion from the local branch of the British Medical Association should follow upon proof of the misconduct. But on the other hand the accusation is so disgusting that extraordinary pains should be taken to prove that it is well founded and that the accused man has been a wilful sinner and not a victim to misrepresentation before any punitive measures are taken. Evidently the Council believe that they took all possible precautions against error, but equally evidently a certain proportion of the Victorian Branch of the British Medical Association considered Mr. O'Hara to have a defence. For his sake, as well as for the cause of that professional good behaviour which the Council have desired to champion boldly, the matter should be thoroughly threshed out.

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THE forty seventh section of the Public Health (London) Act, 1891, enables a medical officer of health or sanitary inspector in the metropolis to enter any premises and examine animals or articles intended for the food of man, and if he find them unfit for the food of man to seize them in order to have them dealt with by a justice, while the same section ordains that the justice, if it appears to him that that which has been brought before him is unfit for the food of man, shall order it to be so destroyed or disposed of as to prevent it from being exposed for sale or used for the food of man The proceedings necessary for punishing the person exposing the stuff for sale are to be taken independently of those above referred to although they may come before the same magistrate. An appeal recently heard by the Divisional Court under this section seems at first sight a little belated considering that it concerned the refusal of the magistrate sitting at the Thames Police court to order the destruction of certain diseased strawberries in last June, but in the result it should do good as it makes clear a point that can hardly be said to have been extremely obscure before, and as the case appealed on was remitted to the magistrate, who had decided it wrongly, with an intimation that the strawberries ought to have been condemned. It seems that they had been sent by the defendant to Messrs John Moir, Limited, who had promptly rejected them as unfit for use, and that they had been seized by the sanitary inspector at some stage of their unwholesome existence subsequently to this This being the case the learned magistrate decided that he had no evidence before him that the strawberries were intended—that is, that they were still intended—for sale for human food, the intention so to dispose of them having been exhausted when Messrs Moir rejected them, and he accordingly refused to order their destruction This very dangerous decision has fortunately been overruled We say fortunately because it might have turned out that the section of the Act was so drawn that food stuff might in such circumstances be indefinitely preserved to constitute a temptation to its possessor and a danger to the public Acts of Parliament are not always as lucid as they might be, and in deciding an appeal as to the interpretation of the section of the general Public Health Act of 1875, which the section in the London Act under discussion almost exactly follows, Mr Justice Field, now Lord Field, called its drafting "inartificial" His decision, however, in that case, coupled with an earlier one in which also he was a member of the court, together with Thomas v Van Os, heard on May 17th, by Mr. Justice Ridley and Mr Justice Bigham, should leave no doubt in the mind of any magistrate that it has been the intention of the legislature to provide for the prompt destruction of food stuffs unfit for human consumption, leaving such unfitness the sole point for the justice's decision, unhampered by any question of the intentions, innocent or otherwise, of the owner, or of any other matter which may serve as a defence to him when he personally is brought before the magistrate; while the question of the exposure for sale is, as far as these proceedings are concerned, a question for the medical officer of health or sanitary inspector, upon which he satisfies himself before he seizes the stuff and applies for the order for its destruction

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impartially and to transfer the *venue* of the investigation from Melbourne to London will not be without obvious advantages, although to do so may cause additional trouble in the procuring of evidence. On the one hand, for a medical man to be mixed up, however indirectly, in a company having for its object the sale of contraceptives constitutes a breach of professional ethics so complete that removal from the roll of the profession rather than expulsion from the local branch of the British Medical Association should follow upon proof of the misconduct. But on the other hand the accusation is so disgusting that extraordinary pains should be taken to prove that it is well founded and that the accused man has been a wilful sinner and not a victim to misrepresentation before any punitive measures are taken. Evidently the Council believe that they took all possible precautions against error, but equally evidently a certain proportion of the Victorian Branch of the British Medical Association considered Mr. O'Hara to have a defence. For his sake, as well as for the cause of that professional good behaviour which the Council have desired to champion boldly, the matter should be thoroughly threshed out.

THE NEW CORONER FOR SWANSEA.

IN consequence of the resignation of the borough coroner, Mr. Edward Strick, the Swansea County Council were called upon last week to elect his successor. Mr. Strick was a solicitor of long standing in South Wales, and every effort was made upon the part of his colleagues in the profession to secure the office for one of themselves. The medical men in the town on their part considered that the position could be filled with more advantage to the public by a medical practitioner. In the columns of the local press during the past few weeks various arguments have appeared from the advocates of each party, and resolutions were addressed to the council from the Swansea Medical Society and from the local Incorporated Law Society. Among the five candidates whose applications were received by the council were two medical men—Mr. J. A. Rawlings, who has been a member of the council for many years, and Mr. John Evans. The three solicitors included Mr. Leeder, an alderman of the council. The contest appears to have really been between this gentleman and Mr. Rawlings and Mr. Evans and an examination of the preliminary voting almost points to the conclusion that a majority of the members of the council were favourable to the appointment of a medical man rather than of a solicitor, though in the final voting there were 19 votes cast for Mr. Leeder and 15 for Mr. Evans. If our surmise is correct it seems a pity that one of the medical candidates should not have withdrawn by lot or otherwise in favour of the other, for there should be no doubt as to the desirability of a medical man holding the post of coroner.

"TYPHOID SPINE."

IN the *Boston Medical and Surgical Journal* Dr. R. W. Lovett and Dr. C. F. Withington have recently published a case of a rare complication of typhoid fever to which the name of "typhoid spine" has been given. Only nine cases have been recorded, and a difference of opinion exists as to the nature of the condition in question. According to some, including Osler, it is a neurosis; according to others—Gibney and Quincke—it is a spondylitis or perispondylitis. The present case is important because it is the only well-authenticated one accompanied by deformity and therefore the only one in which spinal inflammation is proved to have been present. An army surgeon, aged 35 years, who was engaged in the Cuban war, became ill on July 17th, 1898. He had continued fever for two weeks and intermittent fever for two weeks more. He returned home and rapidly gained strength. About Sept. 25th he began to notice lameness in the lumbar region. On Oct. 6th, after getting very tired, he was seized with cramps in the same region, and they became so severe that morphia had to be injected. He kept his bed for three days, after which he quickly improved and began medical practice. He remained well until Nov. 26th when he had a slight chill. On the next day the cramp in the back returned and grew worse. He kept his bed until Dec. 3rd, when he was removed to hospital. On admission his temperature was normal. He complained of severe lumbar pain which came on in spasms and which was much aggravated on his getting out of bed. Morphia had to be given. The blood gave the typhoid reaction and no plasmodia were found. During January, 1899, all movements of the body were very painful. The spines of the lower dorsal and upper lumbar vertebræ were tender and the muscles of the loin were rigid. In February he could walk slowly, with the help of a cane. A distinct projection of the spines of the eleventh and twelfth dorsal and first lumbar vertebræ was observed. A plaster jacket was applied, but it gave less relief than is usual in Pott's disease. The temperature did not exceed 99·6° F during the first two weeks of his residence in hospital. About Dec. 17th, 1898, it became more febrile, ranging from 100° to 102° for 25 days, and then becoming like that of the first two weeks. Improvement was slow. In October, 1899, the deformity still persisted and the patient wore a leather jacket on account of it. He was free from pain and the spinal movements were about two-thirds of normal. In November he was engaged in active practice and could lay aside the jacket for two or three hours. Dr. Lovett and Dr. Withington exclude tuberculosis on the ground that the clinical features were not those of ordinary Pott's disease; the muscular rigidity seemed largely voluntary, pain was excessive, and good mobility was recovered in nine months. Moreover, the tuberculin test gave a negative result. Only destructive osteomyelitis of the vertebral bodies could explain the spinal projection. Inflammation of bone in other parts of the body is now a well-recognised sequel of typhoid fever. In one recorded case of typhoid spine periostitis of the parietal bone, which had undergone resolution, preceded the spinal lesion. Strain seems to be an exciting cause. In one case the patient used to climb stairs with a pedlar's pack, in two cases the patients had resumed their occupations—those of blacksmiths, and in another case the symptoms began after a fall while skating. In THE LANCET of Oct. 29th, 1898, at page 1147, another case is described.

THE SPECIAL RULES RELATING TO LEAD POISONING.

BY a Parliamentary return recently issued it is obvious that the special rules relating to the china and other trades in which lead compounds are used are diminishing the number of cases of lead poisoning. In THE LANCET of May 19th we printed the reply of the Home Secretary to a question put by Mr. Coghill upon this subject. Sir Matthew White Ridley ordered a return to be printed giving the number of cases of lead poisoning reported as occurring: (1) in the earthenware and china industry for each month from January, 1898, to March, 1900, both inclusive; and (2) in all other trades. We have received a copy of this return and the figures are very striking in showing that the diminution in the number of cases of lead poisoning follows closely on the establishment of the new rules in 1898. It may be safely anticipated that in those departments of the pottery trade in which lead may be dispensed with altogether or employed in the form of a frit some of the rules need not be applied. We pointed out long ago that the withdrawal of certain of the stringent regulations on the condition that leadless glazes only should be used would be a powerful inducement to the trade to turn

their attention to this aspect of the problem We have taken a very keen interest all along in the question of substituting for raw lead leadless glazes or harmless lead glazes known as "frits," and it is a source of considerable satisfaction to ourselves that at length it has been found that lead can be done away with altogether, or at least used in a non poisonous form without interfering with the interests of the trade In THE LANCET of Jan 7th, 18
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day is not far d
tion to demand the abolition of raw lead in glazing and to compel the adoption of safe frits or, better still, leadless glazes, without inflicting any hardship on the potter or causing any hindrance to the pursuit of his art" Again, in THE LANCET of April 1st 1899 we submitted that the Government had been placed in this position by the results embodied in a Government report—results which completely confirmed our own views—obtained at the Instance of the Home Office by Dr Thomas Oliver and Professor Thorpe We may now look with hopefulness in the future for a further diminution in the number of cases of lead poisoning, for most of the leading representatives of the trade have found not only frits practicable but leadless glazes also

THE DESTRUCTION OF DISEASED FOOD-STUFFS

THE forty seventh section of the Public Health (London) Act 1891, enables a medical officer of health or sanitary inspector in the metropolis to enter any premises and examine animals or articles intended for the food of man, and if he find them unfit for the food of man to seize them in order to have them dealt with by a justice, while the same section ordains that the justice if it appears to him that that which has been brought before him is unfit for the food of man, shall order it to be so destroyed or disposed of as to prevent it from being exposed for sale or used for the food of man The proceedings necessary for punishing the person exposing the stuff for sale are to be taken independently of those above referred to although they may come before the same magistrate An appeal recently heard by the Divisional Court under this section seems at first sight a little belated considering that it concerned the refusal of the magistrate sitting at the Thames Police court to order the destruction of certain diseased strawberries in last June, but in the result it should do good as it makes clear a point that can hardly be said to have been extremely obscure before, and as the case appealed on was remitted to the magistrate, who had decided it wrongly, with an intimation that the strawberries ought to have been condemned It seems that they had been sent by the defendant to Messrs John Moir, Limited, who had promptly rejected them as unfit for use, and that they had been seized by the sanitary inspector at some stage of their unwholesome existence subsequently to this This being the case the learned magistrate decided that he had no evidence before him that the strawberries were intended—that is that they were still intended—for sale for human food, the intention so to dispose of them having been exhausted when Messrs Moir rejected them, and he accordingly refused to order their destruction This very dangerous decision has fortunately been overruled We say fortunately because it might have turned out that the section of the Act was so drawn that food stuff might in such circumstances be indefinitely preserved to constitute a temptation to its possessors and a danger to the public. Acts of Parliament are not always as lucid as they might be, and in deciding an appeal as to the interpretation of the section of the general Public Health Act of 1875, which the section in the London Act under discussion almost exactly follows, Mr Justice Field, now Lord Field, called its drafting "inartificial" His decision however, in that case coupled with an earlier one in which also he was a member of the court together with Thomas v Van Os, heard on May 17th by Mr Justice Ridley and Mr Justice Bigham, should leave no doubt in the mind of any magistrate that it has been the intention of the legislature to provide for the prompt destruction of food stuffs unfit for human consumption, leaving such unfitness the sole point for the justice's decision, unhampered by any question of the intentions, innocent or otherwise, of the owner, or of any other matter which may serve as a defence to him when he personally is brought before the magistrate, while the question of the exposure for sale is, as far as these proceedings are concerned, a question for the medical officer of health or sanitary inspector, upon which he satisfies himself before he seizes the stuff and applies for the order for its destruction

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Medical Guild rightly consider inadequate. We shall watch with interest the movement made by the Guild.

INDIAN MEDICAL SERVICE ANNUAL DINNER.

THE annual dinner of the Indian Medical Service will take place at the Hotel Cecil on Thursday, June 14th, at 7 45 P.M., Sir Trevor Lawrence, Bart., in the chair. Officers intending to be present should communicate with the honorary secretary, Mr. P. J. Freyer, 46, Harley-street, W.

LONDON SCHOOL LECTURES ON FIRST AID AND HOME NURSING.

WE are informed that an alteration has been made in the remuneration of the lecturers on first aid and home nursing at the evening continuation schools of the London School Board. The fees have been raised from half a guinea to one guinea per evening, and lecturers on these new terms are being advertised for. The engagements will vary from one evening a fortnight to three or four evenings a week, each lecture with the practical instruction lasting an hour and a half. Applications should be forwarded not later than June 9th on forms which can be obtained from the clerk of the Evening Continuation Committee, School Board for London, Victoria Embankment, W.C.

TREATMENT OF FRACTURES.

IT cannot be said that the usual treatment of fractures of the extremities always gives perfect results, for in a considerable proportion of the cases some stiffness or some impairment of mobility persists which interferes materially with the functional activity of the limb. Attempts to improve on these results have been made along two widely divergent lines. On the one hand, it has been contended that endeavours to immobilise the fragments are harmful, for adhesions of neighbouring structures tend to form and these prevent movement; to overcome this objection early and continued massage of the neighbourhood of the fracture has been much advocated, especially by Lucas Championnière. On the other hand, it is maintained that the lack of success which has been met with is attributable to a failure to adjust with anything like accuracy the broken portion of the bones and to maintain them in their normal position. Mr. Arbuthnot Lane has for some years insisted on the fact that our ordinary methods of setting a fracture in many cases fail, and since 1896 the evidence afforded by skiagrams has been on the same side The facility with which in a compound fracture the broken portions of bone can be adjusted and maintained in a correct position has persuaded Mr. Lane to advocate the conversion of a simple into a compound fracture on occasions when any difficulty is experienced in restoring or maintaining the correct position of the fragments, and these views are ably advanced in a clinical lecture which appears in this number of THE LANCET Of course, with modern antiseptic precautions the risk of cutting down on to a fracture may be reduced to a minimum, but some risk still remains So the question arises, Is the benefit to be derived from this operation equal to the risk which is run? In some instances the answer must be definitely yes, but these cases form probably only a small proportion of all fractures For an ordinary simple fracture the usual methods suffice, but the immediate result should be controlled by means of skiagraphy. Great care must be taken in replacing and fixing the bones and after the splints have been applied the employment of the Roentgen rays will demonstrate the position and will inform the surgeon what degree of success has been attained. Should the position of the fragments be unsatisfactory the surgeon must again attempt to replace them in the normal position; if after repeated trials he should not succeed in effecting this then he is surely justified in proceeding to more severe surgical measures.

THE ANNUAL DINNER OF THE WEST LONDON HOSPITAL.

THE annual dinner of the past and present staff and residents of the West London Hospital was held at the Trocadéro Restaurant on Monday, May 21st, under the presidency of Dr. Donald Hood, senior physician to the West London Hospital. The dinner was well attended and was a bright and successful function throughout. After the usual loyal toasts Mr Keetley, senior surgeon to the West London Hospital, proposed in well-chosen terms "The Imperial Forces." In the regretted absence of the Director-General of the Army Medical Service, Surgeon-General J. B. Hamilton replied, and dwelt in the course of his speech upon the many acts of unrecorded heroism that have been done by the members of the Royal Army Medical Corps during the war. In particular he spoke of the services rendered to the sick and wounded by a totally inadequate handful of medical officers during the long beleaguerment of Ladysmith, and expressed wonder that no mention of their services had appeared in despatches. The chairman in proposing the toast of the evening—viz., "The West London Hospital"—recalled the changes for the better which that institution had experienced since his own connexion with it. When he was first appointed to the hospital almost everything that in modern ideas goes to make a hospital was wanting. Now a large and competent staff, working hand-in-hand with the practitioners of the neighbourhood, ministered in a great building with newly erected wards and out-patient departments to the wants of the sick poor of a vast district. He concluded by reviewing the position of the general practitioner of the present day and indicating its hardships, and by alluding to the good work done by the West London Post-Graduate College. Mr. F. H Lewis and Mr. W. McAdam Eccles replied, representing the committee of management and the medical staff of the hospital respectively. Mr. L. A. Bidwell made a statement with regard to the Post-Graduate College, which, he pointed out, was the only institution for qualified men to perfect themselves in their work which had the advantage of being connected with a general hospital. The speeches of the meeting all went to show that the past and present staff and residents of the West London Hospital have reason to be proud of their connexion with an institution which has not only done an immense amount of good work, but which intends to progress in well-doing.

REPORT OF THE ARMY VETERINARY DEPARTMENT.

THE report of the health of the animals under the care of the Army Veterinary Department during the year ending March 31st, 1899, is a satisfactory one. In the United Kingdom there were 14,305 troop horses, 115 mules, and 1915 chargers on March 31st, as compared with 13,828 troop horses, 135 mules, and 1845 chargers in the previous year. The amount of inefficiency from diseases and injuries was 0 59 per cent. less than last year; the number of deaths was 2 70 per cent. of the average strength. The mortality was highest in the months of September, August, June, and December. Of the animals treated for various diseases it was observed, as is usually found to be the case, that there was a greater percentage of illnesses in animals under five years of age In Egypt glanders made its appearance amongst the horses and mules, being introduced by a remount horse purchased in Syria Ten horses and seven mules had to be destroyed in consequence and arrangements

have now been made whereby all newly purchased animals are tested with mallein before being placed in the Government stables The last case occurred on Nov 23rd and it is satisfactory to note that no fresh outbreak has appeared since In South Africa horse sickness was made the subject of an investigation by Veterinary-Lieutenant-Colonel J Matthews, with the result that certain conclusions were arrived at and detailed instructions issued to prevent its ravages In Natal 253 animals had succumbed before Veterinary Lieutenant Colonel Matthews arrived No cases of glanders occurred, but many deaths were reported from sand colic and anthrax, and an outbreak of osteo porosis amongst the Wynberg mounted infantry seriously affected 49 out of 359 cobs The percentage of deaths for the year was 17 98, as against 18 64 of last year In the Army Veterinary School the usual classes for officers and farriers were held, the number of attendances and the examination pass list showing them to be very popular In the Vaccine Institute lymph was prepared for 76,362 persons, sufficient for 72 692 vaccinations being issued 11 calves were utilised, the average yield being sufficient for 6942 persons to each calf Supplies were issued to the home and foreign stations and also to the Royal Navy, the percentages of successful primary vaccinations varying from 70 14 on the foreign stations to 94 44 at home, The report concludes with the usual classified tables of diseases and injuries Considering the undermanned condition of the department Veterinary-Colonel F Duck is to be congratulated on the way in which the work has been carried out

WHAT IS SWEETNESS?

WITH all the enormous advances made in our knowledge of the constitution of matter both physically and chemically we are not yet able to supply the complete answer to such a simple question as why is sugar sweet? The chemistry of sugar gives perhaps a bare hint in the way of explanation, but sweetness is undoubtedly a condition where constitution or structure rather than percentage composition is responsible for a specific physical property Smell is a related subject and at present we cannot tell what determines the characteristic smell of many familiar substances The chemical composition of turpentine or oil of roses is identical with that of a good many other essential oils—that is to say, the percentage and kind of elements in these bodies is the same; but no one would maintain for a moment that turpentine or oil of cloves is as pleasant as oil of roses We are dealing here with a question which most probably relates to the arrangement of the atoms in the molecule Doubtless a difference in the relative position of atoms determines a great difference in physical character In other words, the elementary materials are the same, but they are placed, so to speak, in such a way in different bodies having the same composition as to present manifold shapes A given structure, for example may contain a certain number of bricks and present an ugly exterior, but the same number of bricks may be contained in another structure which may present an artistic and pleasing appearance Sugar is not the only substance known to us possessing sweetness, but it is the only known naturally occurring substance which possesses this characteristic Therefore it is not uncommonly thought that when a substance is sweet it must contain sugar Such a notion, of course is quite erroneous Glycerine is sweet but contains no sugar, saccharin is 500 times sweeter than cane sugar and is a definite chemical substance without a trace of sugar in its composition It is probable, however, that some analogy exists between the structure of these bodies—that is to say, in the relative position of the atoms, which determines the common property though in varying degree, of being sweet It is, at any rate, remarkable that according to the respective formulæ assigned to these bodies by chemists, starting with the body which contains the least number of carbon atoms—namely, glycerine, which contains three atoms—the rest of the substances possessing sweetening power contain exact multiples of this number Thus grape sugar contains six atoms of carbon, cane sugar 12 atoms of carbon, milk sugar also 12 atoms, malt sugar 12 atoms again, while that intensely sweet substance saccharin contains six atoms of carbon in its main group Possibly this fact is related to the physical characteristic of sweetness It is an interesting matter—this question of the relative positions of the atoms deciding physical characters, for two different substances may coincide exactly in composition, one of which is quite harmless while the other is a powerful poison

MR VICTOR HORSLEY AND THE MEDICAL ACTS

WE have received the following letter from the solicitor of Mr Alabone which we think better to print in full and on which it is not necessary for us to make any remark —

To the Editor of THE LANCET

Re Alabone

DEAR SIR —Your note in the current issue rather seems to aggravate matters and is founded on a misapprehension Dr Alabone was not removed from any register or membership "for infamous conduct" as you suggest, but simply and solely for allowing a laudatory article to appear in *Moonshine* respecting himself, his house, his practice, and his avocations He was illegally (see Partridge v Medical Council) removed from the Medical Register without any inquiry whatever, and the inquiry by the College of Surgeons was only upon the point above named

I have been thus particular in stating the details that you may clearly understand of what Dr Alabone complains and of his dispute stated without suc This cannot injure him, or otherwise, might do so

Yours truly

B ALABONE CHEVLETON

28 Essex street, Strand London W C, May 22nd, 1900.

THE APPOINTMENT OF COUNTY MEDICAL OFFICERS OF HEALTH

IT is universally admitted that the appointment of medical officers of health was a frank recognition of the national importance of sanitary science, and it is equally true that the work of these officials has everywhere been followed by a gradual reduction in the death rate over large areas, by a distinct rise in the prevailing standard of public health, and by an immense improvement in the current methods of dealing with preventable and infectious diseases In view of the many sanitary questions requiring to be dealt with by county councils the necessity of such bodies having a medical man on their permanent staff seems almost self evident but nevertheless not a few county councils look askance at such appointments, and a fresh instance of this short sighted policy has just come to light in West Suffolk At a quarterly meeting of the council for that division of the county, held on May 14th Sir Cuthbert Quilter brought forward a motion to the effect that it was desirable to appoint a medical officer of health for the administrative county, and that it should be referred to the General Purposes Committee to advise the county council as to the terms and conditions of the appointment In introducing the motion he called attention to the insanitary and unsatisfactory state of many of the houses and cottages in the villages, and also to the condition of the crowded portions of the towns He had no fault to find with the district medical officers of health and in fact he did not think that their duties could be more fairly carried out, but they were liable to be placed in a difficult

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INDIAN MEDICAL

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[illegible] May [illegible] Wright moved in the House of Commons [illegible] the committee appointed to [illegible] from [illegible] the committee consisted as follows. [illegible] Mr. Hayes Fisher, [illegible] Mr. M'Cree, Mr. [illegible] Mr. [illegible] Mr. Tomlinson, [illegible] Mr. Wiser, and Sir James Woodhouse. It had to be noted that the evidence in the matter was [illegible] by Mr. [illegible] upon [illegible] March 15th.

[illegible] of the Association of British Postal [illegible] held on the Whitsuntide Recess of the Hotel [illegible] on Thursday, June 21st, at [illegible] The honorary secretary of the association is Dr. [illegible], [illegible], Hampstead Road, Manchester.

A [illegible] from the Governor of Mauritius, Sir C. Bruce, to Mr. Chamberlain [illegible] at the Colonial Office on May 16th, [illegible] that [illegible] of hospital places for the [illegible] May 15th have been [illegible]

[illegible] that a member of the Council of King's College, London.

THE PLAGUE IN ALEXANDRIA IN 1899.[1]

[illegible] in which the infection of plague was introduced into Egypt in the early part of last summer has never been clearly demonstrated, and, as has been the case in so many other places where plague has appeared, the closest inquiry has failed to explain how, when, and from where the disease was brought to the country. The earliest cases were believed to have occurred in the first quarter of the year, but it was not until May that the presence of the disease was recognized with certainty, and it was on May 20th that Alexandria was officially declared a plague infected city. On July 4th the Egyptian Maritime and Quarantine Sanitary Council appointed a commission from among its members to inquire into the origin of the disease. The commission consisted of four members—namely, Dr Rist of Egypt, M. Ashery of Greece, Dr. Torella of Italy, and Dr. Legrand of France. The Report of the commission, while it does not succeed in explaining how and whence the infection of plague came to Alexandria, has brought together [illegible]

with the epidemic [illegible] a brief [illegible] of things wi[illegible] the disease. The [illegible] aged 16 years, who [illegible] to hospital on the [illegible] adenitis. He recov[illegible] bubo. The second [illegible] occupation, aged 2[illegible] April 26th and wa[illegible] had the same sy[illegible] suppurative as to th[illegible] bacteriological em[illegible] the fifth day of the [illegible] the plague medica[illegible] as one of plague. [illegible] Greek boy, aged 13 [illegible] on May 15th and [illegible] symptoms in this [illegible] enlarged axillary g[illegible] the contents of the [illegible] swelling and the [illegible] published declaric[illegible]

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The second inst[illegible] neighbourhood of t[illegible] the end of March a[illegible] the institute stated [illegible] of rats in and nea[illegible]

stated that some 15 or 20 days before he was taken ill an unusual mortality occurred among the rats in the store-rooms in question, some 10 dead bodies of these animals being found every day. Several dead mice and one dead cat were also found. Nothing of the kind had ever happened before. A similar mortality among rats was observed in some other places—notably, in a certain French bazaar—at no great distance from the Sailors' and Soldiers' Institute, but the facts are dwelt on at much less length by the authors of this report. Two cases of plague also occurred in the Moharum Bey police barracks, where 10 days previously a large number of dead rats had been discovered; the two men attacked had helped to remove the dead bodies of the rats.

At certain French mills, situated on the banks of the Mahmoudieh Canal, but at a considerable distance from the part of the city originally infected, two of the employes were attacked with plague on June 7th and June 10th respectively. About the middle of May a large number of dead rats and mice had been found in the granaries in con- [illegible] watus and forwards between the mills and a retail flour shop supplied by them in the quarter of the city where plague was somewhat widely present in May; but if this was, indeed, the case it is at least remarkable that of a certain number of employés whose special occupation was the cleaning and repair of these sacks not one was attacked by the disease In closing the discussion on the subject of the infection of rats the authors of the report ascribe to these animals a very considerable share in the spread of plague during the early period of the outbreak in Alexandria; later, when the germ of the disease was more widely diffused, it appeared to be carried in clothes or—though this mode of spread was thought to be of very much rarer occurrence than the others—by direct spread from man to man. In support of the view that rats largely helped in the early diffusion of the disease special stress is laid on the fact that so many of the early cases occurred in persons whose place of occupation or of residence was peculiarly frequented by rats, such as grocery shops, a mill, a house in or near which was a baker's shop, a grain-store, or a *bakal*.

A brief chapter is devoted to a discussion of the questions as to when and where the disease first appeared in the city. Suspicious cases were traced as far back as the month of January, 1899, but it was impossible to assert that the infection had not been present in the city from an even earlier date. The part of the city first affected was believed to have been the Minet-el-Bassal or Gabbari quarter, in the neighbourhood of the mouth of the Mahmoudieh Canal and the Gabbari goods station. The general progress of the disease was from west to east Attention is also drawn to the remarkable fact that all the early cases, both those officially recognised and those still earlier ones brought to light by subsequent inquiry, were in Europeans, either Maltese or Greeks, and that not one occurred at this time in a native.

In regard to the question as to how the infection of plague was introduced into Alexandria the commission was unable to find any conclusive evidence The nearest place to Alexandria in which plague had been prevalent was Jeddah, but with the exception of a small number of cases of the disease in the crew of a steamer called the *Mehalla* which arrived in Suez from Jeddah in May, 1898, there was nothing to indicate that the infection had at any time been carried to the Egyptian shores from that port. The Moslem pilgrims returning from the Hedjaz in 1899 were also, so far as could be ascertained, in no way responsible for the introduction of the disease into Alexandria. The fact that so many of the earlier patients were Greeks employed in grocery shops (*épiciers*) gave rise to the suggestion that the Greeks or Jews who provide the pilgrims in Jeddah with articles of food might, some of them, have come to Alexandria and brought the disease with them But there was nothing to point to such an occurrence, and, moreover, the suggestion failed to explain why the cases occurred in several quarters of the town and among persons who, though of the same occupation, had no relations whatever with each other. The explanation favoured by the authors of the report is that the centres for the sale of comestibles became infected and that

The theory that the disease was imported from Bombay either by human beings or by rats is very briefly dismissed. It had been suggested that [illegible] thence by a man accompanied [illegible] who arrived in Alexandria [illegible] and after a short stay left [illegible] me before the date of importation of the infection by goods brought from Bombay is also discussed. Every month some 3000 or 4000 sacks of sesame arrive at Alexandria from Bombay; the great majority of other classes of goods from India to Egypt are landed at Port Said and thence trans-shipped to Alexandria. Had the infection been imported by such means to the latter city the persons most likely to have been first attacked would have been the men at the docks who landed the goods, but this, it is pointed out, was not the case.

In closing the report the authors repeat, in the form of six "conclusions," the facts stated above, and they add that in regard to the mode of introduction of the disease into the city they are unable to come to any positive conclusion at all. They are content with saying that the infection may have been brought either from India, the extreme East, or from Arabia, and by means o [illegible] in whom the disease was not [illegible] the disease in the stage [illegible] taminated goods, or (4) by clothes or dirty linen, or (5) by rats on board a ship.

THE WAR IN SOUTH AFRICA.

THERE is no longer any doubt about the success of our troops at Mafeking. Colonel—now Major-General—Baden-Powell's heroic garrison have been relieved, to the extreme satisfaction and delight of everybody, after a siege of seven months. Unmistakeable signs of the collapsing power of the Boer forces are becoming more and more evident and the news from the theatre of war is eminently satisfactory, although it is still too early to feel confident that there will be any immediate end of the conflict. Looking back on all that has taken place since the beginning of this war we may well pause and ask ourselves whether, after all, any other nation would have done better, or even done as well, under all the exceptional and difficult circumstances that have presented themselves. The Boers have not succeeded in capturing any one of the three places which they have besieged, while their real strategical objects have been delayed and frustrated. They knew every i [illegible] some six weeks' [illegible] advantage [illegible] ically, was in a [illegible] defensive warfare and to their tactics admirably adapted to the use of all the modern rifled arms and as well as to the use of all the modern rifled arms and implements of war. There was no general rising in Natal, the Boers did not mass their forces to the south of the Tugela and seize the railway or occupy Pietermaritzburg and Durban, which were most important strategical considerations, at the time when our troops in South Africa were altogether outnumbered by them. That the Boers have throughout exhibited great tactical skill, and that they have shown themselves adepts in the use of ambushes and in effecting their retreat from untenable positions with their guns and stores—all this is undoubted. Not only this country, but every other country, has learned great practical lessons from this war. There is no need to enumerate them, but we may refer to one—namely, the enormous resources which are available in the present day for defensive warfare and the possibility of applying these with the greatest advantage on the north-western frontier of India. But the matters with which we as medical journalists are chiefly concerned are: the revolution which the war has brought about in our surgical knowledge of gunshot wounds, in our methods of treatment, and in all that concerns field hospital administration, transport, army hygiene, and the necessity—to speak generally—for the reorganisation and unification for war purposes of all the medical aids at our disposal.

position by their patients being members of the district councils and owners of property against which they might have to report. There were 12 county councils which had appointed medical officers at salaries ranging from £500 to £800 to devote their whole time to the duties; 12 other counties had appointed officers at small retaining fees to compile reports from those presented by the medical officers of the district councils, and 25 counties had not yet done anything. After the seconding of the motion the next speaker said that the present sanitary Acts were administered by the district councils; he had found that the medical officers under the district councils did their work efficiently; and in his opinion the appointment of a county medical officer of health would be simply a waste of money. Colonel Anderson maintained that there were many arguments in favour of having a county medical officer of health, but when the motion was put to the meeting, at which some 40 members were present, only four voted for it.

ON May 22nd Sir William Walrond moved in the House of Commons that a Select Committee be appointed to consider the question of hospitals being relieved from rates. The motion was agreed to and the committee constituted as follows: Mr. Bonsor, Dr Farquharson, Mr. Hayes Fisher, Sir Cameron Gull, Sir John Maclure, Mr. M'Crae, Mr. Pickersgill, Mr. Round, Mr. T. W. Russell, Mr. Tomlinson, Mr. Lawson Walton, Mr. Warr, and Sir James Woodhouse. It will be remembered that a deputation on the matter was recently received by Mr. Chaplin—a circumstance upon which we commented in our issue of March 10th.

THE annual dinner of the Association of British Postal Medical Officers will be held in the Whitehall Rooms of the Hotel Métropole, London, on Thursday, June 21st, at 7.30 P.M. The honorary secretary of the association is Dr. Ritchie Giddings, Hillsborough House, Mansfield-road, Nottingham.

A TELEGRAM from the Governor of Mauritius, Sir C. Bruce, to Mr. Chamberlain, received at the Colonial Office on May 18th, states that no cases of bubonic plague for the week ending May 17th have been reported.

DR. BUZZARD has been elected a member of the Council of King's College, London.

THE PLAGUE IN ALEXANDRIA IN 1899.[1]

THE manner in which the infection of plague was introduced into Egypt in the early part of last summer has never been clearly demonstrated and, as has been the case in so many other places where plague has appeared, the closest inquiry has failed to explain how, when, and from where the disease was brought to the country. The earliest cases were believed to have occurred in the first quarter of the year, but it was not until May that the presence of the disease was recognised with certainty, and it was on May 20th that Alexandria was officially declared a plague-infected city. On July 4th the Egyptian Maritime and Quarantine Sanitary Council appointed a commission from among its members to inquire into the origin of the disease. The commission consisted of four members—namely, Dr Rist of Egypt, M. Aslery of Greece, Dr. Torella of Italy, and Dr. Legrand of France. The Report of the commission, while it does not succeed in explaining how and whence the infection of plague came to Alexandria, has brought together a number of interesting facts in connexion with the epidemic which are deserving of notice. After a brief *avant-propos* the report plunges at once into the midst of things with a clinical description of three cases of the disease. The first is that of a grocer's assistant, a Greek, aged 16 years, who was taken ill on April 2nd and admitted to hospital on the 5th with high fever, delirium, and crural adenitis. He recovered after suppuration and incision of the bubo. The second case is that of another Greek, of the same occupation, aged 22 years, who was apparently taken ill on April 29th and was admitted to hospital on May 2nd. He had the same symptoms as the first, and in this case a suspicion as to the true nature of the disease arose, but a bacteriological examination of the contents of the bubo (on the fifth day of the disease) failed to reveal the presence of the plague bacillus, and the case was therefore not regarded as one of plague. The third case described is that of a Greek boy, aged 13 years, a cigarette-seller. He was taken ill on May 15th and admitted to hospital on the 17th. The symptoms in this case were high fever, delirium, and an enlarged axillary gland. On May 20th cultures made from the contents of the gland were found to contain the plague bacillus and the official announcement was consequently published declaring that plague was in Alexandria.

Upon inquiry it was ascertained that certain cases of a suspicious character had occurred at a considerably earlier date. Some of these proved to be cases of simple or venereal adenitis, but a group of three cases, the symptoms of which are described in detail, presented some distinctly suspicious features. The three cases occurred in members of one family, living in a house on the banks of the Mahmoudieh Canal, the lower story of which was occupied by a dirty Arab *bakal*, or grocer's shop, and by a grain store. The first patient, a child, aged 10 years, fell ill on Jan. 27th and died on Feb. 1st. The second, a man, aged 59 years, fell ill on Feb. 8th and ultimately recovered. The third, a man, aged 19 years, fell ill on Feb. 15th and also recovered. In the first patient there was severe pain in one groin, but it was uncertain whether a bubo developed; in the second a bubo appeared in the right crural region, followed by one in the right inguinal region, both of which suppurated; in the third a bubo, which did not suppurate, developed in the crural region on one side. The members of this family also asserted that some of their neighbours had suffered from attacks of fever, with pain and swelling under the arm, and the commission succeeded in seeing one patient, a child, in whom a cicatrix in the groin remained at the site where a suppurating bubo had been incised.

Upon these facts the commission came to the conclusion that the infection of plague had been present in Alexandria as early as January or February, 1899, and that unrecognised cases of the disease may have occurred between that date and the time of the recognised cases in April and May.

The second chapter of the report deals with the evidence of the infection of rats during the epidemic of plague in Alexandria. The first instance of anything of the kind occurred in a shop on the banks of the Mahmoudieh Canal and therefore in the same quarter of the city as that in which the three cases of suspected plague just described occurred. The shop was one where rags and bones were sold, and on March 10th a barge laden with rags arrived opposite the shop. To make room for the new consignment a quantity of old rags had to be removed from the shop and in doing so a considerable number of dead rats and mice were discovered lying in groups of eight or ten together. Such an occurrence was said to have been unprecedented. The bodies were removed by the Arab employés of the shop, but none of these persons were attacked by the disease. About the same time—that is to say, from March 10th to 23rd—in other shops of the same establishment, a number of rats were seen which, instead of running away when the shops were opened in the morning, allowed themselves to be easily caught by the hand. After March 23rd no rats were to be seen, and it was not until towards the beginning of September that these animals began to be common again. Some cases of plague occurred in this quarter of the city but none among the employés of this establishment.

The second instance of rat mortality occurred in the neighbourhood of the Sailors' and Soldiers' Institute. About the end of March and the beginning of April the director of the institute stated that he had observed an unusual number of rats in and near the building. Every morning he saw about 30 sick or dead animals in the lane which separated his house from the store-rooms of a certain grocery establishment, and it is noteworthy that it was in this establishment

[1] Rapport présenté au Conseil Sanitaire Maritime et Quarantenaire d'Egypte par la Commission chargée de rechercher l'Origine de la Peste Alexandrine en 1899. Alexandrie. 1900.

that the second patient above described (the Greek admitted to hospital on May 2nd) was en [illegible] stated that some 15 or 20 days [illegible] unusual mortality occurred among [illegible] in question, some 10 dead bodies of these animals being found every day. Several dead mice and one dead cat were also found. Nothing of the kind had ever happened before. A similar mortality among rats was observed in some other places—notably in a certain French bazaar—at no great distance from the Sailors' and Soldiers' Institute, but the facts are dwelt on at much less length by the authors of this report. Two cases of plague also occurred in the Moharum Bey police barracks, where 10 days previously a large number of dead rats had been discovered; the two men attacked had helped to remove the dead bodies of the rats.

At certain French mills, situated on the banks of the Mahmoudieh Canal, but at a considerable distance from the part of the city originally infected, two of the employes were attacked with plague on June 7th and June 10th respectively. About the middle of May a large number of dead rats and mice had been found in the granaries in connexion with the mills. The bodies had been swept up and thrown into the furnaces, and af [illegible] complete disappearance of these [illegible] was suggested that the infectio[illegible] taken to the mills in grain sacks which were carried backwards and forwards between the mills and a retail flour shop supplied by them in the quarter of the city where plague was somewhat widely present in May; but if this was, indeed, the case it is at least remarkable that of a certain number of employés whose special occupation was the cleaning and repair of these sacks not one was attacked by the disease. In closing the discussion on the subject of the infection of rats the authors of the report ascribe to these animals a very considerable share in the spread of plague during the early period of the outbreak in Alexandria; later, when the germ of the disease was more widely diffused, it appeared to be carried in clothes or—though this mode of spread was thought to be of very much rarer occurrence than the others—by direct spread from man to man. In support of the view that rats largely helped in the early diffusion of the disease special stress is laid on the fact that so many of the early cases occurred in persons whose place of occupation or of residence was peculiarly frequented by rats, such as grocery shops, a mill, a house in or near which was a baker's shop, a grain-store, or a *bakal*.

A brief chapter is devoted to a discussion of the questions as to when and where the disease first appeared in the city. Suspicious cases were traced as far back as the month of January, 1899, but it was impossible to assert that the infection had not been present in the city from an even earlier date. The part of the city first affected was believed to have been the Minet-el-Bassal or Gabbari quarter, in the neighbourhood of the mouth of the Mahmoudieh Canal and the Gabbari goods station. The general progress of the disease was from west to east. Attention is also drawn to the remarkable fact that all the early cases, both those officially recognised and those still earlier ones brought to light by subsequent inquiry, were in Europeans, either Maltese or Greeks, and that not one occurred at this time in a native.

In regard to the question as to how the infection of plague was introduced into Alexandria the commission was unable to find any conclusive evidence. The nearest place to Alexandria in which plague had been prevalent was Jeddah, but with the exception of a small number of cases of the disease in the crew of a steamer called the *Mehalla* which arrived in Suez from Jeddah in May, 1898, there was nothing to indicate that the infection had at any time been carried to the Egyptian shores from that port. The Moslem pilgrims returning from the Hedjaz in 1899 were also, so far as could be ascertained, in no way responsible for the introduction of the disease into [illegible] many of the earlier patients [illegible] shops (*epiciers*) gave rise to [illegible] or Jews who provide the pil[illegible] food might, some of them, have come to Alexandria and brought the disease with them. But there was nothing to point to such an occurrence, and, moreover, the suggestion failed to explain why the cases occurred in several quarters of the town and among persons who, though of the same occupation, had no relations whatever with each other. The explanation favoured by the authors of the report is that the centres for the sale of comestibles became infected and that the disease was spread from them by persons employed in the sale of such articles and by rats.

The theory that the [illegible] either by human beings [illegible] It had been suggested [illegible] thence by a man accomp[illegible] who arrived in Alexandria from Bombay on April 2nd, and after a short stay left for Trieste. But there was nothing whatever to show that they brought the infection with them, and it is pointed out that the disease was almost certainly in the city a considerable time before the date of their arrival. The possibility of the importation of the infection by goods brought from Bombay is also discussed. Every month some 3000 or 4000 sacks of sesame arrive at Alexandria from Bombay; the great majority of other classes of goods from India to Egypt are landed at Port Said and thence trans-shipped to Alexandria. Had the infection been imported by such means to the latter city the persons most likely to have been first attacked would have been the men at the docks who landed the goods, but this, it is pointed out, was not the case.

In closing the report the authors repeat, in the form of six "conclusions," the facts stated above, and they add that in regard to the mode of introduction of the disease into the city they are unable to come to any positive conclusion at all. They are content with saying that the infection may have been brought either from India, the extreme East, or from Arabia, and by means of either (1) an infected person in whom the disease was not diagnosed, or (2) a person with the disease in the stage of incubation, or (3) by contaminated goods, or (4) by clothes or dirty linen, or (5) by rats on board a ship.

THE WAR IN SOUTH AFRICA.

THERE is no longer any doubt about the success of our troops at Mafeking. Colonel—now Major-General—Baden-Powell's heroic garrison have been relieved, to the extreme satisfaction and delight of everybody, after a siege of seven months. Unmistakeable signs of the collapsing power of the Boer forces are becoming more and more evident and the news from the theatre of war is eminently satisfactory, although it is still too early to feel confident that there will be any immediate end of the conflict. Looking back on all that has taken place since the beginning of this war we may well pause and ask ourselves whether, after all, any other nation would have done better, or even done as well, under all the exceptional and difficult circumstances that have presented themselves. The Boers have not succeeded in capturing any one of the three places which they have besieged, while their real strategical objects have been delayed and frustrated. They knew every inch of the country, and moreover they had some six weeks' start in disposing of their forces to the best advantage in a land which, geographically and topographically, was admirably adapted to defensive warfare and to their tactics as well as to the use of all the modern rifled arms and implements of war. There was no general rising in Natal, the Boers did not mass their forces to the south of the Tugela and seize the railway or occupy Pietermaritzburg and Durban, which were most important strategical considerations, at the time when our troops in South Africa were altogether outnumbered by them. That the Boers have throughout exhibited great tactical skill, and that they have shown themselves adepts in the use of ambushes and in effecting their retreat from untenable positions with their guns and stores—all this is undoubted. Not only this country, but every other country, has learned great practical lessons from this war. There is no need to enumerate them, but we may refer to one—namely, the enormous resources which are available in the present day for defensive warfare and the possibility of applying these with the greatest advantage on the north-western frontier of India. But the matters with which we as medical journalists are chiefly concerned are: the revolution which the war has brought about in our surgical knowledge of gunshot wounds, in our methods of treatment, and in all that concerns field hospital administration, transport, army hygiene, and the necessity—to speak generally—for the reorganisation and unification for war purposes of all the medical aids at our disposal.

If there is one thing which this war has brought out more strongly than another it is not only the bravery and gallantry of our troops (regular, colonial, and volunteer alike), but the heroism, coolness, and fearlessness of our medical officers and their resourcefulness. It stands to reason that they may not all be equally able, but whatever be the individual differences—and such differences there must be—they seem to be all very much alike in respect of courage; they are keen to seize any opportunity, regardless of consequences, to render the promptest possible aid to the wounded during an engagement. There are other qualities, however, required on field service besides courage and the medical service has not been lacking, we are proud to say, in the display of these. The *Times* correspondent, writing about the investment of the camp at Wepener, called attention to the resourcefulness and zeal of the medical staff. The [illegible] medical officer, Surgeon-Major Faskally, was ill-sup[illegible] with medical stores, but he and his officers, "Surgeon-Captains Hudson, Pierce, Grey, Perkins, and Carter, worked like Trojans, obtained all available medical stores, requisitioned a large house of Mr. J. [illegible] nted it up as a hospital." It wo[illegible] correspondent adds, to do adequate justice to their work. With few appliances, almost an entire lack of hospital equipment, a very small stock of necessaries, and even of medical comforts, a house as a hospital situated in a most dangerous position, with wounded men on the floors, in the passages, on verandahs, and in tents, and with but a small staff of attendants and cooks, the wounded, well over 100 in number, were treated with skill, tenderness, and consideration, were well fed and nursed, and in some wonderful cases were kept alive. One case, though not quite unique in the history of this war, deserves notice, that of a man who was shot with a Mauser bullet through the forehead, the bullet having emerged in the middle line behind the head. After eight days the man was not only sensible but improving in strength daily and promised a speedy recovery.

When speaking of the courage and gallantry displayed by the troops and medical officers in South Africa we must not forget to mention the fearless devotion of the Indian and native dhoolie bearers. The services rendered by these men do not stand out prominently in the public eye, but, for all that, they are deserving of the highest commendation and we earnestly trust that when they return to India they will be well, nay handsomely, rewarded by something more tangible than praise, for they richly deserve i

There was a big gathering at the Royal Medical and Chirurgical Society on Tuesday evening last to listen to addres es by Mr. Clinton Dent and Sir William MacCormac dealing with their surgical and other experiences in South Africa. It is needless to say that the proceedings excited great interest and that what was said was well received and listened to with great attention. Mr. Dent's paper not only went into a number of practical details of an instructive nature, but was accompanied by an interesting summary of [illegible] and comments. Sir William MacCo[illegible] some well-merited expressions of enthusiasm. His excellent and practical address is published at length in the present number of THE LANCET.

THE IMPERIAL YEOMANRY HOSPITAL.

BY ALFRED D. FRIPP, M.S., F.R.C.S.

We have now settled down to routine work and because we are very busy time flies with wonderful rapidity. Our last medical officer, Barklay Black, who joins us from New Zealand, has arrived since I wrote my previous letter. The strength of our medical staff is therefore now 19, including Colonel A. T. Sloggett, R.A.M.C., but as three of the staff are specialists—namely, Mr. J. F. Hall-Edwards (who is in charge of the x rays), Mr. L. V. Cargill (the ophthalmologist), and Mr. F. Newland-Pedley (the dental surgeon), and as Colonel Sloggett's time is entirely taken up by army matters, it leaves us only 15 effective medical officers, which is five below the strength of an ordinary military base hospital. It is true that we have 10 senior medical students, but on the other hand we have a considerable deficiency of orderlies as compared with the military hospitals—a deficiency which is not made up for by our 20 extra nurses. Our 520 beds are now open, but it will not be long before we shall have to increase this accommodation to 750 or more, and that number of beds will tax considerably the capabilities of our comparatively small staff.

During the past week we have had many operations for the removal of bullets in various parts of the body and the operating theatre is completely satisfactory. This climate seems to suit the patients admirably and they mostly do very well. We make a point of having open-air smoking concerts as often as possible for they are very much appreciated by all. The large contingent of Guy's men are very active at them and some are good performers. There is a little music with piano practice every night at the officers' mess.

H.R.H. the Prince of Wales's flags arrived a fortnight ago, but we have only just succeeded in getting poles sufficiently high to display them properly. They are [illegible] combination of his Royal Highness's racing [illegible] a red cross in the centre on a white ground and, together with the flags of the Red Cross Society with an all white ground, which fly from other parts of the hospital, make our decorations effective.

Douché, the French cook who came out to look after the culinary needs of the patients, evolves the most excellent soups, stews, and puddings out of very [illegible] It is perfectly extraordinary the amo[illegible] are not on special diets get through in this climate. All our kitchen equipment has not yet arrived, and our admirable cook still has to do his work among the karoo bushes and boulders for the permanent kitchen is at present occupied by beds. However, nothing daunts him and he emerges smiling from thunderstorms and does not seem to mind having to make his soups and so on in galvanised zinc baths.

We cannot get any beer from the Army Medical Service Corps now, for their entire attention is devoted to the revictualling of Bloemfontein, so that the generous supplies of wines and spirits sent to us by Gilbey and Co. are in great demand by the many patients who need a little stimulant after their deprivations at the front. It is very striking how delighted all the patients, officers and men alike, are to find themselves once more able to get sweets. We are able to give them jam very liberally and they consume enormous quantities of sugar; and any little extras such as lollipops, chocolates especially, are run after by these stern and tired warriors almost as if they were little children. I wish some of our friends would send us out supplies of sweets of all kinds, but especially chocolate. Some of the men would rather have a tin of chocolate than tobacco, although delighted with the latter. One of our difficulties is that coal is very expensive and oil is very difficult to get. The laundry is at last in full working order. Miss Cheeseman and four of her ward maids do the lighter work, the heavier being done by the blacks and the machinery being managed by two men who came out for that purpose. The laundry work is very heavy, especially as great care has to be taken in the disinfection of all linen from the enteric fever huts.

We have been rather bothered of late by petty looting on the part of some of the blacks employed in our service, but I anticipate it will not be difficult to stamp it out. Among other things three rifles were found the other day in their camping ground some quarter of a mile from our huts buried beneath their fireplaces, which seems to be the site they generally choose for concealing stolen goods.

We are all thoroughly devoted to this site which seems to us a most suitable place. So many of the hospitals nearer the seat of war contain such a large number of enteric fever and other medical cases that the surgical ones are sent as soon as possible to the various hospitals south of the Orange river. We therefore get a considerable proportion of surgical cases. We are fortunate in having an excellent water-supply and in not having large bodies of troops near us, for we are 27 miles south of the depôt at De Aar, to which place we are sufficiently near to collect the cases from the western border as well as from the line of Lord Roberts's advance. Surgeon-General W. D. Wilson, P.M.O., paid us a visit, and I am glad to say expressed himself as completely satisfied with the Imperial Yeomanry hospital. I wish he could tell us some reliable method of keeping the flies under, for they are a terrible nuisance. We have been fortunate in the fact of our Ladies' Committee in London with their business advisers, General Eaton and Mr. Oliver Williams, having thought of almost everything that would be necessary to our wants. There is now hardly anything needful in connexion with our work which we do not possess.

The detachment of men from the St. John Ambulance

Brigade and from the London Fire Brigade have worked magnificently. They have, indeed, had much to do, but I hope that now that the hospital is approaching completion they will have an easier time. The nurses and sisters, too, will find their work run more smoothly. I think by June 1st—that is to say, exactly six months after the letter to the *Times* from Lady Georgiana Curzon and Lady Chesham—the hospital will be in complete working order.

The large supply of spiritine sent by Sir James Blyth and the ingenious little frames for holding the kettle that came with it have been most useful. The wine, too, that he and his brother kindly sent and the tobacco forwarded by Messrs. Wills have all been most welcome. I wish these gentlemen could see the pleasure [illegible] used. Most of the packages of [illegible] so on are found to contain very [illegible] t, tobacco, pipes, toothbrushes, &c. We are also very thankful to Messrs Down Bros, who gave us our aseptic metal furniture for our operating theatre and to the many firms dealing in medical and surgical stores and apparatus who contributed valuable gifts.

Deelfontein, April 30th.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary meeting of the Comitia was held on May 17th, Dr. W. S CHURCH, the President, being in the chair.

The following gentlemen were admitted as Fellows: Dr. Robert Bridges, Dr. Frederick Foord Caiger, Dr. Henry Albert Caley, Dr. Clement Dukes, Dr. Herbert Morley Fletcher, Dr. Leonard George Guthrie, Dr. Charles Montagu Handfield Jones, Dr. Henry Head, Dr. Amand Jules McConnel Routh, Dr. Seymour Taylor, and Dr. Richard Thomas Williamson.

[illegible] it of the [illegible] iography [illegible] inviting [illegible] ESIDENT [illegible] President [illegible] gress. [illegible] ws LXV. B, and XXIX. B, for the Election of Representatives of the College in the Senate of the University of London, be enacted for the second time.—The SENIOR CENSOR (Dr. Pye-Smith) seconded the motion, which was adopted.[1]

The REGISTRAR also moved the amendment of certain other by-laws necessitated by the alteration of the by-laws referred to above.—This was seconded by the SENIOR CENSOR and adopted.

A report was received from the Committee of Management [illegible] institutions, all of which have been visited by a member of the committee and reported on as fulfilling entirely the requirements of the Board, be added to the list of institutions recognised by the Examining Board of England: Berkhamstead School; Stonyhurst College, Blackburn; Central Higher Grade Board School, Bolton; and Merchant Taylors' School, London. 3 Recommending that the University of Manitoba be added to the list of recognised universities at which candidates may complete the curriculum of professional study for the examinations of the Board and where graduates may be exempted from the first and second examinations of the Board.

Dr. NORMAN MOORE explained the details of the report, which was adopted.

The PRESIDENT then dissolved the Comitia.

ASYLUM REPORTS.

Derby Borough Asylum (Annual Report for 1898).—The average number of patients resident during the year was 322, and comprised 154 males and 168 females. During the year 98 patients were admitted—viz., 49 males and 49 females, and of these 41 of each were first admissions. Dr. S. Rutherford Macphail, the medical superintendent, states in his report that this is the largest annual number of patients admitted during the last 11 years, the average annual admission of rate supported patients since the opening of the asylum having been 72. Only three private patients were admitted, and nine were out borough patients received under contract from Middlesex County Asylum "Eight men and eight women had formerly been under treatment in this asylum. 12 of the 16 cases were relapses after previous recovery. ..... The mean age of the patients admitted was 40 6 years; the youngest was eight years, the oldest 87 years. We have never admitted so many hopeless cases as regards the prospect of mental recovery. In only 42 of the 98 cases could the disease be looked upon as curable, so that recovery could be reasonably hoped for." The admissions included 11 general paralytics, six epileptics, four congenital imbeciles, five patients over 70 years of age, 11 chronic cases insane for years, and four cases dying from advanced malignant disease In 58 cases suicidal tendencies were present and five of them required surgical treatment for self-inflicted injury before admission. Two patients were admitted with broken ribs. "The general health of the patients admitted was as unsatisfactory as usual. Over two thirds of the cases suffered from recognisable physical disease and only 12 were in average bodily health Five patients were admitted in a moribund condition and died within 10 days." One feature of the admissions was the large number of cases of general paralysis, the most fatal of grave brain diseases. The number of cases in which alcoholic excess was assigned as the cause was less than usual. "The number of instances in which influenza preceded the illness increases each year." The existence of an insane heredity was ascertained in 33 cases and it may be taken as certain that it existed in many more. Six cases of puerperal insanity were admitted as compared with a total of 18 cases admitted in the previous 10 years During the year 32 patients were discharged as recovered, or 9 9 per cent. of the average number resident "This is with one exception the lowest recovery rate in the history of the asylum and is entirely due to the hopeless character in regard to prospect of recovery of the majority of the admissions . One half of the recoveries obtained was among patients admitted in previous years—a most unusual occurrence." The number of deaths was 36, 19 males and 19 females, being 11 8 per cent. of the average number resident. Four deaths were due to senile decay, five to epilepsy, seven to gross organic cerebral disease (hæmorrhage, softening, &c.) and nine to general paralysis. Only one death was due to tuberculosis.

[1] These By laws were published in the report of the Comitia held on April 6th, THE LANCET, April 21st, 1900, p. 1161

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Bournemouth Urban District.—Mr. Philip Nunn, the medical officer of health of this district, tells us in his current annual report that the Bournemouth Council is applying for Parliamentary powers to erect a crematorium in the Bournemouth East Cemetery Mr. Nunn thinks that a provision of this nature will be "appreciated by the majority of the residents as well as by numerous visitors." We wonder whether those who appreciate the crematorium will also set an example by making use of it.

Eastbourne Urban District.—In discussing the origin of the cases of enteric fever which were notified in Eastbourne during 1899 Dr W G Willoughby states that out of six imported cases two were of nurses from London hospitals. Of the local cases four, and probably seven, were traceable to infected oysters, while direct infection was the cause in the case of a nurse. He tells us, too, that one of the nurses at the sanatorium contracted the disease by direct infection, an occurrence which, he adds, is not common. Certainly out of the 22 cases notified in Eastbourne during last year a considerable proportion were nurses by occupation, and the experience of the Hospitals of the Metropolitan Asylums Board tends to show that the staff engaged in nursing cases of enteric fever are not infrequently attacked by the disease. There is, indeed, much evidence tending towards the conclusion that the infectivity of enteric fever has been considerably underrated.

Lowestoft Borough and Port Districts.—Dr. J. E. O'Connor protests against the practice, which he alleges is not as uncommon as it should be, of "correcting" the death-rate of a "health resort" by eliminating the deaths amongst visitors but neglecting to take account of those persons properly belonging to the district but residing outside it. The publication of rates such as these not only, Dr. O'Connor points out, vitiates statistics but by creating a false sense of security tends to put back sanitary reform. He thinks that rates calculated on populations loosely estimated should not be published without the sanction of the Local Government Board. As an illustration of the need of reform in the matter of a medical officer of health's relation to the water-supply of his district Dr. O'Connor remarks that although he has been in office nearly three years he has never entered the Lowestoft Waterworks.

King's Norton and Northfield Urban District.—Dr. Francis Hollinshead is much gratified at the manner in which the new Vaccination Act is operating in his district. The figures for 1899 show, he reports, a large increase in the number of children vaccinated in 1898, and he attributes this change to the more popular manner in which vaccination is now performed. Very few objections are, Dr. Hollinshead states, now experienced and he is convinced that as time goes on most of the children in his district will be vaccinated.

St. Marylebone Sanitary District.—Mr. Wynter Blyth, in his last monthly report, relates, when discussing his action under the Food and Drugs Act, that mice are able to distinguish between margarine and butter. The mice in the Marylebone Laboratory never attack the margarine samples but have, on the other hand, a great liking for butter. Mr. Blyth regards the fact as showing the highly-developed organs of taste and smell possessed by rodents.

Stoke Newington Urban District.—Dr. Henry Kenwood is of opinion that with a view to limiting the harm done by schools in the spread of infectious diseases the medical officer of health should possess a statutory right to enter the schools and examine the scholars whenever such a course appeared to him to be necessary. He thinks that if these precautions be not adopted "compulsory education will continue to be linked with some measure of compulsory disease."

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6808 births and 4043 deaths were registered during the week ending May 19th. The annual rate of mortality in these towns, which had declined from 23·0 to 17·8 per 1000 in the six preceding weeks, rose again to 18·2 last week. In London the death-rate was 16·3 per 1000, while it averaged 19·4 in the 32 provincial towns. The lowest death-rates in these towns were 10·3 in Croydon, 10·5 in Cardiff, 11·9 in Swansea and 12·1 in Burnley; the highest rates were 23·3 in Sunderland, 24·6 in Salford, 25·3 in Liverpool, and 26·9 in Manchester. The 4043 deaths in these towns included 431 which were referred to the principal zymotic diseases, against 472, 429, and 441 in the three preceding weeks; of these 128 resulted from whooping-cough, 126 from measles, 69 from diphtheria, 37 from diarrhœa, 35 from scarlet fever, 35 from "fever" (principally enteric), and one from small-pox. No fatal case of any of these diseases occurred last week in Swansea; in the other towns they caused the lowest death-rates in Croydon, Birkenhead, Nottingham, and Newcastle; and the highest rates in Manchester, Oldham, Leeds, and Sheffield. The greatest proportional mortality from measles occurred in Plymouth, Huddersfield, Leeds, and Sunderland; from scarlet fever in Derby; from whooping-cough in West Ham, Norwich, Liverpool, and Oldham; and from "fever" in Wolverhampton. The 69 deaths from diphtheria included 22 in London, nine in Leicester, nine in Leeds, and eight in Sheffield. One fatal case of small-pox was registered last week in Oldham, but not one in any other of the 33 large towns; and only three small-pox patients were under treatment in the Metropolitan Asylums Hospitals on Saturday last, May 19th. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 1733, against 1660 and 1693 on the two preceding Saturdays; 221 new cases were admitted during the week, against 170, 178, and 203 in the three preceding weeks. Influenza was certified as the primary cause of 13 deaths in London. The deaths referred to diseases of the respiratory organs in London, which had been 417 and 300 in the two preceding weeks, further declined last week to 270, and were 32 below the corrected average. The causes of 57, or 1·4 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Cardiff, Salford, Bradford, Newcastle, and in 14 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Leicester, Liverpool, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had declined from 21·7 to 17·7 per 1000 in the three preceding weeks, rose again to 19·5 during the week ending May 19th, and exceeded by 1·3 per 1000 the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 13·2 in Leith and 15·1 in Aberdeen, to 24·6 in Paisley and 30·4 in Perth. The 602 deaths in these towns included 30 which were referred to whooping-cough, 19 to measles, 15 to diarrhœa, seven to scarlet fever, seven to diphtheria, six to "fever," and one to small-pox. In all 85 deaths resulted from these principal zymotic diseases, against 75, 66, and 63 in the three preceding weeks. These 85 deaths were equal to an annual rate of 2·8 per 1000, which was 0·5 above the mean rate last week from the same diseases in the 33 large English towns. The deaths from whooping-cough, which had been 24 and 22 in the two preceding weeks, rose again last week to 30, of which 23 occurred in Glasgow and four in Aberdeen. The fatal cases of measles, which had been 15 and 16 in the two preceding weeks, further increased to 19 last week, and included 10 in Glasgow, five in Edinburgh, and three in Dundee. The deaths from diarrhœa, which had declined from 19 to nine in the four preceding weeks, rose again last week to 15, of which 10 were registered in Glasgow, two in Dundee, and two in Greenock. The seven fatal cases of scarlet fever corresponded with the number in the preceding week, and included five in Glasgow. The deaths from diphtheria, which had increased from three to six in the four preceding weeks, further rose last week to seven, of which four occurred in Glasgow and two in Edinburgh. The six fatal cases of "fever," showed an excess of three over the number in the preceding week, and included two in Glasgow, where the death from small-pox also was registered. The deaths referred to diseases of the respiratory organs in these towns, which had declined from 145 to 91 in the four preceding weeks, further decreased to 84 last week, and were 19 below the number in the corresponding period of last year. The causes of 21, or more than 3 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 29·7 and 26·3 per 1000 in the two preceding weeks, further declined to 23·0 during the week ending May 19th. During the past four weeks the death-rate in the city has averaged 26·5 per 1000, the rates during the same period being 17·8 in London and 19·4 in Edinburgh. The 154 deaths belonging to Dublin registered during the week under notice were 22 less than the number in the preceding week, and included nine which were referred to the principal zymotic diseases, against 11 and five in the two preceding weeks; of these, three resulted from "fever," two from measles, two from diarrhœa, one from diphtheria, and one from whooping-cough. These nine deaths were equal to an annual rate of 1·3 per 1000, the zymotic death-rate during the same period being 1·8 in London and 1·7 in Edinburgh. The deaths referred to different forms of "fever," which had been three, six, and one in the three preceding weeks, rose again to three last week. The fatal cases of diarrhœa, which had been one and three in the two preceding weeks, declined to two last week. Two deaths from measles were registered last week, against none in any of the three preceding weeks. The mortality from whooping-cough corresponded with that recorded in the preceding week. The 154 deaths in Dublin last week included 27 of infants under one year of age and 40 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons showed a decline from the numbers registered in the preceding week. Four inquest cases and four deaths from violence were

registered; and 56, or more than a third, of the deaths occurred in public institutions. The causes of 11, or more than 7 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

STAFF SURGEON CHARLES MARSH BEADNELL has been specially promoted from Surgeon to this rank for services in South Africa. The following officer is noted for early promotion:—Surgeon James Grant Fowler.

IMPERIAL YEOMANRY.

Captain Graham Hay Reynolds to be Medical Officer.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel H. T. Chapman, A.M.S., r.p., proceeds to Bodmin for duty. Major Hearn has left in the *Britania* for South Africa.

INDIA AND THE INDIAN MEDICAL SERVICES.

The Queen has approved of the retirement of the undermentioned officers:—Surgeon-General Charles Edwin McVittie, Honorary Physician to the Queen, Madras Establishment; Colonel James Charles Gordon Carmichael, Bengal Establishment; and Lieutenant-Colonel Richard Nugent Stoker, Bengal Establishment.

YEOMANRY CAVALRY.

Gloucestershire (Royal Gloucestershire Hussars): Supernumerary Surgeon-Lieutenant-Colonel A. Grace resigns his commission, with permission to retain his rank and to wear the uniform of the regiment on his retirement.

VOLUNTEER CORPS.

The undermentioned officers are borne as supernumerary
edical Corps in South
eon-Captain F. W.
S. Linton. 1st Mid-
ylor.

Artillery: 1st Lancashire: Surgeon-Captain T. M. Dawson to be Surgeon-Major. *Royal Engineers* (Volunteers): 1st Cheshire: Theodore Robert William Armour to be Surgeon-Lieutenant. 1st Lancashire: Surgeon-Lieutenant G. A. Hawkins-Ambler to be Surgeon-Captain. *Rifle:* 5th Volunteer Battalion the Cheshire Regiment: Surgeon-Lieutenant-Colonel P. M. Davidson resigns his commission, with permission to retain his rank and to wear the uniform of the battalion on his retirement. 1st Volunteer Battalion the Northamptonshire Regiment: Surgeon-Lieutenant H. Stedman to be Surgeon-Captain. 2nd Volunteer Battalion the East Surrey Regiment: Lieutenant James Dunbar-Brunton resigns his commission and is appointed (Cumberland) Volunte Thomas Graham (Renfrewshire) Volunte rgyll and Sutherland Hi Marshall to be Surgeon-Captain.

THE ROYAL MILITARY TOURNAMENT.

The twenty-first Royal Military Tournament, which was opened by the Prince of Wales on May 18th, does not reach the standard of recent years; but that is not surprising when we consider that some 200,000 men of our army are in the field 6000 miles away. Nevertheless, both the committee and those who take part in the performance are doing their best to make the "majority" year of the tournament a success, and all are to be congratulated upon the result of their efforts obtained under difficult circumstances. *Tot homines quot sententiæ*, and it is difficult to single out any one item of the programme which does not meet with applause. Quite naturally the display by seamen of H.M.S. *Powerful* with a specimen of the now historic 4·7 gun excites the greatest interest. The gun which is drawn into the arena with spans of oxen measures 194 inches in length, weighs 42 cwt., and has an effective range of 10,000 yards. The projectile weighs 45 pounds. This display, together with that by the seamen of H.M.S. *Excellent* with their nine-pounders and twelve-pounders, are appreciated by the audience in a most marked manner. The always popular display by the detachment of the Army Gymnastic Staff and class of non-commissioned officers under instruction at the headquarters gymnasium at Aldershot admirably demonstrates the physical development of the men, but there is another side to the training which cannot be made equally manifest, and that is the quickness of eye, the alertness, and general activity which are also the outcome of this gymnastic practice. In the same way a word may be said for the bareback-riding by a squad from the Cavalry Depôt at Canterbury. A novelty this year is the jumping tent-pegging team from the Royal Field Artillery Riding Establishment at Woolwich. The competitions between the various arms of the service are as usual enthusiastically watched, as are also the spectacular part of the performances.

The pageant, "Defence not Defiance," illustrates the gradual development of the National Volunteer Organisation from the time of its revival in 1793 onward to the present day. The Corps enter the arena in the following order:—*First Section—1793-1800*:—Middlesex Cavalry, Clerkenwell Cavalry, Surrey Yeomanry, London and Westminster Light Horse, and Deptford Cavalry. Foot: Coleman-street Ward Volunteers, St. John, Southwark, Volunteers, Pimlico Volunteers, Christ Church, Surrey, Association Volunteers, 1st Surrey Regiment Volunteer Infantry, and Westminster Volunteers. Band. *Second Section—1800*:—Wiltshire Yeomanry, Gloucester Yeomanry, and 1st Surrey Mounted Rifles, Foot: Honourable Artillery Company, 1st Tower Hamlets Volunteers, 19th Middlesex, Volunteer Guards, Civil Service Rifles, City of London Rifle Brigade, South Kensington Rifles, 2nd South Middlesex, 1st Surrey Volunteers, 4th Islington Volunteers, and 1st Middlesex Royal Engineer Volunteers. *Third Section—1900*:—Middlesex Yeomanry, Imperial Yeomanry, Honourable Artillery Company (Gun Team with Gun), Honourable Artillery Company (Infantry), 2nd Middlesex Artillery, Tower Hamlets Engineers, 3rd London Rifle Brigade, London Scottish, Queen's Westminsters, 1st Volunteer Battalion Royal Fusiliers, 21st Middlesex, City Imperial Volunteers, 26th Middlesex, Volunteer Medical Staff Corps, and King's Royal Rifle Cadet Corps. The musical drive by N Battery of the Royal Horse Artillery, and the musical ride by the 2nd Life Guards are also among the attractions of the tournament.

The unsuitability of the Royal Agricultural Hall for the purposes of the Tournament has frequently been pointed out by us and the difficulties of obtaining proper ventilation have been year by year grappled with by the medical officers in charge, with the result that the building has shown a great improvement in this respect year by year. Up to the present time atmospheric conditions have not been such as to tax to any great extent the conditions of the hall from the latter point of view. Major C. H. Hale, R.A.M.C., D.S.O., is the principal medical officer and Surgeon-Captain C. Thistleton Urquhart, V.M.S. assistant medical officer.

A TRIBUTE TO THE MEDICAL OFFICERS IN THE FIELD IN SOUTH AFRICA.

d correspondent for the
a field officer of a dis-
now which has been the
most admired out here—the wonderful organisation for the comfort and removal of the sick and wounded or the extraordinary personal gallantry under fire of the medical officers; and I can assure you the fire has been *hot*. I have known medical officers who had no right to be there borrow ponies and ride upwards of 30 miles to a fight and then saunter into the firing line just to tie up the wounded. I do not suppose every medical officer is a hero a bit more than every officer of my regiment, but there seems to be something wonderfully fine in a profession that lifts men so entirely above all apparent sense of personal danger. You may well be proud of the medical officers of the army, for their devotion has been a source of comment and praise not only amongst officers but men."

THE BIRTHDAY HONOURS.

Surgeon-General H. S. Muir, Deputy Director-General of the Army Medical Service, and Lieutenant-Colonel B. B. Connolly, Surgeon-Lieutenant-Colonel, late A.M.S., have had conferred upon them Companionships of the Bath. Lieutenant B. Neil Campbell, I.M.S., and Captain H. James, I.M.S., have received the newly instituted honour—the Kaisar-i-Hind medal for public service in India.

TRANSVAAL WAR NOTES.

The *Aurania* arrived at the Southampton Docks on May 23rd. She brought 568 invalids from South Africa, who were conveyed to the Royal Victoria Hospital, Netley, in special trains and duly admitted.

Major Culling, R.A.M.C., Captain Staddon, R.A.M.C., and Lieutenant Selby, R.A.M.C., have returned invalided from South Africa and have arrived at the Herbert Hospital, Woolwich.

A cot in the Victoria Hospital, Kingston-on-Thames, to be called the "Baden-Powell cot," will be endowed to commemorate the relief of Mafeking.

The additional material for the Welsh Hospital, making up the full complement of 100 beds, has left by the transport *Monteagle*. The extra members of the staff, dressers, and orderlies sailed on May 19th by the *Avondale Castle*.

The Mayor of Devonport paid his second visit to the Royal Military Hospital, Stoke, Plymouth, on May 19th. There are at present over 600 men in the hospital and the huts erected in the grounds, including 300 men who arrived on May 18th. The mayor, who distributed presents to the men, was received by Surgeon-General Evatt and Surgeon-Colonel Rahilly.

The Berkefeld Filter Company are just completing a contract for filters sufficient to supply every man now on active service in South Africa with filtered water.

Civil Surgeons D. Harris and H. Dingle have left England for the seat of war.

Captain R. D. Jephson, R.A.M.C., has been discharged from hospital in South Africa and has returned to duty.

Correspondence.

"Audi alteram partem."

"THE REPORT OF THE LANCET SPECIAL COMMISSION ON GLYCERINATED CALF VACCINE LYMPHS."

To the Editors of THE LANCET.

SIRS,—In the report of your Special Commission on Glycerinated Calf Vaccine Lymphs published in THE LANCET of April 28th last there is a misstatement which should be corrected.

Under the heading "The Use of Glycerine as a Preservative Agent" on page 1227 it is stated that Müller, Warlomont, and Stephen Mackenzie appear to have used glycerine as a satisfactory dilutent for the purpose of making the vaccine go further, but no purifying effect appears to have been aimed at. The name of Warlomont should not have appeared in this statement. His "Manual of Animal Vaccine" clearly shows that he was in 1867 quite aware of the antiseptic powers of glycerine; and I have in my possession records of trials from November, 1831, to January, 1882, of glycerinated calf vaccine for the express purpose of deciding the limit of its powers of preservation. These trials showed that vaccine as then prepared became unreliable at the end of a month—exactly the time now stated to be necessary to allow the glycerine to exert its full power of eliminating all "extraneous" organisms (see Conclusion 8, page 1236).

Since 1882 and until lately Dr. Warlomont's vaccine was prepared exactly as described in his patent dated Sept. 28th, [illegible] No. 2643, and I think I am right in the belief that [illegible]ode of preparation of our Government glycerinated [illegible] is practically the same, the only improvement which [illegible] made since 1882 being in the more perfect tritura- [illegible] Chalybius's machine. From time to time reports [illegible]ed on the activity of Dr. Warlomont's vaccine [illegible]ng it for lengthened periods, but it was not [illegible] to supply any but fresh vaccine, and fresh [illegible] is now most frequently asked for. May I [illegible]tted to make a few general remarks upon your [illegible]

[illegible] place, it appears to me that any comparative [illegible] lose their value if the tests made do not [illegible]ny use of vaccine as a preventive against [illegible]e is no assurance in the report that this [illegible] possessed by any of the samples under [illegible] second place, the number of samples examined vary in an extraordinary manner. In the third place, the periods of examination after the samples were sent out are very different. Finally, there is no information to show the dates of gathering the vaccine.

A careful reading of the report seems to me to identify one of the Commissioners and I regret that I cannot at present accept the report as either impartial or free from trade interest. I cannot understand why the Local Government Vaccine which has been the subject of so many complaints on account of its unreliability has been accepted as a standard. Surely a standard vaccine should combine the qualities of bacteriological purity and perfect activity. Apart, however, from the inconsistencies which arise from the varying conditions of comparison which I have referred to and the arbitrary selection of one particular sample as a standard there are some points which I cannot reconcile with the general results published. For example, on page 1234 under the heading "The Standards by which a Lymph should be Judged" it is stated that: "Of course, each vaccinator soon finds out for himself with what brand he obtains the most consistently successful insertions, and on this matter it is easy enough for him to satisfy himself."

Hence it follows that a number of vaccinators so satisfied must also be accepted by the supplier as a proof of the satisfactory quality of vaccine supplied. The establishment which I represent has not only this satisfaction but another in the judgment of your Commissioners on the character of the vaccine supplied by us to them. For we fear that if our vaccine appeared "bacteriologically" equal to that of the arbitrary standard or to any other excellent vaccine prepared bacteriologically in accordance with the method advocated by Dr. Copeman it would certainly share in any complaints (such as appeared last year) of the unsatisfactory character of that of the Local Government Board.

The following particulars may interest some of the readers of your Commissioners' report:—

Vaccine obtained from 12, Pall Mall East, by Mr. G. W. Charles, of Emscote, Claremont-road, St. Margaret's, Middlesex.

Sample.	Days after receipt.	Actual age in days.	Trials at New Scotland-yard.				
			Date.	Adults re-vaccinated.	Insertions made.	Good vesicles obtained.	Percentage vesicles per insertions.
1893.			1893.				
N. 2702 ...	8	33	May 4th.	15*	45	44	97·7
N. 6033 ..	15	21	Nov. 23rd	13*	39	35	89·7
1900.			1900.				
P. 500 ...	4	19	Jan. 24th	10†	30	28	93·3
			" 31st.	10†	30	29	96·6

* Part of these were vaccinated in childhood only and part were re-vaccinated since.

† These were vaccinated in childhood only.

In the present imperfect and uncertain knowledge of the bacteria of vaccine would it not be better that the Local Government Board and the vendors of glycerinated vaccine should give the date of gathering with the vaccine sent out? If this were done and the users would ask for fresh-stored vaccine, as their experience prompted, a great deal of sound information would be collected and the vexed question now pending might be decided.

I cannot close this letter without a protest against the underhand way in which the vaccine used by your Commissions was obtained. I consider it was little else than an insult to the suppliers. Still, if the applications had been made in a straightforward way, your Commissioners might have been subjected to practical jokes such as that mentioned in Dr. Hime's letter.

I am, Sirs, your obedient servant,

EDWARD DARKE.

Pall Mall East, London, S.W., May 22nd, 1900.

*** We do not accept any of Mr. Darke's corrections, nor do we consider any of them worthy of comment. But as he has allowed himself to make the suggestion that one of our Commissioners is interested in trading in vaccine lymphs we inform Mr. Darke that he is wrong as well as

offensive. Mr. Darke is evidently angry and we put down his want of manners to loss of temper and forgive him.—ED. L.

To the Editors of THE LANCET.

SIRS,—In a recent number of THE LANCET you published a report of an investigation which had for its object to discover how far the recommendations of the Local Government Board were being carried out in respect to the collection and preparation of lymph. We have submitted this report to the medical expert under whose care the lymph we supply is prepared and shall be glad if you will give his remarks equal publicity.

The number of germs in a glycerinated lymph is dependent on its age; glycerine, as was shown by the preliminary trials made by the Commission, possesses the power of conserving the specific virus of vaccine and of gradually destroying bacteria in it. If lymph which has been kept a certain time be experimented with very few organisms will be found in it, whereas if the same lymph had been examined at an earlier period many more would have been discovered. Such lymph at the later period would still possess a high degree of specific power, but if kept for a still longer period, especially in small quantities, not only do the extraneous organisms disappear but the lymph loses its activity. This is especially rapid if the lymph is not kept in a favourable, cool temperature. It was, therefore, hardly fair to make comparisons between lymphs of different age, as the Commission appear to have done. In fact the Commission do not at all mention the age of the lymph which they examined, and the comparative table of results is rendered thereby quite misleading.

When lymph is wanted for immediate use there is no difficulty in supplying a lymph which has been kept sufficiently long to remove all extraneous organisms but which still possesses its full activity, and it is important that medical men should be able to obtain a lymph upon which they can rely. On the other hand, if lymph is going to be kept for some time before use it should be of more recent origin and should be stored under proper conditions. It would be well in any further experiments undertaken by the Commission if they recognised this essential difference; it is equally essential that in comparing different specimens of stored lymph they should see that the samples have not become inert. Clinical and bacteriological experiments should always be made simultaneously. There are other points in the report which are open to criticism, but as the report is based upon defective data from the beginning further comment is unnecessary. We would only add to the above remarks that if medical men when purchasing our lymph will inform us whether it is required for immediate or for future use we can supply them accordingly.

We are, Sirs, yours faithfully,

REBMAN, LIMITED.

May 21st, 1900. (F. J. REBMAN, Managing Director.)

*** The medical expert and Mr. F. J. Rebman can scarcely have read the report of our Commissioners very carefully. We commend to their attention the following passages:—

"Whenever a large number of staphylococci remained in the lymph at the time that the plates were made the period of glycerination had not been sufficiently prolonged." P. 1234, Remarks par. 1.

"A point on which all practitioners should insist is that the date of glycerination, as well as the dates between which the makers recommend that the lymph should be used, should be given with every sample of vaccine lymph which they receive. Of some of the samples examined we should say from our experience of them at different periods that when they came to us they had not been subjected to the [illegible] sufficiently long period."

[illegible] brands that were examined and re-examined we are compelled to come to the conclusion that in certain instances the process of glycerination had been imperfectly carried out. It may be that the lymph had not been stored sufficiently long after being glycerinated or, on the other hand, that the mixing had not been sufficiently well carried out or too small a quantity of glycerine had been used." P. 1236, Conclusion No 3

When a practitioner sends for three tubes of lymph it may be assumed that he wishes to use it at once or at any rate within three or four days. In one or two instances the date of collection of lymph was given; indeed, in one sample at least of the Rebman Publishing Company's lymph this was done, but no instructions as to the meaning of this were sent out. In one or two cases instructions were given that the lymph should be used within a certain period, but no warning was ever issued against its being used before a given time. Our contention throughout is that the vaccine has been plated out just as it would probably be used for vaccination. We maintain that the information at present supplied to the practitioner is not sufficient to enable him to form any opinion as to its bacterial purity (or impurity) or whether it has been in the glycerine for a long enough period. We could not apply for information that is not given to every medical man who buys a sample of lymph, but we used all the information that was sent out with the various samples. If a lymph was sent out without any special instructions it was used for experiment just as it might have been used for vaccination.—ED. L.

THE FALLACY OF EXPECTING UNABSORBABLE SUTURES TO REMAIN BURIED IN MUSCULAR TISSUES.

To the Editors of THE LANCET.

SIRS,—At the present time unabsorbable ligatures and sutures of which silk may be taken as the type are freely buried in muscular structures, of which the incisions made in performing cœliotomy and the radical operation for hernia are examples. The advocates of such sutures contend that so long as the wound and the sutures are sterile the sutures will become encapsuled and give no further trouble. As a matter of strict fact an absolutely sterile operation is, with our present technique, a rare occurrence if judged by bacteriological evidence. On the other hand, the working test of the relative sterility of a wound is its power of union by first intention, which bids fair to be the generally accepted standard for some time to come.

Given a wound which contains a buried silk suture and which has healed by first intention, why is it that at the end of months or even years a small sinus forms which persists until the offending silk is extruded or removed? Some surgeons contend that the ligature was infected at the time of its insertion, others believe that infection of the ligature occurs at a later period, possibly through the medium of the blood-stream. Whatever may be the true explanation the fact remains that these sutures do resurrect from time to time and with a greater frequency than many operators are prepared to admit. It is well known that in the case of a man peppered with shot the shot continue to put in an appearance for many years after the wounds of entry have firmly healed and often in regions far remote from their original position. A very similar performance occurs in a man who is peppered with silk. The foreign body, silk or shot, lying among tissues which are constantly changing in form and in their relations to each other, is slowly started by these movements on its travels. It is fortunate for the patient that the ligature so often makes its way out by the shortest route—i.e., through the scar.

The use of unabsorbable ligatures appears to be based [illegible] their capabilities for holding parts [illegible] Three weeks at the outside is [illegible] sutures before their removal, but these stitches only act as sutures for this period in the absence of tension If there is tension the sutures take the matter into their own hands and by cutting out very soon become either entirely free or lie loose among the tissues; in either case their further use as sutures is practically *nil*, although by the time this has occurred the skin incision has often united and the skin itself formed strong adhesions to the subjacent parts. A very similar process occurs with buried sutures, so that in a very short time we have a collection of pieces of knotted silk either still transfixing tissues which have firmly united or, if they have cut out, lying loose, and in either case their further presence is useless. An interesting point is the frequency with which these sutures first begin to give trouble on the patients getting up and moving about. It must not be imagined that every buried ligature is extruded. A certain number do undoubtedly become embedded in scar-tissue,

of rinderpest; indeed, I did not refer to that disease at all, though I think a subsequent speaker mentioned the fact that the virus in question is arrested by a porous earthenware filter.

I am, Sirs, yours faithfully,
J. MCFADYEAN.

Royal Veterinary College, N.W., May 22nd, 1900.

THE SANITATION OF DUBLIN.

To the Editors of THE LANCET.

SIRS,—You have not been supplied with an accurate statement in reference to the waking of a child at a place close to Fitzwilliam-place. The facts are as follows. A child, aged seven months, died from "decline" on April 4th, the day the Queen entered Dublin. The Cemetery office having been closed early in honour of the occasion, a burial ticket could not be obtained until the following day and on the next one (April 6th) the child was buried. In England the burial of a person two days after death is unusual. You imply censure on the sanitary authority because the child was "waked," but may I ask upon what grounds? The disease was not notifiable, and is it expected that the sanitary authority is to know of every death from diseases notifiable or non-notifiable that occurs in Dublin, and that they can prevent the "waking" of persons who die from the latter diseases? In the case of deaths from contagious diseases the sanitary authority is in a position to prevent wakes and invariably does prevent them. I pass over your strictures on the sanitary administration with the mere remark that the recent inquiry into the causes of the Dublin death-rate shows that such strictures are undeserved

I am, Sirs, yours faithfully,
CHARLES A. CAMERON,
Medical Superintendent Officer of Health.

Public Health Office, Municipal Buildings, Dublin, May 22nd, 1900.

*** Sir Charles Cameron accuses us of publishing an inaccurate statement, we therefore print his account and our own side by side:—

SIR CHARLES A. CAMERON.	THE LANCET.
..... In reference to the waking of a child at a place close to Fitzwilliam-place The facts are as follows months, April 4th, Dublin. ..... A burial ticket could not be obtained until the following day and on the next one (April 6th) the child was buried.	Close at the back of Fitzwilliam-place there is a noisome den where a child died from tuberculosis during Her Majesty's gracious visit to her Irish capital. Seven other children were allowed to keep up a wake for three days round the corpse which was already in a state of decomposition.

Where is the inaccuracy? Sir Charles Cameron admits the waking and his dates show that such waking could have occurred on three separate days. If he denies that seven other children were present we are compelled to contradict him. As to whether the sanitary authority of Dublin can stop such lurid occurrences we have only to say that it should have powers to do so. If it has not it should apply for them: if it has it should use them.—ED. L.

HOSPITAL CERTIFICATE FEES.

To the Editors of THE LANCET.

SIRS,—At a well known general hospital in the northern provinces, where I am senior house surgeon, it has been customary for the senior and junior house surgeons to sign insurance and Employers Liability Act medical certificates and retain the small fee obtainable for so doing, the amount of the fee being fixed by the rules of the institution. The committee of the hospital have just made a new regulation by which the fees must now be handed over by the house surgeon to the general funds of the hospital, though he is still to see cases, fill up certificates, and collect the fees. In many cases this involves reference to ward notes and registers and always takes up time. The amount of money so collected will barely amount to £20 in a year, of which amount the junior retains fully £15, as he is in charge of the out-patient department where most of the certificates are applied for. The points I raise are as follows: (1) that the house surgeons' signatures entitle them to the fee chargeable, as the certificates could quite well be signed by the honorary surgeon of the hospital in whose charge the case nominally is; (2) that the honorary surgeon would certainly be entitled to a fee for such work and that the hospital could get it only by donation from the surgeon. In the out-patient department the *assistant* surgeons are paid by the infirmary for their work and are therefore in a similar position to the house surgeons; they are equally qualified to sign these certificates, and their reply to the committee if asked to do so instead of the junior house surgeon and to hand over the fee would be curt and a little rude I should imagine.

I should be much indebted for an opinion on this point, for, as far as I am able to ascertain, the fees so obtainable by house surgeons are regarded as their perquisites in other hospitals.—I am, Sirs, yours faithfully,

May 19th, 1900. SENIOR H.S.

THE MIDWIVES BILL.

To the Editors of THE LANCET.

SIRS,—At a meeting of the Woolwich, Plumstead, and Charlton Medical Union, held on May 16th, it was resolved:—

That this meeting disapproves of the Midwives Bill now before Parliament.

I was instructed to communicate the Union's decision to you, asking you kindly to insert it in THE LANCET.

I am, Sirs, yours faithfully,
HONORARY SECRETARY, WOOLWICH, PLUMSTEAD, AND
May 19th, 1900. CHARLTON MEDICAL UNION.

GERMAN CONGRESS OF INTERNAL MEDICINE.

(FROM OUR BERLIN CORRESPONDENT.)

(*Continued from p. 1526*)

Cardiac Arhythmia.

DR. WENCKEBACH (Utrecht) read a paper on the Causes of Cardiac Arhythmia. The regularity of the cardiac action depended (1) on the automatic irritability of the heart; (2) on the propagation of the motor stimulus from one muscle cell to another; and (3) on the property of contractility. Intensification of the automatic irritability increased the frequency of the systoles, and in this manner the so-called "frustraneous contractions" and the pulsus trigeminus, intermittens, &c., were produced. Lowering of the capacity for propagation of the motor stimulus gave rise to a regularly intermitting pulse and to bradycardia, whilst an abnormal increase of the capacity for propagation of the motor stimulus and an intensification of the stimulus itself produced "delirium cordis." The "pulsus alternans" was due to weakness of the cardiac contractility. These disturbances of the three principal functions of the heart may be present together.

Paroxysmal Tachycardia.

DR. HOFFMANN (Düsseldorf) was of opinion that this condition was not caused either by acute dilatation of the heart or by a neurosis of the vagus nerve. Paroxysmal tachycardia had been found by him together with an abnormal increase of the secretion of urine so that it might be regarded as a cerebral disorder the seat of which was in the fourth ventricle.—In the discussion Professor NOTHNAGEL (Vienna) agreed generally with Dr. Hoffmann; he believed that the cerebral centre concerned in tachycardia was situated in the medulla oblongata.

Cyanosis.

Professor VIERORDT (Tübingen) said that cyanosis in congenital affections of the heart was not always caused by the mixture of arterial and venous blood; cyanosis might be absent in such cases even when there was an extensive deficiency of the septum. He was induced by his experiments to believe that the phenomena of cyanosis were due merely to the presence of an excessive amount of blood in the cutaneous veins and capillaries.

Chronic Jaundice.

Professor MINKOWSKI (Strassburg) reported cases of Hereditary Enlargement of the Spleen together with Jaundice observed by him in several patients belonging to the same family. Urobilin was present in the urine. One post-mortem examination was made. The spleen was found

to be greatly enlarged, weighing more than a kilogramme (2·2 lb.); the liver was normal; in the kidneys there was a brown pigment containing iron. Professor Minkowski believed that the disease was caused by an anomalous condition of the blood pigment.

Gouty Diseases of the Stomach and Intestines.

Dr. GRUBE (Neuenahr) said that certain dyspeptic troubles were of frequent occurrence in gouty patients, a circumstance which had been observed principally by English physicians, and attacks of gout sometimes began with these symptoms. Some patients had remarked that their fæces smelt very offensively before a fit of gout.—In the discussion Professor VON NOORDEN (Frankfort) maintained that these dyspeptic troubles were not a characteristic symptom of gout. In his opinion they were observed almost exclusively in well-to-do patients and were caused by misuse of drugs and by a too liberal diet.

Researches on Antitoxins.

Professor WASSERMANN (Berlin) said that except in the case of diphtheria the results of the antitoxin treatment had not been very favourable. Anti-cholera, anti-typhoid, anti-pneumococcic, and anti-streptococcic sera had been tried without success. Experiments made by Professor Ehrlich have shown that the action of bactericide sera depended upon two substances—the immunising or "intermediate" substance and the so-called "complement." Both substances together had a specific action against the virus. Hitherto the intermediate substance which was present in the serum of immunised animals had been used exclusively in the serum treatment of enteric fever, and the "complement," of which a certain quantity was present in the normal blood serum, had been neglected. A coöperation of both the intermediate and the complement substances being essential for an antitoxic action, Professor Wassermann accordingly, apart from the serum of immunised animals, injected a certain quantity of fresh normal blood-serum. It was of great importance to find the adequate complement to a given immunising serum. He made experiments on guinea-pigs infected by a culture of enteric-fever bacilli. Three of the guinea-pigs received injections of serum taken from an immunised dog, the result being that the three animals died. In another series of guinea-pigs together with the above serum a quantity of serum taken from normal, not immunised, cattle was injected, and by this method the infection was effectually overcome. Professor Wassermann concluded that by the administration of fresh serum of cattle the action of the immunising substance was practically very much augmented. He hoped now to be able to obtain good results in the human subject.

Bence-Jones's Albumin.

Dr. MAGNUS LEVY (Strassburg) read a paper on the Substance discovered by Dr. Bence-Jones in the Urine of Patients suffering from certain Diseases of the Bones. This substance was said to be characteristic of myelogenic sarcoma, but was present in myxœdema also. According to Dr. Magnus Levy it was not an albumose but an albuminous substance having many of the qualities of albumin. Sometimes it was soluble at a temperature of 100°C., but not always, and the same thing might happen with albumin also under certain circumstances. The origin of Bence-Jones's albumin was not yet known. Dr. Magnus Levy believed that it was not formed within the myeloma. Perhaps it might proceed from the albumin of the food.—Professor SENATOR (Berlin) asked why this substance, if it was formed by the food, was present only in myeloma.—Professor VON JAKSCH (Prague) said that too much reliance must not be placed on the diagnostic value of Dr. Bence Jones's albumin, for it had been absent in three of his cases of myeloma.

Oxygen as a Therapeutic Agent.

Dr. MICHAELIS (Berlin) said that inhalations of oxygen were used as early as 1774, but afterwards the method fell into disuse because toxic symptoms were sometimes observed; at the present time where pure oxygen was employed undesirable symptoms no longer occurred. In disturbances of the respiration caused by diseases of the lungs or heart, or by the action of toxic agents, the patient's general state was benefited by the inhalation of oxygen. In poisoning by morphia the respiration was improved and the cyanosis disappeared. Oxygen had a specific therapeutic action in cases of poisoning by morphia and carbonic oxide.—Professor VON JAKSCH agreed with the views expressed by Dr. Michaelis and said that he had seen a good result in a case of diabetic coma.—Dr. MERKEL (Nuremberg) related two cases of poisoning by carbonic oxide, in one of which oxygen was administered, whilst in the other only artificial respiration was employed. The former case recovered much sooner than the latter.

The next congress will meet in Berlin under the presidency of Professor Senator.

THE PARIS WATER-SUPPLY AND THE EXHIBITION.

(FROM OUR SPECIAL CORRESPONDENT.)

FOR some months previously to the opening of the Universal Exhibition alarming rumours were spread about concerning the supposed contamination of at least a part of the Paris water-supply. As this is a technical question that cannot be understood without careful reading and investigation the greater part of the population had neither the time nor the inclination to study so intricate a problem. There were consequently less anxiety and alarm manifested than might otherwise have been the case. Some sensational articles were published in various papers, and one of these articles went so far as to say that the waters of the Avre were "proverbially" known to be infected and were even worse than those of the Ourcq, which is the dirtiest water in the neighbourhood of Paris. As these alarming statements, however, concluded with a recommendation to use a certain filter there were good reasons to suspect the motives of such publicity. Again, other papers which systematically attacked the town water-supply as systematically advocated the promotion of certain financial companies which were to undertake to provide the town with a new supply. There is, for instance, a scheme for bringing water from the Lake of Geneva to Paris and another for digging numerous artesian wells. A well of such a description has been dug and it yielded 3000 litres of water per day, but on digging two other wells the supply from the first well was considerably reduced and thus it was demonstrated that the supply of water does not increase in proportion to the number of wells. Nevertheless, though a suitable discount must be allowed when dealing with these denunciations there still remains a substratum of fact which justifies some anxiety. At the beginning of the year there was a severe epidemic of typhoid fever at the grammar school of Lycée Saint-Louis, but it may at once be remarked that if this epidemic had been due to the water-supply then there would have been other cases of typhoid fever in the neighbourhood of the school where the houses are supplied with the same water; this, however, was not the case. On the other hand, there is much to show that the insanitary condition of this important educational establishment was itself sufficient to account for the prevalence of fever. In the month of January, 1878, a similar epidemic broke out at the same school. In the press and among the public many protests were then made in regard to the insanitary condition of the old buildings where the classes were held. These protests were all the more energetic seeing that, in 1878 as on the present occasion, all the world was invited to visit Paris and the great Universal Exhibition held in that year. Nevertheless, nothing was done, and now after a lapse of 22 years the same school has suffered once more from this neglect. A complication arises from the fact that such establishments are not under the control of the sanitary authorities appointed by the Paris Municipality, but are administered by the Minister of Public Instruction. Fortunately, on the present occasion this conflict of authority has not prevented the adoption of proper measures. The school has been closed, the technical sanitary staff of the Paris [illegible] faced at the disposal [illegible] Public Instruction of the sch[illegible] worked hand in hand, and the [illegible] and the school has been redrained throughout. Further, it was discovered that there were leaking cesspools belonging to two houses in rue Monsieur-le Prince which contaminated the subsoil at a place where, by gravitation, the filth thus escaping would pass into the subsoil of the college. Thus the alarm caused by the presence of typhoid fever among the pupils of the Lycée Saint-Louis is now allayed. The evil was purely local, affecting the institution and not the town at large.

The consumption of potable water in Paris varies from 187,000 to 212,000 cubic metres per day. There is also a consumption of 350,000 cubic metres of river water per day for the flushing of drains and sewers, the watering of the streets and gardens, and for the supply of ornamental fountains. During the whole of 1899 the supply of water from springs sufficed for the entire population of Paris with but one or two unimportant exceptions where filtered water was given instead, and at least theoretically this filtered water is just as safe. Extensive works are now proceeding for utilising the springs of the Loing and the Lunain. When these works are completed there will be a supply of spring water amounting to 260,000 cubic metres per day, and this will be more than sufficient for some time to come. The spring water actually supplied is derived from the Avre, the Dhuys, and the Vanne. The great question is whether it is possible for these springs to be contaminated. It may be argued that if the water-supply was unsatisfactory there would have been no decrease in the prevalence of typhoid fever. On the other hand, it may also be argued that even if the water-supply was perfect there might still be cases of typhoid fever, because that disease could be produced by other causes than by impure water. As a matter of fact, typhoid fever has not disappeared, but its prevalence has been greatly reduced. Here, again, the same contradictory theories are presented. According to one theory the reduction in typhoid fever is due to the pure water-supply; according to the other theory the water is not above suspicion, and the reduction of typhoid fever is due to general sanitary improvements. In any case, the facts stand as follows. The statistics drawn up by the Prefecture show that there were 1389 cases of typhoid fever notified in 1895, 1243 in 1896, 1342 in 1897, 1288 in 1898, and 4329 in 1899. The deaths from this disease amounted to 700 in 1894, to 270 in 1895, to 260 in 1896, to 250 in 1897, to 255 in 1898, and to 754 in 1899. The increase last year was noticed principally in the months of July, August, September, and October. Much is said about typhoid fever, but the deaths from tuberculosis in Paris amount to about 25,000 annually; it is now generally acknowledged that tuberculosis is a contagious and consequently a preventable disease.

Some 15 years ago there were as many as 5000 and 6000 deaths a year from typhoid fever alone; and to-day not only has the number of cases been greatly reduced but the proportion of fatal cases has also fallen. The mortality from typhoid fever per 100,000 inhabitants amounted in 1871 to 700, in 1882 to 140. The supply of spring water was then greatly increased, and in 1887 the mortality per 100,000 inhabitants from typhoid fever fell to 60, in 1888 to 40, in 1892 to 30, in 1893 to 20 In 1894 there was a slight increase to 23 per 100,000. During the following five years the proportion was only 10 per 100,000, but in 1899 it again rose to a higher figure—28 per 100,000; and, though this may justify some anxiety and suggest the necessity of careful investigation, still it must be acknowledged that a very great improvement has been effected and that there is no comparison between the present state of affairs and that which prevailed not so very long ago. At the same time it must be admitted that it would be very serious indeed were it possible to prove that the recrudescence of typhoid fever which occurred last year was due to the contamination of several of those supplies of spring water which have been brought to Paris at so great an expense and have always been considered so pure. It is claimed that but few large towns are provided with such good water as is Paris. The water-supply of many towns, including part of that of London, depends for its purity on the efficiency of the filtering process employed. It is of the utmost importance, therefore, that a high standard of efficiency of filtration should always be maintained. But the Paris water-supply is not filtered; it comes direct from the watersheds, and so long as there is no contamination of the gathering grounds it should be perfectly pure. It has the further advantage of being delightfully cool during the hot days of summer. The trouble has been that the supply of this spring water has sometimes proved insufficient, especially in the dry season. During the last Universal Exhibition, held in 1889, for instance, it was necessary to cut off the supply from some of the districts of Paris, and this for a period of six weeks. The water from the river Seine was supplied instead and the change was generally followed, if not by an epidemic of typhoid fever, at least by a marked increase of that disease. Therefore, when the authorities are obliged to withdraw the spring water-supply the districts affected are warned. Official posters are affixed to the walls and the inhabitants are urged to boil all the water that they drink. This, however, Parisians are promised, will no longer occur, because there is now not only the additional supply of the Avre, but the waters of the Loing and the Lunain will be ready for distribution before the dry season. Consequently, the fear of drinking Seine water instead of spring water need no longer be entertained. The only question, therefore, that need now be considered is whether it is at all likely that one or more of the springs may be contaminated. Attempts have been made to prove that this has actually taken place and that this was the cause of the recrudescence of typhoid fever which was noted last year and at the beginning of this year.

Last year the Academy of Medicine appointed Dr. Thoinot to report on the question. The Prefect of the Seine also nominated a commission to inquire into the matter and it was said that at the bacteriological laboratory of the Montsouris Observatory the Eberth bacillus had been found by Dr. Miquel in samples taken from the reservoir which contains the waters of the Vanne and which is situated at Montsouris. Further, it was said that the authorities of the Montsouris Observatory did not dare to bring this matter to the notice of the Prefect of the Seine because Dr. Thoinot had been removed from a public post on account of his courageous revelations. This latter argument, however, falls to the ground, as the learned professor was removed by the Minister and not by the Prefect of the Seine, who has no authority in the matter. Dr. Thoinot had pointed out that some of the water was gathered from a permeable soil where the natural filtration of the surface waters might not be sufficient. In other districts the water sometimes made its appearance on the surface and at other points disappeared below ground, carrying perhaps some impurities with it. These remarks suggested that perhaps there was insufficient care taken to exclude surface waters, and also that there were pits in which foul water collected. These for the most part have been filled up, but is it certain that there are none remaining? In this respect the law does not arm the authorities with sufficient powers to compel the inhabitants near the water intakes to refrain from digging big pits in which they drain their slops and foul water. As some of the aqueducts are 120 kilometres in length fears might be entertained that it is difficult to protect them efficiently over so long a distance. Yet, in spite of all these doubts and questions Dr. Thoinot in his report says: "I do not criticise the hygiene of Paris and I have never pronounced otherwise than with a feeling of profound respect the names of Belgrand and Alphand, who, at an epoch when no one suspected the mischief that might result from the pollution of water and the importance of pure water, planned those aqueducts which have brought spring water to Paris and rendered it one of the healthiest capitals of Europe; for the water-supply of Paris, such as it is to-day, leaves us nothing to envy either in London or Berlin."

To come from generalities to details, it is argued that though the Vanne waters are collected from the chalk there are fissures which let polluted water through, especially after heavy rains. Last year there was typhoid fever in the town of Sens at the same time as in Paris, and it so happens that the inhabitants of Sens obtain their water by tapping the aqueduct that brings the waters of the Vanne to Paris. Further, out of every 100,000 inhabitants of Paris there were, in 1899, 57 cases of typhoid fever among those who drank the water of the Vanne, 54 cases where the Avre water was supplied, and only 39 cases where the water came from the Dhuys. Among the troops of the garrison of Paris, out of 177 cases of typhoid fever 154 occurred in barracks where the water of the Vanne is laid on. Dr. Thoinot in his report recognised that the spring of the Miroir which is in the watershed of the Vanne might have been contaminated because in the district of Villechétive, situated some 12 kilometres away but on a higher level, there were some cases of typhoid fever and there are some fissures in the chalk. Dr. A. J. Martin who was likewise appointed to report on the question also admits such a possibility and urges that all drains from villages or cultivated fields should be turned aside from the gathering grounds. Already, in 1894, when the deaths from typhoid fever rose from 20 per 100,000 inhabitants to 28, the waters of the Vanne were suspected, but last year this suspicion seemed to be confirmed, for it was said that Professor Miquel of the Montsouris Observatory had found the Eberth bacillus in the water of this spring. At their source,

these waters are admitted to be perfectly pure, but they may be contaminated before they reach Paris. So far back as 1886 M. Duclaux, professor at the Sorbonne, related in his lectures that he had found that the living organisms in the water had increased tenfold by the time it reached the reservoir of Montsouris. Then, again, some doubts have been expressed as to a possible leakage where there are valves that have served to run the Seine water into the pipes reserved for the spring water. Nevertheless, such facts as have been adduced nearly all point to the possible contamination of the Vanne outside and not inside Paris. It has been shown that in 1894, as in 1899, there were cases of typhoid fever in the town of Sens where this same water is supplied, and in Paris during that year it was likewise the soldiers quartered in barracks which received the waters of the Vanne who suffered most, and fears are entertained as to what may occur this autumn. It is true that the prevalence of typhoid fever has decreased. From Jan. 1st to March 17th this year 1053 cases of typhoid fever have been notified, and there were 187 deaths from this disease, but the autumn is the most likely season. The number of cases may then increase considerably if in the interval no effective prophylactic measures have been taken.

namely, the replies that have, or may be, made to all these arguments. First, it should be noted that nothing was more likely than an increase of typhoid fever in Paris last year. A great number of workmen and labourers came from all parts of the country, many bringing germs of disease with them, to work at the Exhibition or at the underground railway and other large public enterprises. They tended to overcrowd the poor q
labourers' tenements, already far
unhealthy. Then the digging u
the extensive disturbance of the
to account for the increase in
typhoid fever; while, on the othe
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probably have been much mor
Finally, there had been two very dry summers, and this may be the cause of the increase of typhoid fever. In any case such an increase has been noticed, not only in Paris but in a great many other towns both in France and in various other parts of Western Europe. Therefore the phenomenon has not been confined merely to those who have been drinking the waters of the Vanne. In Paris it is impossible to say that a person drinks only the water of the Vanne. Outdoor life is a special characteristic of the Parisian. He constantly frequents cafés in all parts of the town, he has many of his meals in restaurants, and though he may sleep in a quarter only supplied with the water of the Vanne he is frequently drinking in other quarters which receive the waters of the Avre or the Dhuys. Finally it is said that these waters are sometimes mixed in the process of their distribution. Befo
be formed, it would be
concerning the district.
and it is probable that
of this particular water may be discovered. In any case, if the water was contaminated it is a mercy and a most extraordinary circumstance that with a population of more than two million inhabitants so little mischief was done. There is a tendency on the part of the public to rush to extremes; and, because it was shown that the water of the Seine often contained the germs of typhoid fever, it was at once imagined that when the Seine water was no longer utilised for drinking purposes that disease would no longer exist. This is an obvious exaggeration, as there are other causes that may occasion this disease. Again, though it is now the law that all cases of typhoid fever are at once to be notified to the sanitary authorities, this duty may be neglected and thus the fever may spread by direct contagion.

All the water supplied to the town is systematically and constantly analysed chemically and bacteriologically by M. Lévy and Dr. Miquel of the Montsouris laboratory, but in face of the complaints made and doubts expressed these gentlemen asked that a committee of eminent experts should be appointed to supervise their work and share their responsibility. This committee was nominated with the Prefect of the Seine as President. It consisted of four municipal councillors, of M. Adolphe Carnot, an engineer and member of the Institute, and M. Janet, a mining engineer, Professor Cornil and M. Riche, members of the Academy of Medicine, Dr Roux of the Pasteur Institute, and others representing the medical and bacteriological sciences. Their first act was to urge upon the Government that the law which protects mineral springs should be applied to the gathering grounds whence towns derive their supplies of ordinary drinking-water. Analysis after all was only an aid; it was not a sure protection, mischief might be done before analysis revealed the presence of pathogenic germs. The real object should be to prevent rather than to detect contamination. M. Janet indicated new and safer methods for collecting the waters of the Loing and the Lunain, he then went and examined the intakes of the Avre, as this was the water which at first had been described as contaminated, and he was instructed to fill up all cesspits that might be dangerous. A map of all the underground watercourses is now being prepared, and more elaborate and perfected methods and apparatus for bacteriological analysis have been introduced at the Monsouris laboratory; but it is felt that analysis should be made on the spot—i.e., on the gathering grounds—and that a portable laboratory should be organised for this purpose. It would require more than a year to examine each small local spring and a scheme for doing this work is now being prepared. After heavy rains, and when it was supposed that the swollen waters of the Breuil were most likely to communicate with and contaminate the waters of the Avre, an examination was made in the locality and it was demonstrated that there was no connexion between these two sources. Dr. A. J. Martin, by inquiries in the neighbourhood also found that while typhoid fever prevailed in Paris the inhabitants of three communes, the most important being that of Nonancourt, were drinking the water of the Avre and there were no cases of typhoid fever among these people. Yet if the waters of the Avre had contained the Eberth bacilli it is not likely that the population of these three communes would have escaped infection.

It has been stated that the inhabitants of Sens suffered from typhoid fever in 1894 because they drank the water of the Vanne which had been contaminated at the springs of the river Miroir. In March, 1894, a big trench was dug round these springs and it was then seen that they did not receive water from any other neighbouring source. It had been said that at Rigny-le-Ferron there were four cases of typhoid fever, but a closer examination showed that three of these cases were certainly not typhoid fever, and the fourth was doubtful. The insanitary condition of Sens was sufficient to account for typhoid fever. Again, at Theil, near the first spring of the Miroir, a young woman contracted typhoid fever and took to her bed on August 10th. But she had been to Sens on July 27th, where there were cases of typhoid fever. The water of the Miroir was at once examined and found to be pure and no one else in the neighbourhood who drank this water has suffered from the fever. The cesspool of the house where the young woman lived was in a good condition and water-tight. Its contents were carefully disinfected. The body linen
chloride of
stove was b
the patient
gathering grounds.

Finally, it appears that, in spite of assertions to the contrary, it was a mistake to state that the Eberth bacillus had been found in the waters of the Vanne. On Sept. 9th Dr. Miquel found a microbe possessing many of the characteristics of the Eberth bacillus, but on Sept. 23rd he reported as follows: "On Sept. 7th the water of the Vanne was analysed. All the samples except that of the Miroir produced cultures of the bacillus coli communis. From the waters of the drain of Marcy it was possible to isolate two species of para-coli bacilli possessing most of the characteristics of a culture of the Eberth bacillus. It more particularly differs from the latter because its coagulation in milk is extremely slow, forming a trace of indol in broth cultures, and agglutinates only when relatively large doses are employed (one-half of a cubic centimetre of rabbit serum immunised against the Eberth bacillus)."

It is argued that between the bacillus coli communis and the Eberth bacillus there is a long series of bacteria denominated para-coli bacilli or Eberthiform bacilli. The latter set up fermentation in saccharine fluids, coagulate milk, produce indol, and do not agglutinate under

the influence of anti-typhoid serum. The Eberth bacillus, on the contrary, coagulates milk, does not produce indol, and agglutinates under the influence of the serum. According to Dr. Vaillard, Dr. Remlinger, and Dr. Schneider[1] the Eberthiform bacillus was found in seven out of 13 samples of dust, rubbish, and earth dug out at a depth of one metre and in five samples out of 10 of dejecta from persons not suffering from typhoid fever. The extreme frequency of these bacilli renders it difficult to differentiate the true Eberth bacillus. Dr. Miquel concludes that nothing more suspicious than the bacillus coli communis has been discovered in the waters of the Vanne.

From all these arguments, but especially from the fact that, comparatively speaking, there have not been so many cases of typhoid fever in Paris, there is good reason to believe that the water-supply has not been contaminated with the specific germ of typhoid fever. It is further evident that every precaution practicable under the present laws is being taken to protect the water intakes. Constant watch is kept and, above all, the authorities do not wait till the Eberth bacillus has been found to cut off a suspicious supply. It is because such supplies have been cut off on the mere discovery of the Eberthiform bacillus that the impression arose among the public that the water was contaminated. This has not proved to be the case; but it is satisfactory to learn that radical precautions were taken on mere suspicion. Then the great fact remains that typhoid fever has to a large extent been eliminated from Paris; there is no comparison between the present condition of the capital and that which prevailed only a few years ago. It may be said that though Paris last year suffered, like most other towns, from a recrudescence of typhoid fever, its general sanitary condition is daily improving, and the authorities are better able to cope with epidemic disease than was possible at any previous period of its history. Consequently there is no special reason why doubts about the water-supply should deter strangers from visiting the Paris Exhibition. There must always be some risk where so many people are gathered together, but a more intelligent, active, and widespread attention is bestowed on sanitation generally than was ever shown before. This remark applies more particularly to the question of water-supply, for this phase of sanitation is better appreciated in France than, for instance, that of domestic drainage.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

A Satire on Sanitary Work in Calcutta.—Sanitary Improvements in Simla.—The Progress of the Plague.—The Famine.—More Plague Disturbances.—General Feeling of Unrest in India.

IT is reported that a lady has undertaken voluntary sanitary work and has come to the assistance of the Calcutta Municipality. She has organised a working-gang consisting of two gully-pit boys, one *bhisti*, two coolies, and six *mehters*. Cleansing work was commenced in some of the plague-infected areas. The houses were cleansed and disinfected, and it is said that by her efforts four cartloads of drain-silt and refuse were removed every day. As is well known the inside as well as the surroundings of some of these *bustis* are extremely filthy. The report of her work states that heaps of refuse were found accumulated which had not been removed for months. Comment is unnecessary.

A great scheme of sanitation is on trial at Simla which, if successful, is likely to have far-reaching results in connexion with the sanitation of Indian cities. Instead of constructing large sewers and carrying the sewage to the stream it has been decided to adopt the bacterial treatment to the sewage. A network of pipes from four to five inches in diameter will collect the sewage from all parts of the station. The pipes will converge to five single trunks. Residents will be required to make their own house connexions. In each outfall gully septic cultivation works will be constructed. Experiments on the Simla sewage at the present outfall have proved that the effluent can be made a water-like, odourless product. The purified sewage will be discharged into the ravines. The new scheme will not only be an immense saving in cost but will embrace the whole station. At present the sewers are limited and those that serve the main bazaar are constructed on the older principles and the gully into which they discharge is very foul, the stream being poisoned for miles. This bacterial treatment of sewage has now been tried at several places in India, but the first conclusive experiments were at the Presidency Jail, Calcutta.

The weekly returns of plague are more satisfactory. With the exception of Aden, where the deaths rose from 73 to 107, plague is either stationary or declining. There were 3365 deaths recorded for the whole of India. Bombay city returns 530, Karachi 398, and Calcutta 393. In the Bengal Mofussil (chiefly Patna, Saran, and Monghyr) the deaths from plague declined to 835. The death-rate in Calcutta is returned at 71·5 per 1000, as against the average of 41·8.

The latest famine returns show a lamentable increase of 156,000, and a total of over 5,250,000, under relief. The provinces and States which show increases are Hyderabad (38,500), Baroda (37,600), Bombay Native States (27,000), the Punjab State and Central Provinces (each 23,000), Bombay and Sind (18,000), and Ajmere-Merwara (10,500). Cholera has broken out in some of the relief camps. It is reported from Nagpore, the Jubbulpore district, and from the Kanelavtank relief camp.

The disturbances which have taken place lately in connexion with the plague have been more than usually serious. In addition to the Cawnpore riots, to which I referred last week, I now have to record a murderous attack on three soldiers at Shakpur, near Dinapore. While driving along a district road they were met and attacked by a large crowd. Mistaken for plague workers they were seriously injured and the carriage was completely wrecked. All three are in hospital. Again, near Dinapore the disinfecting staff met with opposition. The people made excuses that they did not object to the disinfection itself, but they objected to admit some of the men of the disinfecting party into their houses. The magistrate appears to have ultimately withdrawn the disinfecting party rather than use force to have the work of disinfection properly done. Breaches of the peace have also occurred at several other places. The Lieutenant-Governor has thought fit to direct that local officers shall abstain from employing force for the purpose of carrying out evacuation or disinfection except where forcible resistance is offered to Government servants engaged in the discharge of their ordinary duties.

April 26th.

PLAGUE IN AUSTRALIA.

(FROM A SPECIAL CORRESPONDENT.)

THE returns of plague in Sydney for the week ending April 14th show the following figures: remaining, 57; admitted, 29; died, 12; remaining, 62. The total number of cases at this date was 113 and the total number of deaths 33; discharged recovered, 13. Total "contacts," isolated, 576. Cases among "contacts," 5 (see ante).[1]

With the beginning of the past week it began to appear that the difficult task of persuading the people to take a practical share in the rat-killing business and to feel its prime importance had at length been accomplished. A citizens' fund and an association to administer it was inaugurated, but it has hardly begun work as yet. The department has distributed large quantities of poison to municipal bodies and has furnished each with a man to superintend its distribution, to exhort householders to use it, and to specially visit premises on which rats are most likely to be found in numbers—that is to say, stables, provision shops, public-houses, &c. The Government has also announced that it will pay a capitation fee of 2*d*. for every rat brought in and has established men to receive them and furnaces to burn their bodies. The department is also causing large warehouses and the like to be specially inspected by its inspectorial staff, and as soon as it is reported that all necessary improvements have been made, all cleansing done, and all rats killed as far as can be ascertained, it gives a certificate that on such and such a date the premises were in good sanitary condition—a document of much value in relation to country business. Further areas of the infected part of the city have been cleansed, and in every successive block thus

[1] A book of the Pasteur Institute, 1897.

[1] THE LANCET, May 19th, 1900, p. 1479.

treated it is found that owners of important establishments have in larger and larger proportion dealt as effectively with their premises as their knowledge allowed. One coloured man only has suffered so far—a Chinese; and he was unlucky in that he had come to Sydney only a few days before he fell ill. The Chinese are a secretive people, but their numbers in Sydney are not large and they are well under police supervision, and so far there is no reason to suppose that any case of plague has been concealed by them. The Australian Plague Conference, after holding three meetings in Melbourne, has decided to adjourn to Sydney.

It is singular that *La Semaine Médicale*, which is distinguished for its articles on the epidemiology and prevention of plague, should appear at so late a date as March 7th to be unaware that the disease had reached New Caledonia and for three months had persisted there. News of its presence reached Sydney from no official source, but by a press cable dated Dec. 23rd; there is little doubt, however, that the disease had first occurred considerably before that date. It is no more possible, of course, to fix with certainty on the source of the disease among the rats at Sydney wharves than it has been elsewhere, but considering that Sydney has been in regular and very frequent communication with Hong-Kong from the beginning of the epidemic there, and with the centres which successively became infected from Hong-Kong (except Oporto) without [illegible] most probable th[illegible] by rats during the [illegible] be, the Néo Calédoniens desire to ascribe their infection to bags imported to Sydney from Calcutta and distributed thence without disinfection. The imports of bags from that port have always been very great; they are used for holding grains of different sorts, but especially maize, potatoes, chaff, and very largely for ores. The consignments received from two steamers have been fixed upon as those which conveyed the infection; the full facts concerning them consequently have something more than local interest and are as follows. The *Uganda* landed 6234 bales of these bags at Sydney in August, 1899; of this large number only 482 bales were exported, and these went to Brisbane and Bundaberg in Queensland, as well as to Nouméa. The *Fultala* landed 4963 bales in September; of these 1338 were exported, and were distributed among the ports of Melbourne, of New Zealand (two), and of Queensland (two), as well, perhaps, as Nouméa, at all events, 24 bales were transhipped for Nouméa from the *Uganda*, and on Sept 21st 100 bales went by the *St. Louis* to Nouméa—though whether these included the 24 or were additional to them is not clear. It is true that these calculations have been made with Custom House "transhipment entries," and consequently that more bales may have been exported than they actually show; but in any case the statement as regards New Caledonia is complete. That colony received at most 124 bales, while no less than 9377 bales were retained for use and were used either in New South Wales (which consumed the largest proportion) or at furthest in some other part of Australia or in New Zealand. New Caledonia would therefore have been singularly unfortunate if its infection had been received by this means. But the weight of evidence appears to be against the introduction of epidemic plague by cargoes of whatever kind. In the case of Sydney, at all events, rats first suffered and man only a rather long time afterwards. The probabilities favour the view that the ship-rats were infected by shore-rats, or that some of the latter joined them, and though it may not be impossible that some might survive infection at a distant port to land at the port of arrival in an infectious state, it seems more likely that the disease would entirely kill off the limited rat community carried on any ship in the course of a voyage of three or more weeks. Hence infective rats would be likely to be present on a ship at the port of arrival only after a very short voyage. On this hypothesis China ships from Hong-Kong and other ships from other distant centres of infection were dealt with during all the past six or seven years, and apparently with safety.

April 17th, 1900.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Spread of Small-pox: a Case for Inquiry.

AT a meeting of the Cheshire County Council, held at Chester on May 17th, an extraordinary story was narrated, at the instance of Mr. Francis Vacher, the medical officer of the Cheshire County Council, of the alleged laxity of the port sanitary authorities at Queenborough in the supervision of ships and passengers arriving at that port. Mr. Vacher reported to the council that he had received a letter from Mr. F. J. Roberts-Dudley, the medical officer of the borough of Stalybridge, deploring the importation of small-pox into that borough as a scandal to the sanitary laws of the country, the facts being as follow: Frank Ambler, who had been in Russia erecting machinery for a large Stalybridge firm, left Moscow on April 18th suffering from hæmorrhagic confluent small-pox, the rash being out when he left. He journeyed as follows: Moscow, April 17th, 5.45 P.M.; Warsaw, April 18th, 10 P.M.; Berlin, April 19th, 12 noon; Flushing, April 19th, 12 midnight; Queenborough, April 20th, 6 A.M.; London, April 20th, 8 A.M.; Manchester, April 20th, 3 P.M.; Stalybridge, April 20th, 3.45 P.M.; and he arrived at his home at Stalybridge a little after 4 P.M. A medical man was called in, who at once saw Mr. Roberts-Dudley, and Ambler was forthwith removed to Hyde Small-pox Hospital, where he died on the following morning from apoplexy. Mr. Roberts-Dudley said everything was done at once, including revaccinations, to prevent the spread of the disease. Two cases had, however, since occurred which were removed without delay—one on Ma[illegible] oved on [illegible] him to [illegible] ated him, but apparently too late to prevent the onset of the disease, which happily occurred in a modified form. Three men travelled with Ambler from London, all of whom were infected, one at Bolton, one at Oldham, and one at Carlisle. Mr. Roberts-Dudley was surprised that this man was not detained at Queenborough, or certainly in London, as on his arrival at Manchester he was so ill that he had to be wheeled on a trolley from one platform to another. On his arrival at Stalybridge he had to be wheeled in a similar manner, and yet no one seemed to have been aware that the poor man was suffering from small-pox, though the eruption was marked. A fatality appears to have attached to this unfortunate case from the outset. Ambler was taken ill on April 13th, and saw a medical man at Moscow who allowed him to go home. The rash appeared during Monday night, April 16th, and yet he was allowed to leave Moscow on the 18th. Mr. Roberts-Dudley deserves credit for promptly notifying the medical officers of health of Manchester, Bolton, Oldham, and Carlisle of the particulars of the case with the result that the individuals who had travelled with Ambler were traced. The Cheshire County C[illegible] attention to this e[illegible] a resolution expres[illegible] ment Board should [illegible] importation from foreign countries of persons suffering from small-pox or other infectious diseases.

The Liverpool School of Tropical Medicine.

The School of Tropical Medicine is about to despatch an expedition to the region of the Amazon to investigate the causes of yellow fever. The expedition will in the first instance proceed to Baltimore. They will afterwards go to Para and other places on the South American coast. Messrs. Elder, Dempster, and Co. and others have generously offered special facilities for the conveyance of the members of the expedition. This is the third expedition organised by the Liverpool School within the last nine months. The school is to be congratulated upon its enterprising spirit. The second expedition is at the present moment in Southern Nigeria, Old Calabar, investigating the subject of malarial fever.

Formation of a Liverpool Branch of the National Association for the Prevention of Consumption and other Forms of Tuberculosis.

A public meeting was held at the town-hall on May 18th under the presidency of the Lord Mayor, to establish in Liverpool a branch of the National Association for the Prevention of Consumption and other Forms of Tuberculosis. Amongst those present were the Earl of Derby, Sir William Mitchell Banks, Sir John Willox and Lady Willox, Mr. A. F. Warr, M.P., Mr Malcolm Morris, Dr. Arthur Ransome, Alderman Cookson, the chairman of the Health Committee, &c. The Earl of Derby in moving that a branch of the National Association for the Prevention of Consumption and other forms of Tuberculosis be established in Liverpool, expressed the pleasure he felt in obeying the Lord Mayor's summons to attend the meeting. What he understood

they had met for was to take stock, as it were, of a movement which had already been in progress for some time—for a longer time, to our shame, abroad than at home—but which he hoped had now possessed itself of the brain and heart of the country, and which, if it did proceed in the course which seemed to have been marked out for it, would produce an effect upon our population almost greater than any which our medical science had produced up to the present time. The Lord Mayor had told them that there were something like 2000 deaths per annum in Liverpool from this disease. They had reason to believe that a large number of these deaths were preventable, the causes being ignorance and apathy, and squalor of habitations and insanitary conditions generally had tended to make that fatal which was not in itself necessarily fatal. Dr. Arthur Ransome (Bournemouth), in seconding the motion, said that Liverpool was in the van in matters of sanitation, its building by-laws being a model and an example to the rest of the country. He trusted that the citizens of Liverpool would cordially support the aims and objects of the National Association which was making such efforts to cope with a disease which in a decade destroyed more lives than the whole white population of South Africa.—Mr. Malcolm Morris (London), in advocating the motion, said he was not in favour of compulsory notification of cases of tuberculosis, but he thought that voluntary notification to the medical officer of health would act more satisfactorily, especially if the medical officer gave advice as to the best way of treating the disease.—The Earl of Derby was elected the president of the branch and the following were elected the vice-presidents:—The Lord Mayor of Liverpool, the Bishop of Liverpool, the Roman Catholic Bishop, the mayor of Birkenhead, the mayor of Bootle, the mayor of Chester, the mayor of Wigan, the mayor of Warrington, the mayor of St. Helens, the mayor of Southport, Sir John Hibbert, Sir John Brunner, Bart., M.P., the Members of Parliament for Liverpool, and Mr. William Rathbone. Dr. Nathan Raw was elected as honorary secretary and Dr. Thomas R. Bradshaw as honorary treasurer.

May 21st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Torchlight Procession by Edinburgh University Students.

ON the evening of Tuesday, May 22nd, the students of Edinburgh University celebrated the relief of Mafeking by a torchlight procession which was even more successful than such functions usually are. For an hour before the procession was timed to start the streets on the route were thronged with crowds of people, and the students made a good use of this opportunity by collecting all along the streets for the *Scotsman* Shilling Fund for the relief of the widows and orphans of those who have fallen in the war. The students assembled in the quadrangle of the old University and lighted their torches after the arrival of Sir William Muir at a quarter to 9 o'clock. After singing the National Anthem the procession left the quadrangle at a few minutes past 9 o'clock, headed by mounted constables. At some places on the route the crush was unpleasant, but the progress of the procession was orderly throughout. The students surpassed themselves in the variety and ingenuity of their costumes, and while the majority of the torch-bearers walked, a large number were perched on vehicles of all shapes and sizes, motor-cars, lorries, four-in-hands, and donkey-carts being all represented. The ending of the procession was perfectly orderly. After the students had burned their torches in a huge pile on the Castle Esplanade the National Anthem was sung and the gathering broke up about 10 40 P.M. The greatest credit is due to the organisers for the satisfactory and orderly way in which the procession was carried out. The procession was led by the pipe band of the 3rd Battalion of the Gordon Highlanders.

Aberdeen Dispensary attacked by Medical Students.

In connexion with a pro-Boer meeting in Aberdeen on the evening of Sunday, May 20th, a crowd of roughs made a hostile demonstration at the private residence of Dr. A. T. Gordon Beveridge and broke some of the window glass. In spite of a public disclaimer by Dr. Beveridge that he had any party view on the war question, a number of medical [illegible] organised and violent atta[illegible] Aberdeen Dispensary of which Dr. Beveridge is an official. The institution was defended by all its medical officers and the students contented themselves with smashing a door and singing certain patriotic songs. As Dr. Beveridge had, as a matter of fact, no connexion with the pro-Boer meeting, a large amount of sympathy has been expressed on account of these unwarranted attacks.

Aberdeen and the Sale of Food and Drugs Act.

The Public Health Committee of Aberdeen have fixed the minimum number of analyses to be made under the Sale of Food and Drugs Act, 1899, at about two per 1000 of population, and in view of the increase of work have resolved that an additional inspector be appointed in connexion with the duties.

May 23rd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Presidency of the Royal College of Surgeons in Ireland.

MUCH excitement was recently caused among medical men in Dublin and elsewhere by a most unexpected announcement which appeared in a circular addressed to the Fellows of the Royal College of Surgeons, dated May 21st, stating that Mr. Henry Fitzgibbon was about to become a candidate for the presidency, in opposition to Mr. Thomas Myles, at the coming election on June 4th. The office of vice-president has now been filled by Mr. Myles for two years and, as pointed out by him, the Vice-President has hitherto succeeded to the presidential chair in the natural course of events without any contest or opposition. Mr. Fitzgibbon is an ex-President of the College since 1889. A full explanation of his motives will very soon, however, be made public, for I hear that Mr. Myles has applied for an injunction to restrain Mr. Fitzgibbon from publishing his circular.

Dispensary Medical Officers and their Holidays.

The decision in the recent test cases reported in THE LANCET of May 19th (p. 1472) is, I regret to say, already bearing fruit most unfortunately for the medical profession in Ireland. As an example the following resolution was passed by the Belfast Board of Guardians on May 15th:—

> That the clerk be instructed to [illegible] Government Board of moneys paid [illegible] doctors in excess of the two weeks' h[illegible] during the past year. That we requ[illegible] to recoup the guardians the loss incurred by them owing to the illegal and unreasonable action of the Local Government Board in this [illegible] lutions adopted by the [illegible] placed upon the words [illegible] ernment Board, and also to the fact that the extra two weeks' payment to the locum-tenents was made under protest.

Further, a resolution was passed—and other boards of guardians are taking action on similar lines—approving of the action of the Antrim Board of Guardians (the Torrens Henry test case) in defending "the rights of local authorities against the unreasonable, high-handed, and illegal orders of the Local Government Board in the matter of holidays to the dispensary doctors, and that we congratulate the Antrim guardians on the satisfactory results of their appeal." At a meeting of the Coleraine Board of Guardians, held on May 19th, Dr. J. T. Creery, of Coleraine, applied for a week's holiday and nominated Dr. W. K. Law as his substitute at a remuneration of three guineas per week. After a prolonged discussion, in which one of the guardians—a lady—said that they were "dragging an honourable profession through the mire," it was ultimately agreed to inform Dr. Creery that the guardians were willing to accept the services of Dr. Law as locum-tenent at two guineas per week.

A meeting summoned by the honorary secretary of the North of Ireland Branch of the British Medical Association (Dr. W. Calwell) was held at the Young Men's Christian Association, Belfast, on May 22nd to consider the question arising out of the recent judicial decision as regards the holidays of Irish dispensary medical men. There was an extremely large and influential assemblage in the crowded room, the medical professors at Queen's College, the teachers in the Belfast School, many members of the medical profession in Belfast, and representatives from all parts of

were carried unanimously:—

[illegible] to 23 of the [illegible] of Queen's [illegible] the British [illegible] stands w[illegible] medical [illegible] charge of [illegible] poor, and will tend to be a constant source of friction between the boards of guardians and their medical officers.

2. That this meeting therefore urgently pray the Local Govern- [illegible] appointed to lay before the Local Government Board in Dublin the views of this meeting.

The following gentlemen spoke on the above resolutions. Mr. W. A. McKeown, Dr. F. P. MacLaughlin (Strangford), Professor Byers, Professor Whitla, Dr. H. L. Torrens, Alder- mar[illegible] vady), Dr. W. [illegible] urgan). A hea[illegible] It is hoped that [illegible] e medical prof[illegible] there were apologies from 43 who were unable to attend) will have its due weight in strengthening the Local Government Board, so that instead of a rule worded in such a vague way as at present—that a dispensary medical officer is entitled to a holiday "not exceeding four weeks"—they will make it clear and definite that the holiday is really meant to be four weeks.

Outbreak of Typhoid Fever in Belfast.

At the Public Health Committee meeting on May 17th the medical superintendent officer of health reported that during the past week 49 cases of typhoid fever had been notified, which was a greater number than in the previous week. Every effort had been made to ascertain the cause of this increase, but without satisfactory result, as many of the cases had occurred in the better class of workers' houses. The reports of the drain tests in these cases were ordered to be submitted and steps were directed to be taken with a view to combating the disease. The death-rate for the week ending May 12th had been from all causes 20·0 per 1000, and from the principal zymotic diseases 1·5, while in the corresponding week of last year the death-rate from all causes was 24·6 per 1000, and from zymotic diseases it was 2·2.

May 22nd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Admission of Lunatics into Asylums.

A CIRCULAR has recently been issued by the Director of the *Assistance Publique* and addressed to the head of every hospital calling their attention to the extreme facility with which hospital patients can be transferred to a lunatic asylum simply at the request of the medical officer in charge of the ward. Supposing such patients become noisy or restless very often they are simply transferred to get rid of them. The rigorous formalities which are demanded by the law before an ordinary person can be placed in a lunatic asylum are reduced to practically nothing in the case of a hospital patient. The medical officer in charge of the ward has simply to sign a transfer order and the patient is removed to the asylum without further ceremony. Owing to this custom the asylums which are already overcrowded have become altogether insufficient. There have been instances of regular abuse on the part of certain surgeons who wanted to get rid of sick persons or old patients who were inconvenient in their wards. Not so very long ago two patients in the midst of an attack of typhoid fever were moved from two hospitals to the lunatic asylum of St. Anne where they both died within 48 hours after admission. A third patient who was comatose was also taken to the asylum and died on the same day. The certificate of the medical man and of the police commissary set forth that he was quite incapable of answering any questions on admission. Under these circumstances the Prefect of the Seine has issued instructions to the director of the lunatic asylum that he is to [illegible] who [illegible] of surgeons.

The Exhibition.

The various classes of exhibits connected with medicine are gradually becoming organised. The exhibit of surgical instruments which is in the Champs de Mars and is being brought together by Professor Berger promises to be one of the most interesting, especially as regards the historical part which is much enriched by the generosity of many collectors. The sanitary organisation of the Exhibition is by no means above criticism. It is true that there is a plentiful supply of spring water for alimentary purposes, but apparently the ambulance stations provided in case of accidents are not numerous enough and are too far apart the one from the other. Then, too, owing to the crowds in the relatively small space allowed for the circulation of the sightseers any panic would be the cause of injury to a number of people whom it would be difficult to attend to immediately. It is interesting to note that the space allotted for circulation of sightseers as compared with that allotted to edifices has decreased with every exhibition. That of 1889 occupied 960,000 square metres, of which 290,000 were occupied by edifices. That of 1900 occupies a space of 1,000,000 square metres, of which 460,000 are occupied by edifices, and the number of exhibitors is this year 140,000 instead of 95,000 as in 1889. Among the innumerable offers held out to foreigners by commercial bodies of every kind which desire to make their fortunes this year there is one, simply grotesque, which is of interest to the medical profession. It is a quack establishment, of which so many exist in Paris under the deceptive name of "institute," which announces in a lay journal that at its offices the visitor will find at any hour of the day doctors of medicine speaking every language. Another, in return for a subscription which will last for one week, one month, or 10 months, the sums varying from 10 francs to 75 francs, offers to provide any medical, surgical, or dental attendance that may be necessary.

May 19th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Researches on Carcinoma and Syphilis.

A HIGHLY interesting communication has been made to the *Centralblatt für Bacteriologie* by Professor Schuller who has discovered in malignant growths — sarcoma as well as carcinoma—corpuscles of a very characteristic type in different stages of development. According to his description these corpuscles were of a round or oval form, their size being three times that of the red corpuscles of the blood and their colour golden-yellow or brownish; they refracted light strongly. They consisted of a solid, resistant, refracting, light-coloured capsule containing protoplasm of a darker hue. Under certain circumstances the capsule showed not only different strata but also stripes. On the surface of the capsule there were pores. The protoplasm was of a granular texture in some cases. In cultures there were also organisms, the capsules of which had burst and the escape of the protoplasm had left the capsules empty and folded. In living cultures ciliated protuberances were to be seen penetrating through the pores. Unstained specimens hardened in [illegible] lavender were used for microsco[illegible] rganisms were distinguished by [illegible] ar and brightness. They had been found by Professor Schüller in every specimen of carcinoma and sarcoma, both fresh and hardened, which had been taken from malignant growths of the tongue, the lips, the rectum, &c., and from melano-sarcoma. He had also made cultures of the organism, for which purpose only recent growths, not yet degenerated, were used. He cut pieces from the centre of the growth and kept them in glass vessels at the temperature of the human body, the tissue of the growth itself being used as the culture medium. When the culture was successful after a few days [illegible] grey droplets were seen which, on microscopical examination, were found to consist of small bodies of the above-described species; in some instances the capsule contained protoplasmic substances, in others there were folded capsules without protoplasm. He had endeavoured to infect animals with these organisms, but the experiments were not yet finished. The organisms obviously

belonged to the protozoa. He somewhat cautiously suggested that there might be a connexion between these organisms and the pathology of carcinoma. Another communication by Professor Schüller to the same journal was devoted to organisms discovered by him in every stage of syphilis, from the primary chancre to the tertiary form and in hereditary syphilis also. In primary chancre he had found very small organisms with a double-lined capsule and brown protoplasm, their shape being generally oval. They were best seen under a magnifying power of 1000 diameters. In chancre, when the specimen had been stained in a solution of iodine and iodide of potassium, fine canals were seen going from the surface to the interior filled up by corpuscles of the form of conical bullets in which the above-described micro-organisms were situated. They were present in fresh tissues only in every instance and were especially numerous in hereditary syphilis. Cultures were less successful than in the case of malignant growths, especially those from chancres, whilst cultures from the lymphatic glands gave a better result. The development of the cultures was very similar to that of malignant growths. Professor Schüller believed that his discovery was of great importance in connexion with the etiology of syphilis. His observations, if verified by other pathologists, would certainly cause a great sensation. It must, however, be remembered that in carcinoma and syphilis micro-organisms alleged to be the cause of the disease had already been described by several authors, but hitherto all these discoveries had ended in disappointment, and the medical profession would therefore do well not to be too sanguine when announcements were made relative to the etiology of cancer or syphilis.

Researches on Vaccine Lymph and Foot-and-Mouth Disease.

Dr. Siegel, whose observations of foot-and-mouth disease in the human subject have been already mentioned in THE LANCET,[1] has written to the *Deutsche Medicinische Wochenschrift*, mentioning that he has discovered several classes of micro-organisms in the vaccine vesicles of vaccinated calves and also in the vesicles of foot-and-mouth disease in cattle. The first variety of these organisms is described by him as consisting of spherical or oval bodies resembling cysts, of a brownish colour, and from 10 to 18 μ in diameter. The capsule has two layers, an external one with radiating stripes and an internal smooth one. The capsule is sometimes torn. The organisms of the second group are smaller, being from 6 to 8 μ in diameter; they are lighter in colour and are covered with a visible membrane. Sometimes they are granular and it is very likely that they are contained in the capsules of the first-mentioned group. The third group consists of organisms belonging to the second group broken up into a great number of very small round corpuscles which are dispersed somewhat uniformly throughout the specimen. The diameter of the smallest organisms is hardly more than $\frac{1}{2}$ μ, their colour being yellow. There is no difference between the organism detected in the vaccine vesicles and in foot-and-mouth disease. The above-mentioned large cyst-like bodies are rather rare, whilst the small corpuscles are very numerous. It has not been possible to stain them and they are very resistant against acids and alkalies.

MAY 22nd.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

The Assouan Reservoir.

ASSOUAN has long been famous to tourists for the first cataract met with in going up the Nile and as the site of the Ptolemaic temples of which the best known is Philæ. Here may be deciphered no less than six languages cut on the temple wall, hieroglyphic in abundance, some demotic (being a copy of the famous Rosetta stone), many Greek lines, Latin inscriptions in honour of the Roman Cæsars, French names of generals who pursued the Mamelukes thus far in 1798, and lastly a memorial tablet in English to perpetuate the name of the 9 of the Heavy Camel Brigade who fell in 1884 while unsuccessfully struggling to relieve Gordon at Khartoum. Readers of a medical journal may perhaps be reminded that at Philæ there was a celebrated temple in honour of Æsculapius, dating from the liberal times when anatomy was a permitted study, when Herophilus and Erasistratus became famous as dissectors, and when Alexandria was the home of the museum and the centre of the world's science, including medicine. Herophilus is said to have described the best quality of a physician as "the power to distinguish the possible from the impossible." This is also true to-day of the world's engineers, and one cannot but wonder what the immortal shades hovering about Philæ think of the five years' work which has for its object the damming of the great river which for countless ages has leapt joyfully through the granite rocks. The work of the last two years has been so far a great success, and now at lowest Nile all the eastern channels are stopped and a huge granite wall is rising like a mighty breakwater. An army of 7000 Egyptians is working at a high rate of pay and about 500 Italians are cutting granite, because they do it so much more quickly and better than the natives. All are under the orders of 150 British artizans, and practically all the engines and railway plant and huge cranes have come out for the work from England. And the present motto is "Hurry!" because in three months the Nile flood will be down and then no more can be done to strengthen foundations and to cut out the grey granite which is not considered good enough to take part in a work which will some day rival the Pyramids and the Suez Canal, and stand, whatever may happen, as a permanent monument of the English occupation of Egypt. The low Nile of this year is a nuisance to everyone but the engineers at Assouan, because it enables them to delve down sometimes 100 feet to look for faults in the rocks and to blow up with dynamite any masses of doubtful consistency. At a quarter to 12 every morning a warning syren sings and everyone scuttles away from the works to lunch and safety, with the exception of half a dozen firemen who remain behind. At noon the syren is again heard and from a vantage ground in the distance the men can be seen running nimbly about the abysses to light the fuses to which the long dynamite cartridges are attached. And then is heard a sort of artillery *feu de joie*, and for ten minutes at intervals masses of granite hurtle through the smoke and plunge into the pools of water yards away. And all this work must go on every day except Sunday and, except during the three months of the Nile flood, until three more years are over, and the Europeans must be content to live without luxuries in mud-brick huts, the walls of which are often made three feet thick. For this is the only way to keep out the sun by day and to get comparatively cool nights in a tropical summer where the midnight temperature is often as high as 100° F. But the men are healthy enough and those who do not drink and who wear huge helmets stand the hot sun very well.

The Aird Hospital.

Messrs. Aird and Co. established a hospital soon after the work began and they have been generous in carrying out all practical suggestions made to them. Dr. Schmidt, an American surgeon, organised the building of several isolated huts and prided himself on having a perfect operating theatre complete in every antiseptic detail. Now, after an attack of typhoid fever, he has resigned and his place has been taken by Mr. Arthur White, late of the medical staff of the Uganda Protectorate. The assistant medical officer is a Syrian who was educated in London. The bulk of the patients, as might be supposed, are suffering from injuries or from the effects of dynamite explosions, nearly all due to the carelessness of the workers. Familiarity with blocks of granite or with powerful cranes breeds contempt, or the dynamiter tries to dig out an unexploded fuse to save himself the trouble of boring a new hole for a second cartridge. The typhoid fever hut was empty when I visited the hospital, but in the isolation huts there were one case of erysipelas and two cases of small-pox. One of the latter was a mechanical engineer, responsible in his spare time for making ice and soda-water for the camp. Unfortunately he had declined to be vaccinated and he has now lost his life in consequence. During the last month more than 600 natives have willingly been revaccinated, and I now hear that the engineer's death has converted the rest of the objecting Europeans.

Plague at Port Said.

Just two years ago Egypt was startled by hearing of a case of plague at Suez on a steamer in dock, but fortunately it was apparently the first sporadic case and thanks to the great care of Dr. J. E. Cresswell there were no further

[1] THE LANCET, April 14th, 1900, p. 901.

patients. Then, again, last May plague was discovered at Alexandria, but not until it had been imported there for two or three weeks. Everyone now knows that it lasted six months, but never spread through any one household, and, best of all, never left Alexandria, with the exception of two individuals who conveyed the disease to the neighbouring town of Damanhour. This result, as already pointed out in these columns, shows that there is no mystery about plague, but that it can be stamped out like any other infectious disease or like a pest of locusts or black beetles, provided only that the disease be discovered early, that the sanitary measures be thorough and long continued, and that the Government and the civil population work loyally together to rid the town of the unwelcome intruder. Now for the third year plague has reappeared in its old Egyptian home, and we all feel that we know more about it and the general public has at last some confidence in the English sanitary advisers. Though the first case was not discovered until the beginning of May it is now considered probable that there have been dropping cases at Port Said since the end of March. The Greek practitioners seem to have been content to certify as "influenza" a few obscure cases of fever accompanied by swollen glands. It must here be remembered that they have had no clinical acquaintance with plague and from ignorance did not inform the local sanitary office of the early cases. Now that there have been eight official cases with four deaths everyone is working hard to prevent the growth of an epidemic. The work on the spot is under the control of Mr. Graham, aided by Dr. Bittar, as bacteriologist, and similar measures to those employed last year in Alexandria are being carried out. The treatment of the plague which was successful in a city of 380,000 inhabitants ought to answer at Port Said where the population is only 42,000. Moreover, in Port Said there are wider streets, less lofty houses, and a greater circulation of fresh sea air. It is satisfactory to know that the present mortality of Port Said is rather under the usual spring rate.

Cairo, May 7th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Isolation for Tuberculous Patients.

THE crusade against tuberculosis is assuming vast proportions in America. The burning question of the hour here now is as to whether isolation is a necessity for consumptives and especially for poor persons suffering from the disease. The majority, perhaps, of the physicians of the United States are convinced of the need of both notification and isolation in cases of tuberculosis. They believe much more firmly than the medical men of Great Britain in the infectiousness of pulmonary consumption which they regard as possible to stamp out. In Massachusetts and in New York State this belief has been carried into practical effect. Massachusetts has erected a sanatorium for the treatment of dependent consumptives and New York city is about to erect one. At a joint meeting of the Philadelphia County Medical Society and the Pennsylvania Society for the Prevention of Tuberculosis held in January last many eminent medical men from different parts of the country spoke in favour of State aid for poor consumptives. Dr. James C. Wilson said that the remedy for preventing the spread of the disease amongst the poor was a very obvious one. It was based upon the simplest principles of preventive medicine. It demanded the fulfilment of a public duty. "State and local Governments provide and maintain institutions for the care of the poor, and especially for the care of the sick poor, but the consumptive of the labouring class, when he most requires help for himself and safeguarding for the public, is usually neither sick nor poor Before long he is both, and is also the cause of sickness and poverty in others. Then he is commonly past help, for at no time is the almshouse or the general hospital the place for him. Asylums are provided for the insane in order that the curable cases may be properly treated, the incurable suitably detained, and society protected against the violent or the homicidal. Hospitals the

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tives whose need is sorer as their numbers are greater, seek in vain for help. The establishment of special sanatoria to which the incipient cases can be sent and special hospitals for advanced cases is the solution of the problem." There can be no doubt as to the need of special hospitals for advanced cases of tuberculosis among the poor, but the difficulties in the way of establishing sanatoria for incipient cases are very great if not insurmountable.

Small pox in the United States.

Small-pox is extremely prevalent in many parts of the States, and especially in the States of Illinois and Indiana. In fact, the disease has been present in Indiana for a period of about two years. The malady in both these States is not of a virulent type, and for that reason many cases of mistaken diagnosis have occurred. In order to guard against this unfortunate error, which, it is needless to remark, might be attended with very serious consequences, the Illinois State Board of Health have published a circular informing medical men how to differentiate between small-pox and chicken-pox—the malady which is of course most often confounded with small-pox in a modified form. The chief rule laid down by the Illinois Health Board to ensure a correct diagnosis is that chicken-pox rarely attacks an adult, and the physician is warned to regard with great suspicion any varicella-like eruption in a grown-up person. It may not be small pox, but it is extremely unlikely to be chicken-pox. Small-pox in several of the States has undoubtedly been disseminated by unvaccinated children who attend the free schools. The State Board of Health of Indiana passed and enforced regulations debarring such children from attending school. Their right to do so was disputed and the upshot was that it was made a test case. The Supreme Court of Indiana has taken the common-sense view of the matter and has sustained the action of the Health Board. It concludes its judgment with the following sensible words:—"It is a well-recognised fact that our public schools in the past have been the means of spreading contagious diseases throughout an entire community. They have been the source from which diphtheria, scarlet fever, and other contagious diseases have carried disaster and death into many families. Surely, then, there can be no substantial argument adverse to the reasonableness of an order which is intended and calculated to protect in time of danger all school-children and the families of which they form a part from small-pox or other infectious diseases." Vaccination is at the present time much more thoroughly carried out in America than in Great Britain, and doubtless it is due to this fact that the small-pox epidemics here have, as a rule, been of a mild form. As many of the medical journals, however, point out, this is no reason for lax methods in dealing with the disease, which may at any time develop into a virulent type, especially in the unvaccinated. As it is, a considerable amount of interruption to travel and depression of business has been occasioned by the numerous outbreaks. In all cases in which there is any doubt every necessary precaution should be taken.

Report of the Chief Surgeon of the Department of Matanzas and Santa Clara, Cuba.

This annual report has recently been published and it gives an interesting account of the work done in that portion of Cuba since its occupation by the Americans, thus affording an instructive object lesson of what may be effected in a short time by efficient sanitary measures vigorously carried out. As the report says, "When the United States army first landed in Cuba the town and cities in this department were in a most deplorable condition; destitution, hunger, disease, and death were everywhere in evidence. Such public institutions as were in existence were overcrowded to an unprecedented extent, and words fail to describe the utter misery of the wretched, starving inmates." After describing in detail the measures which were taken to remedy this state of affairs the report goes on to say: "It is gratifying to be able to report that, according to present indications, the sanitary condition of the two provinces in this department is excellent." The death-rate is greatly decreased, starvation is absent, and yellow fever has been almost completely suppressed. It is, however, pointed out that the present methods of sanitation are but the forerunners of much that remains to be done, and that unless [illegible] nt system be [illegible], in great part, [illegible] of the health of the troops in the departments of Matanzas and Santa Clara the report says that it has been excellent, and it further remarks: "It would not be inappropriate to state that the

condition of almost perfect health in this command and its freedom from typhoid fever is the natural sequence of military sanitation systematically and thoroughly applied." All this goes to show that under good hygienic conditions white men can live in good health in tropical countries.

May 12th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Alleged Breach of Ethics: Resignation of the Council of the Victorian Branch of the British Medical Association.

THE medical profession in Victoria has been stirred most deeply by a charge of breach of ethics brought against a prominent Melbourne surgeon, Mr. H. M. O'Hara, F.R.C.S.I., and investigated by the Council of the Victorian Branch of the British Medical Association, of which he is a member. A member of the Branch wrote to the Council enclosing a circular which he had received with reference to a patent called "Silenette" to be used as a preventive of conception. He stated that Mr. O'Hara was reported to be connected with the company issuing the circular and selling the patent, and asked the Council to investigate and deal with the matter. The Council did so and found by an examination of the sworn and attested statutory declarations, filed in accordance with the Companies Act at the office of the Registrar-General, that the Silenette Company was registered on July 9th, 1898, with the object *inter alia* "of purchasing and acquiring from Mr. O'Hara the trade mark "Silenette" and all his proprietary rights and interests therein," and that the company took power "to issue shares paid up in full in payment for the trade-mark and proprietary rights and interests." They found also that on July 18th, 1898, Mr. O'Hara signed an agreement by which he sold the trade-mark "Silenette" and all proprietary rights and interests therein, and agreed to take 2000 shares in the company fully paid up to £1 in payment for the same. On August 12th he endorsed this agreement to the effect that the syringe was included in the sale. Several subsequent lists of shareholders and allotments of shares were filed showing that shares were transferred and additional shareholders added to the list, but in all of them up to the last, issued on Oct. 19th, 1899, Mr. O'Hara's name appeared as the holder of 2000 fully paid up shares, the consideration for which was his sale to the company of the trade-mark "Silenette" and his interests therein. The Council then wrote to Mr. O'Hara enclosing a copy of the letter of complaint and asking for an explanation. His reply was: "I have not now and never had any interest in the Silenette Company either directly or indirectly." He explained, however, that a Mr. Loxton had shown him the syringe and powder, since known as "Silenette," which he (Mr. O'Hara) had used in his practice as a vaginal antiseptic and had suggested some improvements on them, and that Loxton and a solicitor named Montagu Cohen had met at his house and the formation of a company to sell the "Silenette" was talked over. Subsequently Loxton told him that a company was being formed and it would be necessary for him to surrender to the company any rights he might be supposed to have in the invention. To oblige Loxton he agreed to this and subsequently signed a legal document without reading it, believing that it merely stated what he had agreed to do, and he did not know that any shares were allotted to him. Subsequently Loxton told him that 2000 shares had been allotted, and he told Loxton and also told Cohen, who combined the offices of director of the company, solicitor to the company, and solicitor to Mr. O'Hara, that he could not take the shares or be interested in the company in any way, as to do so would be contrary to the etiquette and rules of the British Medical Association and of his College. The Council of the Victorian Branch of the British Medical Association were not satisfied with this explanation. When the company applied for a patent for the invention it was opposed by a chemist named Simpson, and the Council had an attested copy of an affidavit by Simpson filed at the Patent Office in which he swore *inter alia* that he had had an interview with Mr. O'Hara with reference to making improvements in the invention known as Silenette, and in which Mr. O'Hara stated that he was the inventor of the appliance. Mr. O'Hara had also made a rebutting affidavit in support of the application for the patent, in which he denied Simpson's statements. Simpson made a further affidavit re-affirming them, and the patent was refused. In view of all these statutory declarations the Council unanimously decided that Mr. O'Hara was guilty of a gross breach of ethics, and notice of motion for his expulsion from the Branch was given. He was informed of this notice and was asked to attend in person to answer the charge and to bring any witnesses or any evidence which he chose. He did so and practically re-affirmed his previous explanation at greater length, and he brought Loxton and Cohen as witnesses. Loxton confirmed all that Mr. O'Hara had said and made a statutory declaration to that effect, but in cross-examination he made the admission that when he brought the appliance under the notice of Mr. O'Hara he knew of no other use for it than as a preventive of conception. Cohen stated that it was his fault that the agreement was made out as it was, as he understood at first that Mr. O'Hara was the inventor, and only found out that he was not when the patent was applied for. Mr. O'Hara had told him that he could not take the shares. He was not able to explain how it was that, as Mr. O'Hara's solicitor and director of the company, he did not see that his client's name was removed from the list of shareholders in the company, and signed statutory declarations which, according to his statement now, he knew to be false; and when subsequently asked to make a statutory declaration affirming his statement to the Council he declined. The Council held many meetings (eight in all) to discuss the matter and the course to be pursued, and eventually decided by the necessary three-fourths majority that Mr. O'Hara be expelled. This decision had to be confirmed by a three-fourths majority of the members present at the next ordinary meeting of the Branch. This was held on March 21st, and was one of the most largely attended meetings of the Branch ever held. The President, Mr. G. A. Syme, detailed the proceedings of the Council and read out *verbatim* the evidence before it. In officially moving the confirmation he stated that the Council had performed a very painful and very unpleasant duty which it could not avoid and had endeavoured to take as lenient and charitable a view of the case as possible, but could see no other way of carrying out the main object of the British Medical Association—the maintenance of the honour of the profession—especially as a member had been recently expelled for a less offence. The motion was seconded by Dr. G. Rothwell Adam, the lecturer on obstetrics at the Melbourne University, not a member of the Council, who said that in the face of the sworn documentary evidence put before the members no other course than that adopted by the Council was possible.—Dr. Weigall, Dr. Macansh, and Mr. G. Cuscaden spoke against the motion. The first speaker maintained that no breach of ethics had been proved. The others admitted Mr. O'Hara's culpability but thought the penalty too severe.—Dr. J. W. Springthorpe supported the action of the Council, emphasising the fact that Mr. O'Hara's defence was not confirmed by satisfactory evidence. A division was taken, with the result that 44 voted for the confirmation of the expulsion and 34 against it. As the necessary three-quarters majority was not obtained the decision of the Council was not ratified.—The President then addressed the members and said that as the Branch had not, in the opinion of the Council, fulfilled its first duty of maintaining the honour of the profession the members of the Council tendered their resignations as members of the Branch. The secretary and treasurer would hold office for a time to carry on the affairs of the Branch till their successors could be appointed. Since the meeting many members have resigned. It is understood that the late Council will send a statement of the proceedings to the Council of the British Medical Association in England in justification of their action, and it is probable that some members of the Branch will make a charge against Mr. O'Hara *de novo* to the Council of the parent Association.

April 7th.

ROYAL MEDICAL BENEVOLENT COLLEGE: RESULT OF THE ELECTIONS.—At the annual general meeting held at the office of the college in Soho-square on May 25th the following candidates for pensionerships and foundation scholarships were declared to have been duly elected:—Pensionerships: Annie Blick, 7304; John Charles Bonnett, 6251; Elizabeth M. Solly, 6457; William Dewsnap, 5978; Margaret Keith, 5303; Ellen Wilson, 4814; and Anne W. Osborne, 4298. Foundation Scholarships: Edward R. L. Warren, 5493; Gerald Percy Adams, 5327; Charles R. Hamilton, 4442; and Cuthbert W. Ellison, 4429.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

THE sixty sixth session of the General Council of Medical Education commenced on Tuesday, May 22nd The results of the first two days' work of the Council confirm our forecast of a somewhat prolonged sitting Two members are absent from their places Dr D, J Leech of Manchester, to the grief of his colleagues, is absent on account of ill health Sir William Thomson, like so many other distinguished Irishmen, is at the "front" There are two new members, Sir Hugh Reeve Beevor, Bart, M D, F R C P Lond, representing the Society of Apothecaries, and Mr William Henry Power, F R S, representing the Crown

The opening address of Sir William Turner showed how many and important are the subjects to be discussed by the Council His remarks on the loss sustained by the Council through the sudden death of Sir Richard Thorne were felt to be eloquent with the eloquence of sincerity and sympathy, and they well expressed
He testified to the abil
Carter as a past representative of the Society of Apothecaries Sir William Turner spoke impartially on the various important subjects which have to be settled by the Council at this meeting Perhaps the one which chiefly interested him was the completion of a Bill to be introduced into Parliament for obtaining additional powers for penal and disciplinary purposes, in the preparation of which he has acted with much ability Only those who know the numerous idiosyncrasies of the General Medical Council can realise the difficulty of bringing all the members into line for common purposes of discipline And this is the feat which the President has achieved

On Wednesday it looked as if the whole Midwives Bill and all the questions which it involves were going to be re discussed. But in the end the Council contented itself with debating the points raised in the report of its Midwives Committee, and specially the best means of securing that limitation of the midwife's function to attendance on natural cases which all are agreed should be secured in any legislation

Honours accumulate on the members of the General Medical Council It should be an advantage to the assembly that one of them, Sir John Batty Tuke, has since the last meeting become a Member of Parliament The Council should feel the convenience of having a member in Parliament The list of birthday honours included the name of Dr Hector Cameron, the representative in the Council of the Faculty of Physicians and Surgeons of Glasgow, of which Corporation he is President, who has been granted a knighthood by Her Majesty Dr Cameron is greatly respected in the Council, and the members greeted the announcement of the event with hearty expressions of satisfaction

Several members of the Committee of the Council of the British Medical Association appointed to consider and report on the question of a Conciliation Board met the Medical Aid Associations Committee of the General Medical Council on Tuesday The conference was presided over by Sir William Turner

The President of the Royal College of Physicians of London and Mrs Church gave two receptions—on Tuesday and Wednesday evenings respectively—which were largely attended by members of the General Medical Council and other members of the profession and their wives

TUESDAY, MAY 22ND

THE sixty ninth session of the General Council of Medical Education and Registration was opened to day in the Hall of the Council, Oxford street, London All the members were present save Dr Leech, who is ill, and Sir William Thomson, who is at Bloemfontein in charge of the Irish Hospital there Sir WILLIAM TURNER, President of the Council, occupied the chair

Introduction of New Members

Dr PAE SMITH introduced to the President of the Council Sir Hugh Reeve Beevor, the successor of Mr Brudenell Carter in the representation of the Society of Apothecaries of London

Mr BRYANT introduced Mr William Henry Power, principal medical officer of the Local Government Board, the Privy Council nominee in succession to the late Sir Richard Thorne

The President's Address.

The PRESIDENT the great
loss sustained by t death of
Sir Richard Thorne activity.
He also mentioned the excellent work done upon the Council by Mr Brudenell Carter as representative of the Society of
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who
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experience which I have gained as your President during the past two years
might be made in th
codure during our
chairman of the Business Committee amendments have been
frame
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amen
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our pre
or amend it when under discussion, or, if the Council does not wish to vote on the question, we can pass to the next order of the day We have, however, no specific order to enable the Council to close a debate and at the same time to take a vote on the
the 'previous question'
Council from expressi
question then before it,
take power to close a debate either on a motion or an amendment, and that the proposal for the closure shall be made and seconded without debate and shall, unless the President or Chairman shall rule otherwise, be put forthwith, should the proposal be carried the motion or amendment shall at once be voted on The proposed amendments in the Standing Orders were submitted to the Executive Committee in February and recommended by it to the Council They were embodied in the Minutes of that Committee, have been in the hands of Members of Council for more than two months, and time has thus been given for their consideration A report on the steps that I have taken since our last session towards obtaining additional powers for penal and disciplinary purposes, both for the Council itself and for the medical authorities represented on it, will be placed in your hands In conjunction with our legal advisers a short Bill has been prepared to carry out the object which the Council has in view, and in which are embodied the clauses as adjusted in consultation with the medical authorities and submitted to, and approved by, the Council in December last Acting on a suggestion made to me through the Privy Council, the representatives of the Universities in the House of Commons have been requested to support the Bill I am happy to state that members for the Universities of Oxford, Cambridge, Edinburgh, Dublin, and of the Scottish universities have acceded to my request A copy of the Bill will be supplied to each member of council
The Midwives Bill, introduced into the House of Commons

Sir HECTOR CAMERON, rising in his place, thanked the President and the Council for their congratulations.

Restorations to the Medical Register.

The Council then sat for over an hour *in camera* considering the report of the Executive Committee in regard to the restoration of names to the Medical Register.

The Midwives Question.

The next business was to receive an interim report from the Midwives Bill Committee on the steps taken since the last session of the Council regarding the Midwives Bill, 1900.

The PRESIDENT said that the Council would notice that he was chairman of this committee, but as he could not put the report from the chair he had asked Dr. Glover to be good enough to take charge of it.

Dr. GLOVER then presented the report, which was in the following terms, viz.:—

At their meeting on Feb. 26th, 1900, the Executive Committee had their attention called to copies sent by Mr. Humphreys, secretary of the Midwives Bill Committee, of an amended Midwives Bill which was being promoted by that committee, and as the consideration of this Bill by Parliament was then impending, and it appeared that some action should be taken earlier than the Midwives Bill Committee of the Council could be called together, the following resolution was adopted.—

Resolved:—That as the Midwives Bill now before Parliament does not make the provision as advised by the General Medical Council (see Report in Minutes, vol. xxxvi., page 501) for requiring the licensed midwife to apply for qualified medical assistance in every case attended by a midwife which presents symptoms of difficulty, abnormality, danger, or disease on the part of the mother or of the new-born child, the Executive Committee would again represent to the Lord President that in its opinion such a provision is one of imperative necessity for the safety of lying-in women, and they would urge that the Bill should include such a provision.

This resolution was forwarded to the Government and the views of the committee were further explained by the President, who called in person at the Privy Council Office.

The following answer to this communication was received on March 6th.—

Privy Council Office, London, S. W.,
March 5th, 1900.

SIR,—I have submitted to the Lord President of the Council your letter of the 1st instant, with reference to the omission from the Midwives Bill, now before Parliament, of a provision requiring a licensed midwife to apply for qualified medical assistance in certain cases; and I am to inform you that, in His Grace's opinion, the best means of providing for the object desired would be by a rule, which must be approved by the General Medical Council under Clause 4, 1 (d) of the Bill. I am, Sir, your obedient servant,

A. W. FITZROY.

Sir William Turner, M.B., &c. &c.,
President of the General Medical Council.

The reference of the question in the House of Commons to the Grand Committee on Law, &c., afforded an opportunity for calling together the Midwives Bill Committee, which met on March 21st, 1900, when this reply of the Privy Council was taken into consideration.

Thereupon the committee passed the following resolutions:—

1. [illegible] of this committee, the important matter of a [illegible] to seek the assistance of a registered medical [illegible] in cases of difficulty, abnormality, or of disease on the part of the mother or the new-born child, cannot with safety to the public be left to be regulated by a rule of the Central Midwives Board, and that therefore it is essential that a special clause should be inserted in the Bill dealing with the matter.

2. That the following amendments be made in the Bill as at present drafted:—

(1) That Section 2, Sub-section (5) be rearranged so as to read as follows:—

"The certificate under this Act shall not confer upon any woman any right to attend cases of abnormal labour, or of disease of or danger to the mother or the child, nor any right or title to be registered under the Medical Acts, or to assume any name, title, or designation implying that she is by law recognised as a medical practitioner, or that she is qualified to grant any medical certificate, or any certificate of death or still-birth."

(2) That Section 3 be amended so as to provide that no woman shall obtain certification under the Act unless she produces to the Central Midwives Board evidence of good character satisfactory to the Board.

(3) That in Clause 4, 1, after Sub-section (d), the following new sub-section be inserted:—

(dd) "requiring midwives to procure the attendance of a legally qualified medical practitioner in cases of abnormal labour or of disease of, or danger to, the mother or the child."

These resolutions the Registrar was directed to forward to the Government, and to state that the Midwives Bill Committee desired to press on the Lord President the importance of the amendments they had drafted, and trusted that his assistance would be given in bringing them before the Grand Committee on Law, and in procuring their adoption. At the same time it was intimated that members would be pleased to attend the Lord President in person should he desire further explanations.

On Monday, March 26, Dr. MacAlister, Mr. Horsley, and Dr. Glover, on behalf of the committee, had an interview with the Solicitor-General at the House of Commons, when they represented the importance of securing—

(a) An amendment of Sub-section (d) of Section 2, making it more clear that a midwife is not authorised or entitled to attend cases of abnormal labour.

(b) That by a clause in the Bill the midwife, in cases of abnormality, danger, or disease affecting mother or child, shall apply for the attendance of a registered medical practitioner.

(c) That under Section 3 evidence of good character shall be required from all applicants for licence as midwives, whether they already hold certain certificates or not.

The Solicitor-General [illegible] length with the deputation, and promised to [illegible].

On March 27th, 1900, the following letter communication was received from the Privy Council Office.—

Privy Council Office, London, S.W.,
March 26th, 1900.

SIR,—I am directed by the Lord President of the Council to acknowledge the receipt of your letter of the 22nd instant on the subject of the Midwives Bill now before Parliament and to state, for the information of the General Medical Council that his Grace will give his best consideration to the suggested amendments before the Bill reaches the House of Lords; but in regard to the last of these he sees no reason, as at present advised, to depart from the opinion already expressed that the proper way of giving effect to the views of the General Medical Council is by a rule under Clause 4 (1) (d).

Indeed the Lord President believes that any other course would be not only unnecessary but inconvenient, and, in support of this view, his Grace instructs me to point out that the terms of Clauses 2 (5) and 4 (1) (d) imply the necessity for the observance of some such regulation; and that, as no rules can be made for the purpose of bringing the Bill into operation without the approval of the General Medical Council, they will be in a position to obtain the adoption of any reasonable rule that may, in their judgment, be sufficient for the purpose. I am Sir, your obedient servant,

A. W. FITZROY.

The Registrar of the General Medical Council.

For the consideration of this communication, and of the Bill as it had emerged from the Grand Committee, the Midwives Bill Committee again met on April 28th, and after giving careful attention to the subject, resolved.—

"That in view of the communication from the Lord President of the Council, and of the amended Clause 14 (1) by which the Lord President was empowered to determine questions on which the Midwives Board and the General Council might not be in agreement, the adoption of Amendment 1 of March 21 as a clause in the Bill should not be pressed."

Mr. Horsley desired that his dissent should be recorded.

As a necessary consequence the proposed amendment of March 21st, 2 (3) (dd), was also not pressed, but the committee were of opinion that the amendment set forth 2 (1)—which recommended the rearrangement of Section 2, Sub-section 5—and that in 2 (2)—which provides for the production of evidence of good character—should still be pressed as amendments of importance that ought to be adopted.

The committee were further of opinion that the definition clause (18) of the Bill should be amended by the substitution of the following:—

"Midwife means a woman certified under this Act who undertakes for gain to attend women during the lying-in period."

At the request of the committee the President undertook to bring these resolutions before the notice of the Lord President, and the members of the deputation who had previously interviewed the Solicitor-General undertook to see him again. The President also acceded to the request of the committee to undertake the duty of chairman so far as it might be possible for him to do so.

On the motion of Dr. GLOVER, seconded by Mr. BRYANT, the report was received and entered on the minutes.

Dr. GLOVER then moved:—

That the proceedings of the committee as recorded in the report be approved by the Council.

He said that the question involved here was one of great public and professional interest at the present moment, and he assured the Council that the committee had not been inattentive to the instructions given to them. They met on March 21st, they had an interview with the Solicitor-General on March 26th, and they met again on April 28th. The report of the committee, containing as it did the letters of the Lord President of the Privy Council, was a document of considerable interest and he thought it would have more than temporary value. The object of the committee had been to see that the points considered by the Council to be important in any legislation of this kind were secured in the Bill now before the House of Commons.

Dr. MCVAIL asked whether the Bill was sent to the Council officially by the Government.

The PRESIDENT said he had considered that every member of the Council should have before him the Bill as amended by the Grand Committee on Law and at his request the Bill had been forwarded to members.

Dr. MCVAIL asked whether the Government had since the last meeting of the Council sent any communication desiring the opinion of the Council upon this Bill.

The PRESIDENT: On the Bill as amended by the Grand Committee?

Dr. MCVAIL: On the Bill as introduced into the House of Commons since the last meeting of this Council.

Dr. GLOVER: Yes, it has.

Dr. MCVAIL then asked whether the discussion upon this report would be the only opportunity members would have of considering and debating this question.

The PRESIDENT said he would explain the situation. Some months ago the Council appointed a committee to watch legislation, and since then the committee had been very carefully watching the legislation. The committee had held two meetings and had had communications both with

official Members of Parliament and also with the Privy Council Office. The committee knew exactly what had taken place since the Bill was introduced, and it now reported to the Council what it had done. If a member brought forward a motion on the subject which was relevant, he had no doubt the Council would agree to consider that motion.

Dr. GLOVER, proceeding with his speech, reminded members that in April, 1898, the Council formulated the points which they would consider essential to be embodied in any legislation which would secure the approval of the Council. There were ten such points, and what the Council had to consider was how far the Bill in its present state met those points. He held that if at any time in the House of Commons any of the upon were tampered wit ort of this Council went ...port of the Government would go with it. One great point with the Council was that lying-in women should be protected from the unregulated practice of ignorant and unskilful midwives. In his judgment the great virtue of the Bill was that it put an end to the unregulated practice of ignorant and unskilful midwives. Another point which the Counc ... which ... satisfactory evidence as to character and training and experience in the conduct of natural labour. The third great ... had felt strongly on this point. He had felt so strongly that for some time he withheld his support, such as it was, from the Bill. He said in effect that he could not support the measure because it did not contain the necessary security that the midwife in cases of abnormality should call in skilled medical assistance. Mr. Horsley was still not satisfied upon this point, but he (Dr. Glover) was now satisfied ... published in ... given every c ... in this matter. He felt sure that no one who considered the position of the Lord President, and his long experience and his ... that the I ... to the imp ... this way, and of taking precautions to secure that she should call in the aid of the medical profession whenever a case passed into the region of abnormality or irregularity. The Lord President considered that there was in the Bill ample means of securing what the Council desired, and that it would be better secured by leaving the board and this Council to have a suitable regulation than by putting words into the Bill. It was well known to those who had watched legislation in the House of Commons, that the House was not a place for the discussion of details of medical legislation. He thought this Council had justification for being fully satisfied, having regard to the power of the Council to withhold approval from the rules if they did not include this regulation, and to the knowledge they had that if any doubt arose as to the rules or any conflict of opinion between the Midwives Board and the Council, which was a conceivable thing, they had the opinion of the Lord President in favour of their view. Therefore he thought their security was sufficient. He considered, therefore, that the Midwives Committee, with the exception of Mr. Horsley, were right in withdrawing their opposition. They had every reason to believe that the other points insisted on by the Council and pressed by the committee would have the earnest consideration of the Lord President before the Bill was brought on again. As to the definition clause now in the Bill, he confessed that it was difficult to understand. It said that the term midwife should mean a woman who undertook for reward to attend women in childbirth where no registered medical practitioner was engaged or employed. It appeared to him a mysterious, misleading, and unintelligible definition. The committee objected to it and suggested what seemed to him a much better and much simpler definition. He asked the Council to approve the action of the committee.

Mr. BRYANT seconded the motion.

Mr. HORSLEY wished to enter his dissent ...

... should be embodied in a Midwives Bill the chief of these was that in cases of abnormal labour midwives should be compelled to send for qualified medical assistance. Yet they were now informed by the Privy Council—and their watching committee seemed prepared to agree—that the Council could compel the Midwives Board to make a rule to compel midwives to get the assistance of registered medical practitioners in cases of abnormal labour or danger or disease. But the Council could not compel the Midwives Board to carry out such a rule, and there was no guarantee that in 10, 15, or 20 years the principle would be fully observed and carried out. He could not see any objection whatever to the ... midwives than the Council thought was desirable for the ... one was further established by the alteration made in the definition of the word "midwife." This alteration, as Dr. Glover had pointed out, was to obtain for the midwife the standing of an independent practitioner in midwifery. The definition was, it was alleged, put into the Bill in order that there might be no confusion with midwifery nurse. But there was no confusion, and been made showed that those meant that the midwife sho ... tioner. It was all very well for the Government to say that their representations on the subject would receive earnest attention, but the officials had behaved in the matter as if the Bill were a Government measure, and they had not received the Council's suggestions with the cordiality which they might expect.

The PRESIDENT asked Mr. Horsley if he wished to propose an amendment.

Mr. HORSLEY thought that the practical method would be to go into committee on the report.

The PRESIDENT: That has been dropped.

Dr. MACALISTER, as another member of the committee, reminded the Council that he had had something to do with the drawing up of the ten points to which Dr. Glover had referred, and he knew the importance of maintaining these in the Bill. He also thought that it would have been very desirable to get what the Council and their committee had asked for, but again and again they were assured, not by the promoters of the Bill but by the Privy Council themselves, that as a matter of drafting it was not only unnecessary but inconvenient that the principle should be given effect to in a clause of the Bill, as it could be done more effectively if embodied in one of the rules. The ... he principle but merely ... if the Council wished ... so it was advisable that ... parliamentarians as to the method of carrying it out. If they insisted further they would secure the shadow, not the substance. If they looked at Clause 14 of the Medical Act he thought that they would see that they met the objection taken by Mr. Horsley, for there was a direct appeal to the Lord President, and if there was any dispute between the General Medical Council and the Midwives Board the Lord President would act as arbitrator. Further, he felt that the Council should put their requirements into a rule which could be changed and strengthened from time to time rather than that these requirements should be crystallised as part of an Act of Parliament.

Sir CHRISTOPHER NIXON said that as the remaining member of the committee he had to say that Dr. MacAlister had expressed exactly the view which he entertained with regard to Mr. Horsley's objection. All the members of the committee were as anxious as Mr. Horsley to get the principle in question given effect to in a very specific way in the

Bill, but when it was represented by the Lord President that it was inconvenient, that it was not a practical way of dealing with the matter, and that the committee were likely only to get the back of the Government up against them by pressing the point it was time to reconsider the point, particularly as they were shown that they were fighting about a thing that there was no need to fight about, for the General Medical Council had the power to direct the Midwives Board to frame rules, one of them to be to regulate and restrict within limits the practice of midwives. If they insisted they would simply make the Government antagonistic to the views the Council entertained.

The PRESIDENT intimated that he had received from Mr. Horsley an amendment in writing. It would have to be read in connexion with the motion, for it was an addition to the motion. The two proposals combined read as follows:—

That the proceedings of the committee as recorded in the report be approved by the Council with the exception of the conclusion of the committee on April 28th—namely, that the first resolution of March 21st should not be pressed upon the Government.

Mr. Horsley's amendment began at the words "with the exception." The practical working of the resolution, if adopted, would be that the Council should continue to press the committee's resolution of March 21st on the Government.

Mr. BROWN seconded the amendment. He was afraid, he said, that if this Bill became law and the Act did not enact that there should be a regulation such as that decided upon by the committee in March it would be contended that the Midwives Board had no power to formulate such a regulation. In a letter to THE LANCET Mr. Heywood Johnstone, who was one of the sponsors of the Bill, stated that one of the duties of the Board would be the passing of regulations for the conduct of midwives and there was nothing to prevent the Board restricting attendance to normal cases.

The PRESIDENT asked Mr. Brown whether Mr. Heywood Johnstone was a member of the medical profession. Was he sufficiently competent from his knowledge of medicine or midwifery to give a definite opinion upon such a matter?

Mr. BROWN replied that he did not know, but at any rate Mr. Heywood Johnstone was qualified enough to state his views in an organ of the medical profession.

The PRESIDENT pointed out that the words would be read as the words of an Act of Parliament and would not be interpreted according to any opinion expressed by Mr. Heywood Johnstone.

Mr. BROWN said that supposing a regulation was made compelling a midwife to call in skilled medical aid in abnormal cases Mr. Heywood Johnstone said that the regulation might provide for the calling in of medical assistance when necessary, but he said it was another thing to impose upon a woman who perhaps lived in the country and could not have a messenger at her command a penalty for not calling in medical aid. Mr. Heywood Johstone said it was absurd to ask the legislature to put upon a woman a penalty for not doing something which she found it impossible to do. Therefore it was obvious that the Board could not make rules which would protect the public sufficiently, and because of this he (Mr. Brown) insisted that the measure was one of a most dangerous character. This amendment should be proceeded with because he thought it would not be a safe thing to pass the Bill unless it provided for medical attendance such as the Council had already agreed was necessary. If the Bill did not do what the Council desired the Council must either insist upon their views or the Bill must fall to the ground. If the Council sanctioned the measure in its present form he felt convinced that they would be sanctioning a measure fraught with great danger to the public.

Dr. MACALISTER: If the principle in question were set forth in the Bill would Mr. Brown be in favour of the Bill?

Mr. BROWN: That is a different matter.

Dr. ATTHILL said he regretted that he must vote against the amendment. He should have preferred to do otherwise, but it was evident that they would only be running their heads against a stone wall if they stood out against the course suggested by the Lord President. He thought that the Bill was the best they could ever see passed and probably it would prove much less injurious to the medical profession than another Bill.

Dr. MCVAIL said he did not think that the difference was slight as between the motion and the amendment; he thought that the difference was very great. It was true that the only qualification of midwives was to be that they were not to attend cases of abnormal labour or cases where there was disease or danger to the mother or child; but who was to attend abnormal and difficult cases and who was to make the necessary financial provision? He held distinctly that the provision considered by the Privy Council to be sufficient would not prove sufficient. It was the very essence of this matter, if midwives were to do duty according to the Bill, that they should not attend cases of abnormal labour. But supposing that a case became abnormal and the woman could not leave it. She was precluded by the Bill from attending to it. How was the case to be attended until the doctor arrived? The whole difference hinged between normal and abnormal. In his opinion a provision such as the committee asked for in the resolution of March 21st was a much more satisfactory one than that of April 28th. He understood that the Government had put upon the Orders of the House of Commons a resolution to provide for the expenses incurred by the General Medical Council in carrying out the provisions of the Act, but he thought it would surely be much more to the point if they made provision for skilled medical attendance upon cases which became abnormal. As the Bill stood the woman would undoubtedly lay herself open to the penalty, and if she adhered strictly to the letter of the law she must leave the house immediately symptoms of abnormality appeared. He was astonished that Mr. Horsley did not propose something much stronger than his amendment, for not only should midwives be compelled to see skilled medical attendance, but the Government should be required, if they insisted on passing such a Bill as this, to provide for the expense of such attendance. He did not like either motion or amendment, but on the whole he thought the amendment was what the Council should adopt.

The PRESIDENT said that he should like to say a word or two, not as President but as a member of the committee, because he was present at the final meeting when the committee agreed to put the matter into the position which the Lord President had suggested. It seemed to him that in considering this matter he must agree with those who had spoken of it as a matter of great importance. In his view they had to take into consideration the principle upon which this Bill was framed. Parliament could not be expected to go into questions of labour, normal and abnormal, but delegated to this Council and the Midwives Board the duty of laying down the rules to regulate and restrict the practice of midwives. The Lord President told the Council plainly that all this matter lay within their power. Then they were to say that the Lord President was not competent to express what was the real meaning of the Bill. How were the Council to interpret this particular sub-section to which the Lord President drew attention? It seemed to him (Sir William Turner) that there was a safeguard in the Bill and that they need not ask for more, and it was because of this that he agreed with the majority of the committee in thinking that it was not necessary to press the resolution come to by the Council. He therefore intended to express his opinion by vote on this occasion and he should vote against the amendment.

A decision was then taken when 5 members voted for the amendment and 21 against it, three members being absent and one declining to vote.

The motion of Dr. Glover being put to the Council was carried.

Mr. BROWN said that he wished to propose a motion with regard to the constitution of the proposed Central Midwives Board. He desired that the board should consist of five regular medical practitioners, two to be appointed by the Royal College of Physicians of London, two by the Royal College of Surgeons of England, and one by the Apothecaries' Society of London, and he would move to that effect.

Dr. ATTHILL protested against such a motion being discussed.

Mr. HORSLEY said that he would second the motion if it were in order.

The PRESIDENT pointed out that the motion was not on the programme of business. It was not a matter which arose distinctly out of the committee's report, and it was quite apart from that portion of the Bill which they had had under discussion. He would, however, put it to the vote whether Mr. Brown should be allowed to propose the motion.

On a vote being taken the Council by a considerable majority decided to allow Mr. Brown to move.

Mr. BROWN accordingly moved in the terms of his suggestion. The situation, he said, had been very much altered

by the attitude taken up by the Government in regard to skilled medical assistance in cases of abnormality, and he considered it more necessary than ever to have a medical board instead of one in which the lay element predominated. He particularly took exception to the Incorporated Midwives Institute having power to appoint a member to the proposed board.

Dr. P. HERON WATSON [illegible] e Council rejected it.

Dr. MACALISTER, continuing [illegible] Council of the remarks of the late [illegible] the inadvisability of the Council's [illegible] hostility with regard to the constitution of the proposed board.

[illegible] n the debate the motion [illegible] 18 votes to 4.

[illegible] that the President be [illegible] resident of the Council a copy of the report, and to inform him that the Council had approved of the steps taken by the committee.

Mr. BRYANT seconded this motion, which was carried by 23 to 3 votes.

Fraudulent Personation.

Mr. HORSLEY moved:— [illegible] reventing, [illegible] by amend- [illegible] sonation of [illegible]

He said that the Council at present had no precise legal opinion on the subject, and it was desirable that they should have.

Mr. TOMES seconded and the motion was agreed to.

Mr. HORSLEY: As we have no solicitor, who will draft the questions?

The PRESIDENT: We really have a solicitor till the end of this session, for Mr. Farrer will act till its close.

Mr. HORSLEY: Will it be possible to see the case before it is submitted to counsel?

The PRESIDENT. The resolution will be sent to Mr. Farrer to night. He will be asked to prepare the case and let us see it before it goes to Mr. Muir Mackenzie.

Prevention of Personation.

The adjourned consideration of the report submitted during last November session by the [illegible] of Personation was the next [illegible]

Dr. MACALISTER the Counc [illegible] mittee.

Mr. HORSLEY explained that as chairman of the committee that drew up the report he wished to recommend it to the Council. The report consisted of 24 pages, but the committee's recommendations were presented in a series of 14 short paragraphs, mostly embodying important considerations. Among the principal of these was the necessity of securing identification of an applicant for registration by means of his handwriting, a method which already had been adopted by the English Branch Council and by the Registrar General. Another chief consideration was connected with restoration to the Medical Register. Section 14 of the Act of 1858 had been practically disregarded, and the committee recommended that it should no longer be all [illegible] there was the question of [illegible] The committee felt that these [illegible] danger to the Registrar because [illegible] might come into the hands of pe [illegible] a practitioner, and the Council had already had before them the case of a person who was now undergoing penal servitude [illegible] and used [illegible] 3, &c. The [illegible] ation which [illegible] tion of the [illegible] Register.

The PRESIDENT asked if the committee had given consideration to memoranda on the subject which had been obtained by him from the Registrar of the Council and the Registrars of the Irish and Scottish Branch Councils.

[illegible] ot them, and [illegible] the Council. [illegible] ttee had not adopted certain of the points that were specially brought forward in these memoranda.

Mr. HORSLEY thought that the criticisms in them were destructive of the committee's idea in reference to identification by means of handwriting.

Mr. BROWN: I think we should have these criticisms.

Dr. MACALISTER moved that the memoranda be printed [illegible] d to. [illegible] y, and the Council resumed.

The Appointment of a Solicitor to the Council.

The PRESIDENT moved:— [illegible]

That it be remitted to the [illegible] question of the appointment of [illegible] to Mr. F. W. Farrer, and to re- [illegible] session

The PRESIDENT explained that the Executive Committee would be quite willing to receive from members of the Council the names of suitable candidates and further that they would take into consideration the suggestion of the Penal Cases Committee that the Council should have a solicitor whose duties would be confined to penal work in addition to the ordinary solicitor of the Council.

The Method of Appointing Representatives.

The REGISTRAR presented the following communication from the County of Durham Medical Union in regard to the method of appointment of the representatives of the licensing bodies on the General Medical Council:—

County of Durham Medical Union,
Secretaries' Offices,
32, John street, Sunderland, March 14th, 1900.

SIR,—We are directed to forward you the enclosed copies of resolutions passed by the County of Durham Medical Union at a general meeting held on the 24th January last, and shall feel obliged by your bringing same before your Council.

Yours truly,
GRAHAM AND SHEPHERD.

The Registrar of the General Medical Council.

[*Copy Resolutions.*]

[illegible] the med al profession [illegible] n the General Medical [illegible] all representatives from [illegible] the individual votes [illegible] and members of each [illegible] be forwarded to each [illegible] and to all medico-ethical societies, and to the General Medical Council, and to the Conference to be held in Manchester in May, and also the British Medical Association.

Dr. MACALISTER moved in accordance with the recommendation of the Executive Committee:— [illegible]

cannot be carried into effect without a change in the existing law.

Mr. HORSLEY took exception to the latter part of the motion, saying that the Executive Committee were not in a position to give a legal opinion upon the matter.

Dr. MACALISTER said there could be no question about an alteration in the law being required if the suggested change were to be carried out, but he had no objection to the latter portion of the motion being omitted.

Thus curtailed the motion was adopted by the Council.

The Proposed Conjoint Board in London.

There was received and entered in the minutes the following communication from the Apothecaries' Society of London arising out of a resolution passed by the General Medical Council on Nov 29th, 1899, as follows:—

That the Council, having regard to the fact that it is contrary to the interest of the public to have two competing examining boards sitting in London, strongly recommend the Royal College of Physicians of London, the College of Surgeons of England, and the Apothecaries' Society of London to combine for the purpose of holding qualified examinations conjointly

Society of Apothecaries of London,
Blackfriars, London, E.C., May 12th, 1900.

SIR,—I am directed to forward you a resolution of the Society of Apothecaries of London dealing with the resolution passed at the last session of the Medical Council strongly recommending a combination of the Royal Colleges and the society for the purpose of holding qualifying examinations.

I am, Sir, your most obedient servant,
JAMES RICHARD UPTON, Clerk to the Society.

Sir Wm. Turner, President of the Medical Council, &c.

"That the Society of Apothecaries of London while ready to consider the resolution passed by the Medical Council strongly recommending a combination between the Royal Colleges and the society for the purpose of holding qualifying examinations, feels that it cannot discuss the principle involved in such a recommendation without

having the terms and conditions of the proposed combination fully laid before it."

*** The Council of the Royal College of Surgeons of England has acknowledged the receipt of a letter from the Registrar communicating the resolution of the Council.

Appointment of

On the motion of Sir HUGH BARLOW, seconded by Dr. BRUCE, it was agreed:—

That Mr. A. Marmaduke Sheild, F.R.C.S., be appointed an assistant examiner in surgery to the Society of Apothecaries of London for a period of four years, vice Mr. Bilton Pollard who retires by rotation.

The Council then adjourned.

THURSDAY, MAY 24TH.

The Council met again to-day, Sir WILLIAM TURNER presiding. The business of the sitting was the consideration of penal cases, but before commencing this the Council, sitting *in camerâ*, resolved to restore to the Medical Register the name of George Ingersoll Curragh, who possesses the licence of the Society of Apothecaries of London. The proceedings of the Council will be reported in next week's issue of THE LANCET.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—In May the following candidates passed in the subjects indicated:—

Surgery.—W. P. Allen, Birmingham and London Hospital; R. H. Birtwell and H. Greenwood, London Hospital; J. E. Howroyd (Section II.), Leeds, C. Johnson (Section II.), Durham and London Hospital; J. Jones, Edinburgh and London Hospital, and J. H. Kellgren (Section I.), Cambridge and St. George's Hospital.

Medicine.—W. Archer, Leeds; A. St. J. Bateman (Section II.), King's College Hospital, R. H. Birtwell, London Hospital; R. Brookes (Section II.), Westminster Hospital; T. Burdekin, University College Hospital; P. J. Fitzgerald, Dublin; J. [illegible] II.), Leeds; F. S. Leech (Sections I. and II [illegible] Hospital; C. A. C. Salmon, Guy's Hospital; [illegible] S. Southam, Westminster [illegible] Birmingham.

Midwifery.—W. Archer, Leeds; R. H. Birtwell, London Hospital; M. A. Curry, Bombay; F. S. Leech, University College Hospital; C. A. C. Salmon, Guy's Hospital, C. V. Smith, University College Hospital, and S. Southam, Westminster Hospital.

Midwifery.—R. H. Birtwell, London Hospital; M. A. Curry, Bombay; R. N. de V. Dawson, St. Thomas's Hospital; P. J. Fitzgerald, Dublin, W. P. A. Hardwicke, Durham, F. A. Hort, Middlesex Hospital; J. Hunter, Toronto and Westminster Hospital, R. A. Jones, St. Mary's Hospital, J. H. Kellgren, Cambridge and St. George's Hospital, and S. Southam, Westminster Hospital.

The Diplomas of the Society was granted to the following candidates, entitling them to practise in Medicine, Surgery, and Midwifery. W. P. Allen, R. H. Birtwell, R. Brookes, H. Greenwood, J. E. Howroyd, J. Jones, F. S. Leech, C. A. C. Salmon, and S. Southam.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following gentlemen having passed the necessary examination have been admitted Licentiates in Dental Surgery of the College:—

A. L. Harrison, T. A. Rae, G. M. Sterling, and W. Wood.

UNIVERSITY OF BRUSSELS.—At the May Examination the following practitioners satisfied the examiners and obtained the M.D. degree:—

Kennett de Rabay Bell, Uppingham; Miss Cotineau, Madras; Geoffrey Stead, Walsall, Mrs. Coghill Hawkes, Claremont square, N.; Miss Chase, Madras; R. O. McGlod, Westminster Hospital; and D. W. L. Sautter, Finsbury-park, N.

PROGRESSIVE PLYMOUTH.—At the last meeting of the Plymouth Borough Council it was decided to add measles and whooping-cough to the list of diseases to be notified under the Infectious Diseases Act; it was further determined that phthisis should be made notifiable at the discretion of the medical practitioners.—At the meeting of the Plymouth Borough Council held on May 15th a tender was accepted for erecting sewerage works at a cost of £98,026.

BRISTOL PORT SANITARY DISTRICT.—The annual report of the medical officers of health (Dr. D. S. Davies and Mr. J. C. Heaven) of the Bristol Port Sanitary District for 1899 has just been issued. It shows that 1544 vessels were inspected in dock during the year and that the percentage of these found with sanitary defects was 14·4, as against 17·1 in 1897, the previous lowest record. Three notifications of suspected cases of plague were received from London, Southampton, and Cardiff respectively. Disinfection was carried out on five vessels from infected ports, especial efforts being made to exterminate the rats on board.

THE Swansea County Council has voted the sum of £50 towards the funds of the Swansea Hospital.

THE order for the muzzling of dogs has been rescinded in Brecknockshire, Carmarthenshire, and Glamorganshire.

CARDIFF SEAMEN'S HOSPITAL.—At a meeting of the committee held on May 14th under the presidency of Sir Thomas Morel it was stated that the subscriptions now received amounted to £26,520, including the sum of £10,000 promised by Lord Bute conditionally upon a total of £24,000 being raised.

VACCINATION EXPENDITURE.—At the meeting of the Warmley (Gloucestershire) Board of Guardians held on May 15th it was stated that the cost of vaccination for the first quarters of 1898 and 1899 was £48 and £42 respectively, whereas the expenditure for the corresponding quarter of 1900 amounted to £147.

ISOLATION HOSPITAL FOR STROUD.—At a special meeting of the Stroud (Gloucestershire) Urban District Council held on May 16th it was decided, owing to the outbreak of scarlet fever, to erect a temporary iron isolation hospital. This will provide accommodation for 12 patients and the cost, exclusive of laying the foundation, will be £300.

UNIVERSITY OF CAMBRIDGE.—The relief of Mafeking was celebrated by a strictly official bonfire, under the supervision of the Vice-Chancellor and the Mayor, on Midsummer Common, and by much unofficial jubilation among the students. On this occasion the "felonious" incidents of the Ladysmith celebration were happily absent.—The University of Sydney has been recognised as a medical school at which candidates for Cambridge degrees may pursue their professional studies.—Courses in histology, pathology, bacteriology, pharmacology and therapeutics, and other medical subjects will this year be given during the Long Vacation, beginning on July 6th.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Heinrich Bose, who had very recently retired from the chair of Surgery in the University of Giessen, aged 60 years.—Dr. Rudolf von Limbeck, Extraordinary Professor of Internal Medicine in Vienna and formerly Assistant in the Prague Medical Clinic. He made many researches on the blood in disease, and in addition to his professional labours undertook others of a political nature. He was 39 years of age.—Dr. Benjamin F. Leonard, formerly Professor of Gynæcology and Children's Diseases in the Baltimore Medical College.

PRESENTATIONS TO MEDICAL MEN.—At a meeting at Rhymney, South Wales, on May 9th, Mr. Kristnalal Datta, L.R.C.P. & S. Edin., was presented with an address, a gold watch, and a silver-mounted walking-stick as a mark of respect on the occasion of his appointment as senior medical officer to the Ferndale Colliery workmen.—At the last monthly meeting of the Bristol Bicycle and Tricycle Club, Mr. A. N. Heron, L.R.C.P. & S. Irel., the honorary secretary, was presented with a solid silver tea service on the occasion of his marriage.—At a numerously attended meeting of the inhabitants at the Assembly Rooms, Whitley, on May 15th, Mr. A. Duke, M.B. Edin., who, after a residence of five years, is leaving that town, was presented with a solid silver tea service and tray, a purse of gold, and an album containing an illuminated address and the names of the subscribers.—Mr. Meredith Young, M.D. Edin., D.P.H. Vict., of Crewe, has been the recipient of a clock from the officials of the Crewe Corporation, upon his leaving the town to take up the appointment of medical officer of health to the Corporation of Stockport.—Mr. Stephen Orson Lane, M.R.C.S. Eng., L.S.A., of Braunton, North Devon, has been presented by the residents of Braunton and surrounding parishes with a purse of 120 sovereigns accompanied by an illuminated address as a mark of respect and esteem upon his retirement from practice.—The members of the St. Austell (Cornwall) Branch of the St. John Ambulance Association have presented Mr. Charles William Saccombe, L.R.C.P. Lond., M.R.C.S. Eng., with a travelling bag as a token of appreciation for his services as honorary instructor of the class.

WHITSUNTIDE ON THE CONTINENT.—Cheap tickets av[illegible] &c., from [illegible] viâ Harwich [illegible] the evening [illegible] rest on board the steamer For visiting the Hague, Amsterdam, Utrecht, and other parts of Holland, the Rhine, North and South Germany, and Bâle for Switzerland, special facilities are [illegible] ay Company's Royal [illegible] through carriages bein[illegible]ogne and Bâle. Restaurant cars are run on the North and South German express trains. The General Steam Navigation Company's fast passenger steamers will leave Harwich on May 30th and June 2nd, returning on June 3rd and 6th.

ROYAL PORTSMOUTH HOSPITAL.—A festival dinner in a [illegible] was held in the banque[illegible]n Hall on May 17th. [illegible]wo points of view. The [illegible] abolish the Saturday street collection and in its stead to inaugurate a dinner, and also it was the first reunion of the kind in Portsmouth at which ladies had been present. The Right Rev. the Bishop of Winchester presided and was supported by the borough Member, Sir W. D. King, chairman, and the committee of management, the medical staff of the hospital, and many of the leading inhabitants of the town. The dinner proved most successful. Donations and new subscriptions (£200) amounting to £837 were received, whereas the system of street collection hitherto adopted amounted to about £500.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Irish Lunacy Laws.

THERE has been introduced into the House of Lords by the Lord Chancellor of Ireland a Bill for the amendment of the lunacy laws of that country.

Whipping for Youthful Offenders.

During the debate in the Hou[illegible] Bill, but when by the rules of the House the debate stood adjourned no decision had been arrived at.

HOUSE OF COMMONS.

THURSDAY, MAY 17TH.

Mr. [illegible] State for War whether, seeing that [illegible] tired officer who might be recalled to service was to be granted in aid of his outfit a sum not exceeding £100 and that by Royal warrant it was provided that army [illegible] replied: These officers are offered employment in ordinary course as acting medical officers in charge of stations at home, and cannot be regarded as being in a position analogous to that of officers recalled to service. They are therefore not entitled to outfit allowance.

Army Boots.

[illegible] tion of the Indian boots among the troops, and at the date of the last report the Indian boots had not been sufficiently tried to admit of a definite opinion upon their merits.

The Vaccination of Pupil Teachers.

FRIDAY, MAY 18TH.

Infectious Disease in the Quarrier Homes.

consideration, and if the steps they have recommended to the local authorities are carried out they will, in their opinion, effectually remove all cause for apprehension as to the spread of disease. As a matter of fact, no case of scarlet fever has occurred in the home since the last week of March.

MONDAY, MAY 21ST.

TUESDAY, MAY 22ND.

The Size of the Geneva Cross.

The Proposed Exemption of Hospitals from Local Rates.

Mr. M'Crae, Mr. [illegible] Tomlinson, Mr. Lawson Walton, Mr. Warr, and Sir James Woodhouse.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are requested to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

BRADBURY, P. F., L.R.C.P. Lond., M.R.C.S., has been appointed Certifying Surgeon under the Factory Acts for the Blackrell District, comprising the Civil Parishes of Warfield, Binfield, and East Hampstead, in East Hampstead Rural District.

"UNUSUAL LAPSE OF TIME BETWEEN TWO PREGNANCIES."

To the Editors of THE LANCET.

SIRS,—In reference to Mr. F. Pridham's case, mentioned in THE LANCET of May 12th, p. 1413, of unusual interval between two pregnancies (22 years), for which he claims a record, that this is not the case will be shown by the following. A patient of mine was delivered of a son on April 13th, 1875, and of a daughter on Oct. 28th, 1899, a lapse of 24½ years. She showed no sign of pregnancy during all those years. She was married to the same husband in both pregnancies, a fact not mentioned in Mr. Pridham's case.

I am, Sirs, yours faithfully,

JOHN POWER SHINE, M.B., B.Ch. R.U.I.

Barnsley, May 17th, 1900.

To the Editors of THE LANCET.

SIRS,—Perhaps you will permit me to correct a slight error in Dr. George Foy's letter which appears on p. 1481 of THE LANCET of May 19th. The son (myself) was 18 years old at the time of the girl's birth and was a lieutenant in a Highland regiment, not a captain.

I am, Sirs, yours faithfully,

May 19th, 1900. WHIM.

WORTH FRAMING.

MESSRS. FLETCHER, FLETCHER, AND CO., of Holloway road, London, N., the proprietors of "Vibrona," are offering reproductions in monochrome of famous pictures by celebrated painters at the reasonable price of half-a-crown each, post free, to any address within the United Kingdom or within any country in the postal union. We have received copies of the two pictures already issued—viz., "Cranmer at Traitors' Gate" and "The Fighting Temeraire," Turner's masterpiece. Both are excellent reproductions, on plate paper (20 inches by 25 inches), and well worth framing. Although, presumably, issued as an advertisement of "Vibrona" this feature has commendably been ignored so far as the pictures themselves are concerned, only an inconspicuous word or two appearing on the reproductions to stamp them as being the outcome of commercial enterprise.

SANATORIA FOR PHTHISICAL PATIENTS.

To the Editors of THE LANCET.

SIRS,—Would one of your readers suggest a hospital or home for the treatment of phthisis, open-air or otherwise, within the means of a domestic servant? Treatment at present would probably save her life, but she will inevitably go to the bad like her sister, recently deceased, unless taken in hand at once.

I am, Sirs, yours faithfully,

May 21st, 1900. ENQUIRER.

*** We are afraid that no institution of the kind exists. A domestic servant's means when out of a situation are, as a rule, *nil*. So far as we know the lowest sum charged is two guineas per week. But possibly some of our readers may be able to help our correspondent. —ED. L.

THE LITERATURE OF BALNEOLOGY.

To the Editors of THE LANCET.

SIRS,—I shall be much obliged if any of your readers can give me the titles of the most modern works on balneology with the names of the publishers and price. I do not want a very expensive book, but rather a clear and concise technical work as a therapeutical guide.

I am, Sirs, yours faithfully,

May 13th, 1900 J. H.

*** The most complete work on the subject is "The Mineral Waters and Health Resorts of Europe," by Sir H. Weber and Dr. Parkes Weber, second edition, 1893, London, Smith, Elder, and Co.; but there are many books dealing with treatment at different springs and health resorts. Possibly the article on Hydro-therapeutics in vol. I. of "Allbutt's System of Medicine" would help our correspondent.

A QUERY.

To the Editors of THE LANCET.

SIRS,—Could you kindly recommend a small book on stammering and stuttering suitable to be given to parents of a child afflicted (aged about three years) to enable them partially to train the child at home?

I am, Sirs, yours faithfully,

May 22nd, 1900. A. B.

*** Our correspondent might find the information which he requires in a small book called "Stammering: its Nature and Treatment," by Emil Behnke, published at 18, Earl's Court square, London, S.W., price 1s.—ED. L.

"ACETYLENE LAMPS FOR BICYCLES."

To the Editors of THE LANCET.

SIRS,—Will you allow us to point out that the remarks in THE LANCET of May 19th upon acetylene are liable to be understood as referring not merely to bicycle lamps but to acetylene apparatus in general. Your criticisms upon self-contained lamps—i.e., lamps of which the generating chamber forms a part—are undoubtedly well founded, but they do not apply to proper systems as adopted for house and general lighting. We have put down installations in numerous villages and also some hundreds of [illegible] and your statement that you have not yet [illegible] which adapts this light satisfactorily on [illegible] is calculated to prejudice a rapidly increasing industry. We are glad to know that those who, for two or more years, have been using this gas as a general illuminant say just the reverse, and we should be only too glad to have the opportunity of demonstrating practically to you the efficiency of the system adopted for the generation and purification of the gas.

We are, Sirs, yours faithfully,

For THORN AND HODDLE ACETYLENE CO., LTD.,

Westminster, May 21st, 1900. J. F. PEASGOOD.

*** We know of instances where such installations as above described have broken down or have proved unsatisfactory and have been finally abandoned. Two sources of trouble appear to be the choking of the burners and the blackening effect of the acetylene light upon ceilings and other surfaces.—ED. L.

"THE CASE OF THE LATE MR. ALFRED BOURNE"

To the Editors of THE LANCET.

SIRS,—Will you be good enough to acknowledge the following subscriptions which we have received in response to the appeal kindly published by you in THE LANCET of May 19th, p. 1467, on behalf of the widow and children of the late Mr. A. Bourne, surgeon, of Osmotherly.

We are, Sirs, yours faithfully,

J. A. HUTCHINSON.
WM. BAIGENT.

Zetland House, Northallerton, May 21st, 1900.

	£.	s.	d.
Sir Thomas Smith, Bart.	5	0	0
Dr. George Murray (Newcastle).	2	2	0
Mr. Hughes R. Davies (Bow-road, E.)		10	6
Dr. W. Baigent (Northallerton)	2	2	0
Dr. J. A. Hutchinson, (Northallerton)	2	2	0
[illegible]		2	0
[illegible]		0	0
[illegible]		2	0
[illegible]		2	0
[illegible]		0	0
Mr. H. A. Wilford (Brompton)	2	0	0
Mr. J. P. Yeoman (Brompton)	2	0	0
Mr. J. S. Yeoman (Darlington)	2	0	0
Mr. E. Gardner (Northallerton)	1	1	0
Mr. and Mrs. Charlton (Northallerton)	1	1	0
Mr. C. Tweedy (Northallerton)	1	1	0
Mr. J. Merryweather (Welbury)		10	0
Mr. W. Dobson (Osmotherley)		10	0
Mrs. Clark (Greenhills)		10	0

THE TENTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

IN the article upon this Congress from our Special Correspondent which appeared in THE LANCET of May 19th (p. 1462). Professor W. H. Corfield was inadvertently described as the secretary of the British Committee. Professor Corfield is the chairman, the hon. secretary being Dr. P. F. Moline.

M.B. Edin.—1. We think only one fee can be charged. 2. The position is a hard one. It is clear that a fee of £2 2s. was owing in the matter of the woman alone, and that the same fee was due in regard to the man. The £1 1s. for giving medical evidence in the man's case could be recovered in a court of law; but a legal claim for the £1 1s. due for making the second post-mortem examination might be resisted on the ground that only verbal instructions from a policeman were received by the medical man. We should like to know the name of the coroner in this case.

Dr. F. G. Haworth.—Apart altogether from the question of the quantity of water added the conclusions, it is obvious, may be based on the percentage of albumin, peptone, &c., in the dried solid matters of each preparation. For the purpose of arriving at the relative nutrient value we think this is the most satisfactory way of making a comparison, and the one we adopt. It may be remarked that beef-tea by its mode of preparation cannot contain any appreciable amount of albumin and peptone compared with the amounts contained in special preparations.

Mr. G. Gresswell.—We do not think that any general hospital would take such a case, but our correspondent might apply to the National Hospital for the Paralysed and Epileptic, Queen-square, London, W.C., an institution which assists incurable cases. He might also try the Meath Home, Godalming, or the National Society for the Employment of Epileptics, 12, Buckingham-street, Strand, W.C.

P. X.—Our correspondent is advised to consult his usual medical attendant.

During the week marked copies of the following newspapers have been received: *Surrey Comet, Westminster Budget, Scarborough Leader, Elgin Courant, Newcastle Daily Chronicle, Folkestone Express, Daily Messenger (Paris), Kentish Observer, Englishman (Calcutta), Blackburn Daily Telegraph, Norfolk Daily Standard, Daily Express (London), Herne Bay Argus, Western Mail (Cardiff), Hastings Times, East Anglian Daily Times, Liverpool Daily Post, Sheffield Daily Telegraph, Leeds Mercury, Times of India, Gazette (Middlesbrough), Pioneer Mail, Herald (Barrow-in-Furness), Birmingham Daily Post, Dundee Advertiser, Cleckheaton Advertiser, Bradford Observer, Yorkshire Post, Citizen, Architect, Builder, Scotsman, Bristol Mercury, Coventry Advertiser, Aberystwyth Observer, Cheltenham Examiner, Melbourne Age (N.S.W.), Hove Echo*

Boston Independent, Westmor- . Local Government, Chronicle, . m Chronicle, Glamorgan Free . Essex and Halstead Times, Midlothian Journal, Torquay Times, Liverpool Journal of Commerce, Surrey Advertiser, Local Government Journal, Haverhill Echo, Glossop Times, Hereford Times, &c., &c.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 24th, 1900.

Medical Diary for the ensuing Week.

OPERATIONS.

METROP

MC

London (2 30 P.M.), London

St George's (Ophthalmi 2 P M), Samaritan (2 30 P M.), Gt. Northern Central (2 30 P.M.), West- (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P M)

THURSDAY (31st).— Bartholomew's (1 30 P M), St Thomas's (3 30 P M) Univer George's (1 P.M.), (1.30 P.M.), St. Mary London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.),

A (10 Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (29th).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.)—8 P M. Cases and Specimens will be shown by Dr M Fletcher, Dr. M. Fletcher and Mr Waring, Dr. Smith, Dr Holleston, Dr. Cautley, Mr. Edmunds, Dr. Saunders, Mr Shattock, Dr. Fawcett, and Dr Hale White 9 30 P.M Annual General Meeting for Election of Officers, Report of

WE

of India as Health Resorts

FRIDAY (1st).—WEST LONDON (West London Hospital, Hammersmith Road)—Specimens and Cases—Mr showing the Bacilli—Mr. Abscess—Mr Bidwell Medical Cases—Dr. Meddam' Ecclesi Cases Skin Ball and Dr. Abraham: A Case of and Mucous Membrane.

LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover square, W.)—5 P.M. Cases and Specimens will be shown by Mr Hotlin, Mr. Lake, Mr. W. Dowsle, Mr. Lack, Mr Parker, Mr. Steward, and Mr. Wagstaff.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (28th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.)—4 P.M. Mr. M. Morris: Consultation. (Skin.)

TI

AND POLYCLINIC Consultation.

(Surgical.)

CHARING-CROSS HOSPITAL.—4 P M. Mr. Waterhouse: Surgical Cases. (Post-graduate Course.)

W.)—5 P.M. Dr. J B. Ball: Throat and Ear Cases.

FRIDAY (1st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.)—4 P.M. Mr. H. Tilley: Consultation. (Throat.)

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUISTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE, OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTI-

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marked and addressed

Letters relating to the publication, sale, and advertising de- T. should be addressed "To the

MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

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Communications, Letters, &c., have been received from—

A.—Dr. G Ashton, Manchester; Messrs. Armour and Co., Lond.; Mr. K. S. Advani, Hyderabad, India; A. B, Lond.; Association for Supply of Pure Vaccine Lymph, Lond.; Association of British Postal Medical Officers, Hon. Secretary of; Dr G. M. Arkle, Liverpool; Mr C. E. Abbott, Cheltenham; Dr. D. H. Anderson, Barrow-in-Furness; A. B., Lond.

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Two Clinical Lectures

ON

THE USE OF MASSAGE IN RECENT FRACTURES AND OTHER COMMON INJURIES.

Delivered at St. George's Hospital on Jan. 30th and Feb. 27th, 1900,

BY WILLIAM H. BENNETT, F.R.C.S. ENG.,

SURGEON TO ST. GEORGE'S HOSPITAL, MEMBER OF THE COURT OF EXAMINERS, ROYAL COLLEGE OF SURGEONS OF ENGLAND, ETC.

LECTURE I.

Delivered on Jan. 30th.

GENTLEMEN,—It is now more than two years ago since I called attention to the use of massage in recent fractures,[1] a treatment which had previously received too little attention in this country. After having had some experience of it I then came to the conclusion that, rationally practised, this treatment was probably the best method which could be used in ordinary fractures, both simple and compound, when the circumstances of the practitioner and of the patient permitted its adoption. The result of that communication was, I believe, a considerable increase in the use of the method. It has been employed freely in St. George's Hospital with excellent results. Latterly, however, there has been some falling off in its use—not because there is anything wrong in the principle of the method or with its results, but because it is at times difficult to keep the necessary number of dressers, who of course are constantly changing, sufficiently instructed in the details to enable it to be safely carried out. I have, therefore, thought that it might be useful to devote some attention to a practical description of the way in which the treatment should be applied.

I do not propose to confine my remarks altogether to massage in fracture, as I think it will be useful to deal generally with the subject of the legitimate use of rational massage in common surgical injuries. In other words, I shall try to say something useful about the treatment of recent fractures, of dislocations, and of sprains and bruises by the same means. It is possible that I may be able to say something about the treatment of each of these varieties of injury—at all events, I hope the time spent in considering the matter will not be entirely wasted.

THE TREATMENT OF RECENT FRACTURES BY MASSAGE.

Most of you know that the real difficulties and disappointments in cases of fracture, supposing they are treated in the ordinary way, often commence after the union has taken place and the patient begins to think of getting about. There are, of course, initial difficulties in connexion with the "setting" of the bones and in the subsequent keeping of the fragments properly in place, but these, as a rule, cause no great trouble provided they are intelligently met. The difficulties in the later stages are mainly pain and stiffness, which frequently require a long and trying course of massage and passive movement before the patient is able to get about with comfort or to follow his occupation and which sometimes lead to permanent crippling. In the case, for example, of a fracture of the leg treated in the ordinary way by having been placed in splints or in plaster-of-Paris, or by some other contrivance of that kind, for a long period, say from six to eight weeks, you will find that when the splint, of whatever kind it may be, is taken off and the patient begins to walk about or tries to walk about, complaint is frequently made of intolerable pain about the ankle and sometimes across the sole of the foot. The ankle is quite stiff, the knee may also be stiff, and the muscles are wasted so that the leg may be little more than bone and skin. Supposing, however, that the case has been treated rationally by massage from the beginning, you will find that the patient is afflicted with none of these troubles, the ankle is not stiff, there is no pain such as I have mentioned, and the muscles are not wasted, because in the massage treatment they are developed; in fact, when the patient begins to get about the ankle is free and supple and the muscles are practically in the same condition as those of the sound limb. These are obvious and great advantages. The reasons of the discomfort which patients suffer when the treatment has been conducted upon classical lines are easily explained. The stiffness is due to the fact that in consequence of the limb having been placed in an immovable splint for a long period the joint included in the splints becomes, as a matter of course, stiff. If, for example, a perfectly healthy ankle-joint were put into a plaster-of-Paris splint for six weeks or two months it would be found upon the removal of the splint that the joint had become stiff and that natural mobility could only be obtained at the expense of pain and great discomfort. In fracture the stiffness is of course infinitely increased by the adhesions of the soft parts around the seat of the lesion.

A noteworthy pain in fracture of the leg is that which shoots downwards from the seat of the fracture along the back of the leg to the inner malleolus and thence into the sole of the foot. This pain is sometimes most acute and at times leads to permanent crippling; it is due to neuritis produced by the parts about the fracture on the posterior aspect becoming matted at the level of the injury; this matting sometimes involves the posterior tibial nerve and so gives rise to the neuritis. This condition is no imaginary come, any free movement of the foot causes a dragging upon the adherent nerve so that an intense neuralgic pain is caused. So acute is this pain in some cases that it prevents the patient proceeding further with attempts to get better movement. People are therefore sometimes seen walking with stiff ankles after fractures of the leg which have been treated by persistent splinting, not because the stiffness cannot be overcome but because the pain on movement of the ankle is so great that they are unable to bear the necessary manipulation. All this trouble is preventable by the use of intelligent massage in the early stages of fracture In the early stage of fractures the main difficulty is, of course, as I said just now, connected with the setting of the bones, the difficulties arising in this respect being mainly three. One is the ordinary nervousness of the patient, which, of course, can only be overcome by tactful management or by the administration of an anæsthetic; the second is connected with the direction or other peculiarity of the fracture; and the third difficulty arises from muscular spasm, the result, no doubt, either of irritation of the muscles by sharp edges of bone or of direct laceration of the muscles themselves which in consequence become hyper-sensitive and excitable. I know of nothing more difficult to relieve under ordinary circumstances that the muscular spasm which comes on after the injury in some cases of fracture. Not only is it painful to the patient, but the constant muscular contractions frequently render the retention of the fragments in proper position almost impossible.

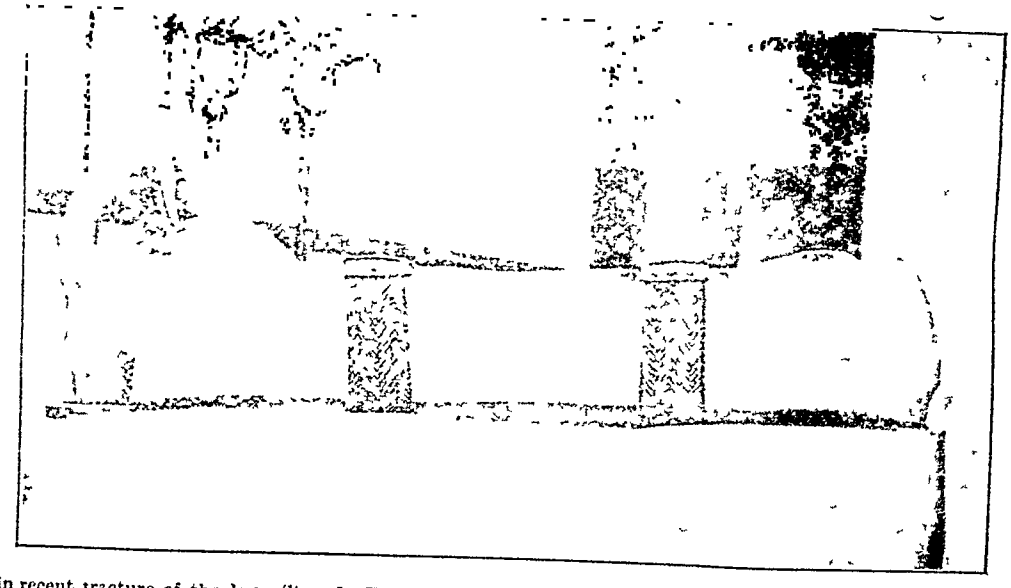
In the old times—and with some people it is even the custom now—it was sought to overcome this spasm by tenotomy, and since it is more commonly met with in the muscles of the calf than elsewhere, division of the tendo-Achillis was the operation most frequently performed for this purpose, because it was thought that division of the tendon would for the time being paralyze the gastrocnemius and soleus and would permit of the proper adjustment and retention in position of the fragments which could not be otherwise accomplished. It is not unusual after the reduction of a fracture with or without the aid of an anæsthetic—we will, for example, take the case of the leg—to find when the patient recovers consciousness that uncontrollable spasm occurs; the pain is acute, the muscular contraction is inevitable, and if the fracture is at all oblique the displacement recurs. Spasm of this kind is more efficiently controlled by massage than by any other plan, excepting perhaps prolonged anæsthesia by ether or narcotism by opium, alternatives which are obviously undesirable in a general way.

Assuming that massage in these cases of recent fracture is right—as I have no doubt it is—the next point for our consideration is the method of its application. There are, probably, three stages in the process and each of these stages

[1] THE LANCET, Feb. 5th, 1898, p. 353.

effects certain purposes. Naturally, the first thing in every fracture is to "set" the broken bones, by which I mean placing them in their proper positions. Nothing short of accurate replacement of the fragments in their proper positions should be regarded as a satisfactory "setting." The primary point, therefore, to be borne in mind in every case of fracture is that too much trouble cannot be taken in the first instance in getting the bones into position. With regard to the plan of fixing fractured bones in position by the use of screws, nails, pegs, wire, &c., I propose to say nothing here. The method may be under certain conditions a good one, but it obviously cannot be freely adopted by the ordinary practitioner, although it may produce excellent results in the practice of some of us.

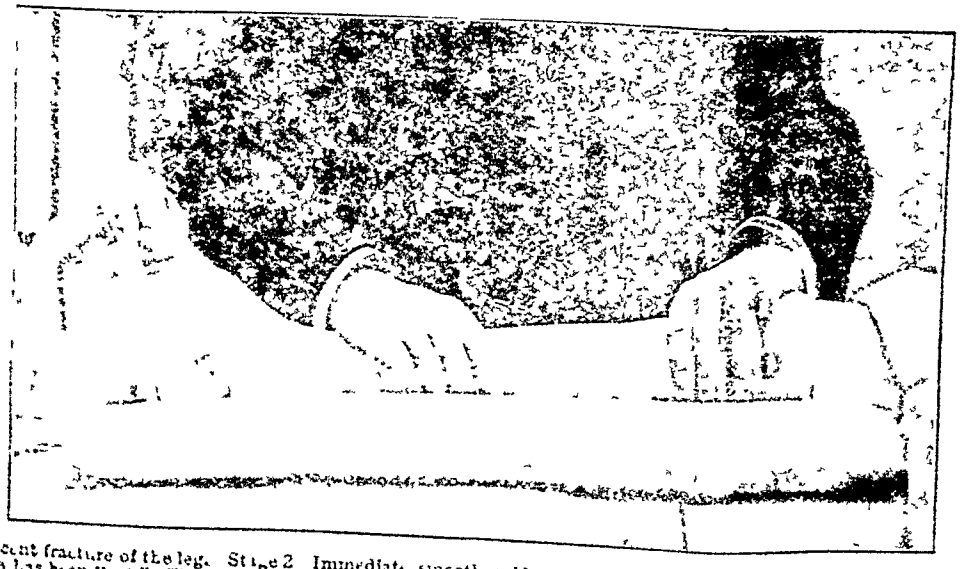
FIG. 1.



Massage in recent fracture of the leg. Stage 1. The fracture set.—The limb is secured on a back splint, with a slightly oblique foot piece, by bandages at the ankle and knee. Side splints fixed by webbings or straps complete the fixation of the fracture.

Returning from this digression to the method of applying massage, let us suppose that this man before you has a broken leg, somewhere below its middle. He has come at once to the hospital and the fracture has been what is commonly called "set"—and as he has come here we will suppose it has been properly set. There is a good deal of swelling about the fracture; there is also a certain amount of muscular spasm. He complains so much of the spasm that unless something is done he can hardly lie quiet and certainly cannot sleep or feel comfortable. The ordinary method under such circumstances is to give a hypodermic injection of morphia, or, if the bones are not in precise apposition, to give an anæsthetic if that has not already been done. You will, however, find that unless the bones are grossly out of place—in which case you must at once rectify the defect—gentle massage over the fracture, merely a smooth upward movement of the hand which grasps as much of the circumference of the limb as possible, will in a very few minutes, in the majority of cases, practically relieve all spasm. You will sometimes find people who are suffering from spasm to such an extent that they are crying out with the pain and who are certainly unable to get any peaceful rest, after a few smooth passages of the hand over the damaged part settle down comfortably; in some cases they will actually fall asleep while the rubbing is proceeding. This movement, however, must be done in the right way—

FIG. 2.



Massage in recent fracture of the leg. Stage 2. Immediate smooth rubbing.—Commence at any time, the sooner the better after the fracture has been "set." The straps fixing the side splints are unfastened and the splints are allowed to fall away from the limb. The knee is then steadied by one hand of the manipulator whilst smooth gentle rubbing from the foot upwards is effected by the other hand, which is made to grasp as much of the circumference of the limb as possible. The time required is from five to 10 minutes. The objects are the relief of muscular spasm and rapid absorption of effused blood, &c. At the end of this stage the side-splints are replaced, leaving the parts in the condition shown in Fig. 1.

that is to say, with the flat of the palm of the hand grasping the limb very smoothly and uniformly in the way I show you (vide Fig 2). You need not be in the least afraid of smoothing the limb over the fracture if you do it properly. Patients do not resent the pressure at all—in fact, they rather like it, as some of you know already from what you have seen in my practice. The first object, then, that massage effects in these cases is the relief of the pain due to spasm should it be present. The same smooth movement that I am now applying very gently over the swollen parts immediately about the fracture will also bring about absorption of the effused blood with extreme rapidity, so long as the rubbing is smoothly and carefully carried out The splints used for the treatment of the fracture, you will note, consist of a back-splint with an oblique foot-piece and two straight side-splints, the latter secured by straps so that they are easily loosened (vide Fig 1)

Immediate muscular spasm having been allayed in the manner indicated the side splints at the end of two or three days are loosened and the limb is left exposed on the back-splint as this man's is (vide Fig. 2), and every day the massage is employed, at first mainly to get rid of the effused blood round about the fracture At the end of the third day, again, after practising this smooth massage for ten minutes, passive movement of the muscles and tendons at the back of the ankle and in the calf should commence. In order to effect this you begin very gently by moving the toes only. The foot is still bandaged and the splint remains in the way you see here. The hand is insinuated under the toes in the way I am doing (vide Fig. 3) and dorsal flexion of the toes *en bloc* is made (vide Fig 4). Every time the toes are bent in that way the flexor tendons are pulled upon and so a little movement is produced The little movement thus produced in the calf accomplishes the beginning of what is called "internal massage," by which I mean that there is a little rubbing movement up and down of the deep muscles in the calf of the leg This movement not only stimulates the circulation but it makes sufficient movement to prevent immediate adhesions from forming about the fracture which would otherwise occur. The first passive movement then affects the toes; this is begun on the third day and

FIG. 3.

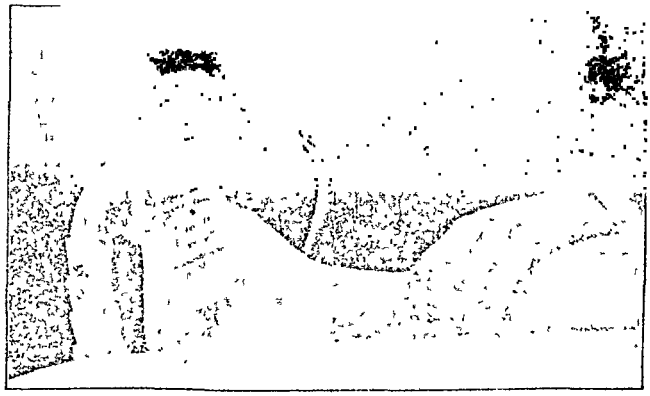


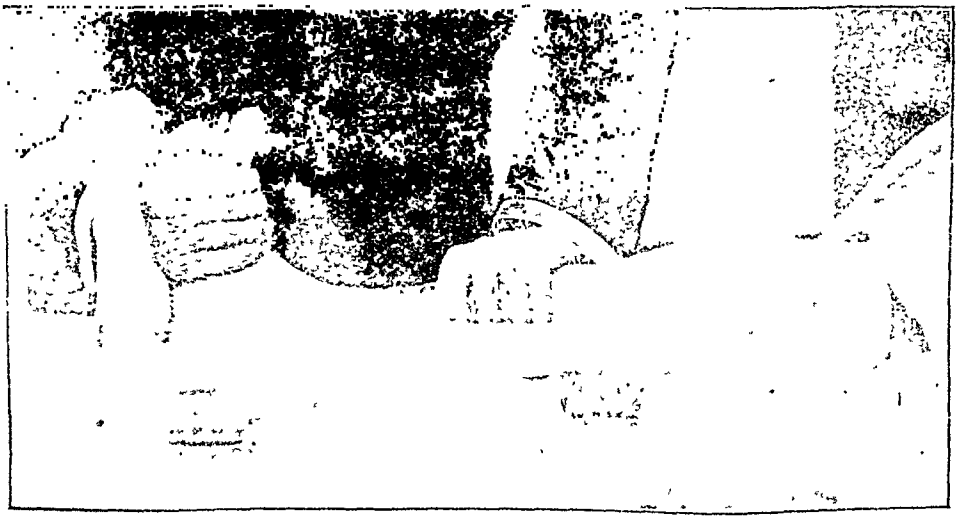
FIG. 4.

Massage in recent fracture of the leg Stage 3 Commencement of internal massage.—[illegible] the manipulator is insinuated between the toes of the affecte[illegible] he flexor tendons at [illegible] tuted at discretion. At the end of this stage the side-splints are replaced as in Fig 1.

continued for two days—say, until the fifth day. If all goes well passive movement of the ankle may be commenced from the fifth to the seventh day. For this purpose the limb is allowed to lie quite comfortably, as it will do now, on the back-splint, the side-splints having been removed and the bandage around the ankle taken off, the bandage above the knee remaining undisturbed (vide Fig. 5). The foot is now firmly grasped with one hand and freely moved at the ankle-joint, the fracture being at the same time steadied with the opposite hand. After a few days the patient may be allowed to make voluntary movements of the ankle as it lies on the splint, the fracture being steadied by the surgeon's hand. Having arrived at this stage of the affair all fear of any adhesion about the ankle-joint or the parts behind the fracture ceases. It may happen in exceptional cases that the patient is so over-sensitive or the damage to the soft parts so extensive that the plan cannot be carried out with safety, but if employed with intelligence you will rarely find any case in which it cannot be profitably used. For the passive movements from three to five minutes at each sitting is sufficient. This is always preceded by a quarter of an hour's smooth rubbing by which the patient is generally made most comfortable. These processes are repeated day by day, extending at the end of the first fortnight to as much as half an hour for each sitting. At the end of a fortnight—a little more or less, according to the state of union—attention must be given to the joint above the fractured point. The joint below the fractured point is naturally the most important, because it is that which is most interfered with if adhesions form. At the end, then, of a fortnight or less, after having done what is necessary for the leg, the knee is subjected to passive movement. In bending the knee great care must be exercised, because the fracture being only a fortnight old, or a little more, is not in a condition of anything like firm union. The bending of the knee may be carried out in one of two ways. It may be done (1) by simply taking the leg, as you have often seen me do, with one palm under the limb just above the heel and the other grasping it under the thigh in the way shown in Fig. 6, and then lifting the knee from the splint. By degrees, as the case goes on, the knee may be raised more and more until at the end of three weeks it is bent up to a right angle. During the whole of these manipulations it must be constantly borne in mind that a recently broken limb is being dealt with. Although that is the plan I adopt in managing these fractures my-self in private or when my masseuse is managing them for me, it is safer for hospital purposes at this stage, after the massage for the foot and leg has been finished, (2) to put on a pair of short side-splints, retained in position with straps or webbings, and then bend the knee and ankle in the way I show you (vide Fig. 6). This brings the treatment up to about the end of the third week after the receipt of the injury, and by this time in the majority of cases treated on this plan the fracture is nearly sound—not sound enough for walking but sound enough for the patient to be left without any splint. The patient can lie in bed if so disposed, or if the patient be a private one and prefers to be getting up and sitting on a couch or chair he may do so after having been provided with a case of poro-plastic or leather to be worn around the calf over the seat of fracture, as a kind of protection. At the end of three weeks you will find that complete ordinary muscle massage may be thoroughly carried out, in order to develop the muscles throughout the whole of the limb.

Such is the way in which any ordinary case of fracture of the leg may be treated by massage. The nearer the fracture is to a joint the more important is it that this massage should be carried out, for the simple reason that the nearer the fracture is to a joint the more likely is it that there will be subsequent pain and stiffness. Please understand that the use of massage and passive movement in these cases in no respect lessens the necessity for the point of primary importance in all fractures—i.e., placing the fragments at the outset in accurate position.

FIG 5.



Massage in recent fracture of the leg. Stage 4: Increase of internal massage.—After the usual preliminary smooth massage the bandage fixing the ankle is removed, leaving the limb secured above by the bandage at the knee and at the seat of fracture by the grasp of one hand of the manipulator. The other hand is insinuated between the sole and the foot-piece of the splint and firmly but gently grasps the foot and makes passive flexion at the ankle as freely as possible five or six times without moving the fractured bones. The date of commencement of this stage may be any time after the fourth day but may in difficult cases have to be postponed as late as the eighth or even the tenth day. The object is movement of the ankle-joint and muscles at the back of the leg and the calf to prevent adhesions, especially at the posterior aspect of the fracture. At the end of this stage the splints are replaced as in Fig. 1.

Pott's fracture is always a difficult fracture, as you know, not only on account of the difficulty which often arises in the "setting" of it, but because of the matting of parts which is liable to take place afterwards. Once the bones are in good position in that fracture you need have no hesitation in beginning passive movement in two or three days after the injury at the latest, and the smooth massage may be commenced directly after the accident with great advantage. Because Pott's fracture happens to involve the joint there is no reason why passive movement should not be used immediately. Indeed, this is a strong reason for its adoption, for it is only by so doing that the avoidance of adhesion and stiffness can be with certainty accomplished (vide Fig. 7). I have described the case of a fracture of the leg because it is one of the most easy to manage. When managed on the lines I have described it will be found, if the practitioner will devote the time and the patient has the patience, that a better result will follow in fractures treated in this way than by any other plan, and that in the end the time which is occupied in the recovery of the patient is little more than half of that which follows the treatment by splints in the ordinary manner.

There is one fracture in which the effect of massage from the beginning is most remarkable—viz., intra-capsular fracture of the neck of the thigh-bone. So far as massage

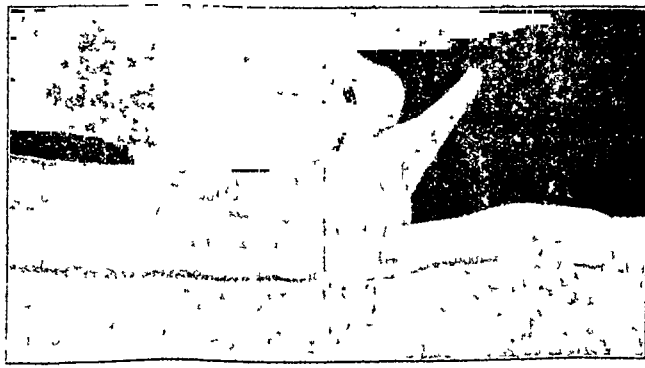
of the part is concerned in a fracture of that kind it cannot be commenced too early If it is started a few minutes after the injury it is not too soon In such cases, as you well know, the pain is sometimes very acute, and the spasm is often almost continuous, the patient complaining bitterly of the jumping of the limb and the intense discomfort caused by the spasm. The suffering resulting from the spasm can be removed very rapidly by smooth rubbing of the sort I have described. In such a fracture you need not trouble about adjustment of the fragments Bony union you know will not occur and, failing that, the indication is to obtain as useful a limb as may be The object in view should be to get a moveable and painless limb with the muscles as strong as possible No splints should be used

FIG. 6.

Massage in recent fracture of the leg showing the amount of voluntary movement at the ankle in a severe case of Pott's fracture two weeks and three days after the injury. When the patient was admitted, immediately after the accident, the foot was displaced completely outward, the transverse horizontal plane of the sole being vertical. The use of all splints was discontinued in the third week.

Splints in such cases tend to the production of bed sores and promote the wasting of muscles They do no good and they render the patient most uncomfortable. Therefore let these cases be treated by smooth rubbing at once and passive movement in 24 hours. A masseuse, or any person with a moderately soft hand, can give more comfort in a case of this kind than all the drugs and anæsthetics in the pharmacopœia In a day or two let passive movement be commenced Have no anxiety about the union, your main objects [illegible] upon the [illegible] most part [illegible] this kind is wasting of the muscles, which can be obviated by intelligent massage. This then, is the treatment under ordinary circumstances which I strongly commend to your notice in such cases The use of a splint should be altogether avoided, smooth massage should be commenced at once, passive movement should follow quickly, flexion and extension should be effected by lifting the knee from the bed in the way I show you, and rotation movements should be the last to be practised For the first three or four days let passive flexion and extension be done as often as the patient can do it; no pain occurs if the limb has been previously rubbed smoothly and gently. In a week or two rotation may be used. Under no circumstances should any passive movement whatever be employed until the neighbourhood of the

FIG 7



ury has been subjected to a good smooth rubbing. You may use liniments or not, as you please, but it is the rubbing which does the good.

There [illegible] the whole body which are followed [illegible] ose, by a certain amount of defective [illegible] fracture, the result almost entirely [illegible] parts. Sometimes it is said that the defects which follow in Colles's fractures are entirely due to the alteration in the relations of the bones produced by the injury. In certain of the cases the bones are without doubt altered in their relations to one another but the cause of the want of movement does not, as a rule, lie with the altered bone relations. The cause of the want of proper movement is practically always adhesions and nothing more, and if these cases are treated intelligently by massage from the first there need be no fear of defective power of movement. The method I use in such cases is as follows:—The fracture having been "set" the forearm is placed upon one of the many kinds of splints which have been devised for this fracture—Carr's splints being, I think, on the whole the best; but the kind of splint is immaterial so long as the anterior splint is placed well behind the bases of the fingers. Before the back-splint is applied gentle smooth rubbing should be used, the patient being immediately told to flex and extend the fingers as much as possible and as often as possible. The back-splint should from the first be removed daily for smooth rubbing. In two or three days a little gentle backward passive movement at the wrist should be made whilst the part lies exposed on the anterior splint after the smooth rubbing. In from four to six days after the injury the part should be gently lifted off the splint after the usual smooth rubbing and held by the manipulator with one hand firmly grasping the fracture area whilst the other hand flexes and extends the wrist a few times in succession. This is repeated daily, the amount of movement increasing gradually as time goes on. In a fortnight the patient may be allowed to make the movements freely of his own accord after he has been provided with a poroplastic or leather splint for the wrist which is easily removed and replaced. Ordinary complete massage is at the same time commenced daily. At the end of three weeks all splints may be discarded, the arm being carried in a sling for another week only.

Again, let me impress upon you the fact th[illegible] important practical point to be borne in mind [illegible] with passive movement in all cases of recent fracture is this: *passive movement should always be preceded by smooth massage which soothes the irritable muscles so completely that movements of the most complete kind are readily carried out without exciting muscular contraction of a harmful kind.* If, on the other hand, passive movement is abruptly attempted without preparing the muscles by previous smooth rubbing violent muscular action generally occurs which is not only painful to the patient but tends to throw the fractured bones out of place. There is, I am sure, no axiom in surgery which is more sound than is this: In all cases in which passive movement is practised smooth muscle massage should precede the movement.

Another set of fractures which can be treated by this method with a result which, speaking generally, surpasses that of any other plan are those occurring in the immediate neighbourhood of the shoulder-joint. The difficulties under ordinary circumstances of dealing with such fractures are too well known to require comment. I am now referring to fractures of the extreme upper end of the humerus and of the scapula close to, or involving, the shoulder-joint. It is a matter, I suppose, of common knowledge that such fractures are followed much more frequently than some people suppose by stiffness of the shoulder-joint. It is, in fact, not uncommon to find upon examining a patient at a long interval after a fracture of this sort that the shoulder-joint is quite fixed, although the patient may be ignorant of the fact. Many patients who have sustained an injury of the kind I am now discussing complain continually of acute pain in attempting to raise the arm to a right angle from the body. In the case of the majority of patients who complain in this way an examination will show that the scapula in the movement mentioned moves with the humerus and that movement in the shoulder-joint is practically *nil*. In fact, a considerable proportion of people who have sustained this kind of injury, especially if the lesion has been treated by means of continuous splinting or fixed apparatus, never regain free movement in the joint. The method that I use, because it has given me the best results in all these fractures about the shoulder in the immediate vicinity of the joint, whether the lesion is of the humerus or of the scapula, is to commence smooth rubbing in the ordinary way *at once*. From the beginning of the case I use passive movement very gently indeed. One hand is placed on the shoulder, gripping the part as a whole. This fixes the shoulder girdle. To-and-fro movements of the arm are then gently made, especial care being taken to avoid rotation. If rotation is made movements between the fragments are liable to follow freely, and so union may be delayed or prevented. You need have no fear of harm coming from antero-posterior movement. At the end of three or four days gentle abduction from the side of the trunk is commenced; at the end of a fortnight circumduction may be gently carried out. Rotation should not be attempted for at least a fortnight, after which rotatory movement should be daily made. For these fractures near the joint I do not use splints, excepting a protective shoulder-cap of leather or poroplastic felt retained in position by straps so that it can readily be removed for the daily massage, nor do I use pads in the axilla. The arm is merely allowed to rest in a sling. By this method the treatment of cases of fracture close to the shoulder-joint may be completed in a fortnight or at the most three weeks, and I have never seen such good results attained in so short a time by any other plan. If in such cases the parts are confined in splints for long periods a stiff shoulder-joint follows, as I have already said, much more commonly than is generally supposed—a statement which can easily be verified by the examination of cases so treated at long periods (say nine months or one year) after the injuries.

It would obviously be impossible within the limits of lectures like these to give the details of the treatment of each kind of fracture, but the examples I have described give a fair idea of the principles of the plan which can [illegible] compound fracture it is not always practicable in the early stages, but after the wound has healed it can be used as if the case were one of simple fracture, and in the earliest stages of many compound fractures there is no reason why passive mov[illegible] likely to be concerned [illegible] not b[illegible] fact that the manipula- [illegible] cannot [illegible] by the smooth massage [illegible] you [illegible] in such cases. In very young, [illegible] may be difficulties in using the method in its entirety, but even in these cases it is quite curious how a frightened child with a fractured limb can be soothed by gentle massage of the part.

The great advantages of the treatment are: (1) the ease with which the patient is made comfortable by arresting the muscular spasm and so relieving the pain; (2) the effecting of rapid absorption of effused blood, &c.; (3) the prevention of the stiffness by obviating the formation of adhesions; (4) the prevention of muscle-wasting and the preservation throughout the case of the normal nutrition of the limb; and (5) the shortening of the time by at least half during which the patient is prevented from resuming the ordinary use of the limb.

The only real objections to the plan are, I think: (1) the difficulty which must often arise in carrying it out, as unless a competent masseur or masseuse is available the time required must be frequently more than the ordinary practitioner can spare; and (2) the fact that it is a treatment requiring so much intelligence and discretion in the mode of its application that it may be difficult at all times to find a person to whom it may be entrusted with safety when the practitioner is not prepared to manage the details himself. The objection which has been raised on the ground that movements of the fractured bones must result is of no value if the treatment is properly carried out, as the movement is then practically *nil* and certainly not enough to prevent union in any degree whatever. What the results of the treatment of recent fractures by massage in the hands of others has been I do not know, but so far as my experience is concerned the results are far superior to those obtainable in any other way. I am not acquainted, for example, with any other treatment by which the result depicted in Fig. 7 could be obtained in an extremely severe case of Pott's fracture. With increasing experience of the method my belief in it has steadily become more sure.

The Clinical Lectures

PRIM

Delive

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SURGEON TO THE LONDON HOSPITAL, ETC.

LECTURE I.

Delivered on Feb. 10th

GENTLEMEN,—You will see so
chancre in the out-patient room
hospital that it is unnecessary for
the ordinary facts about them.
that they occur in very different
following are the chief. There
chancre or infecting sore which is nothing more than a raised papule with hardly any induration. There is a second and much more common form in which there is a disc of induration without ulceration. This disc of induration may vary in size from that of a lentil up to almost any size, even two or three inches across. It may,
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third common form consists in an actual ulcer having generally an indurated base. These ulcerating chancres are especially apt to occur on the under and inner surface of the prepuce, and at what is called the retro-preputial fold or furrow; in other words, concealed positions where septic

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events from the date of contagion where you can ascertain it,—from two to four weeks after contagion the characteristic features of infecting sore shoul
words, at the end of three we
can usually decide whether a sore
or not. The incubation stage,
strangely delayed. It may be up
but, as a rule, at the end of th
the typical signs of an infecting chancre become manifest but the bubo is also well marked. That bubo, if carefully looked for, is found in something like 99 per cent. of the cases; it is hardly ever absent and is the most characteristic and constant of all the symptoms of syphilitic infection. Let me remind you of its chief features. The glands are indolent and painless, not adherent to the skin or matted to the deep tissues; and they are usually either almond-like in shape or "bulletty." The term "shotty" is often applied to them, but this does not convey so correct an idea as "bulletty"; and even when one grants that many of these glands are elongated like almonds they may be said to resemble the shape of the modern bullets. Remember, also, that the typical glands may be met with in one groin only or in both groins. If present on one side only it may be the opposite side to that on which the chancre is situated. Of this I have seen many instances, due to the crossing of the lymphatics.

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portion being about 35 per cent. at the furrow and 25 per cent. on the inner surface of the prepuce. Primary chancres in this part, eithe
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up towards the groin from them. But I want to impress upon you the immense frequency with which primary

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not know that they are,
as a race, more moral than Christians, but the fact is undoubtedly true that Jews do not contract primary chancres in nearly so high a proportion as Christians. And you can understand the reason, for with the prepuce done away with and the skin, glans, and furrow harder than in normal cases, the risk of syphilitic infection is very much diminished. My experience, both at the Lock Hospital and at the London Hospital, where one sees a great number of Jews in the out-patient department, is that while they very often contract gonorrhœa, syphilis is a comparatively rare event

induration running half-way
at the meatus and at the
reason for this is fairly obvi
mose at these three positions, forming a circular network round which the virus is conveyed and produces annular induration.

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say, from the pubes to the edge of
per cent. of the primary sores in
re often well indurated, but it is
them forming foul ulcers with a
times you meet here with the purely papular form. Lymphatic cords leading from chancres in this position appear, from my statistics, to be relatively infrequent; in only one of every four cases were they found. An interesting fact occurs in connexion with chancres on the outer surface of the penis, that is, you may find another chancre on an exactly corresponding position on the scrotum, and one cannot doubt that the inoculation has occurred from the first sore on to the scrotum, that the initial place has been the penis and then before the tissues have become protected against the virus of chancres inoculation has occurred on the scrotum.

We have now done with the frequent positions for primary infecting sores on the genitals and will proceed to the less frequent situations. Chancres of the glans penis are interesting because there you meet with what is called the "parchment chancre." Induration cannot be very extensive on the glans owing to the anatomical structure of the skin there. Chancres in this position were present in only 3 per cent. of

my cases. Primary infecting sores on the frænum, connecting the border of the glans and the rest of the penis, are very uncommon; I only make them out as 1 per cent. That is interesting because soft sores are frequent there. Over and over again, in cases of suppurating buboes in the groin you may have to search for the soft sore which has produced the infection, and very probably you will find it just at the side of the frænum, but in my experience syphilitic sores there are uncommon. Tears of the frænum are not uncommon and are apt to become the subject of unhealthy ulceration apart from syphilitic infection.

Then as regards the urethra. I am quite sceptical as to the occurrence of chancres further back than one inch from the meatus, and although constantly on the look-out for such cases I have never found an undoubted one. I have notes of some five or six cases only in which the chancre involved besides the meatus the immediately adjoining part of the urethra and the fossa navicularis. I will mention one in particular as being the most typical I have known. A man had gonorrhœa and eight months later he was exposed to further contagion and free purulent discharge followed. When he came to the hospital this urethral discharge was accompanied by a double inguinal bubo. The meatus was quite free and, of course, the presence of this double inguinal bubo, which is extremely rare in gonorrhœa alone, made one carefully examine the urethra. One could feel that the distal third of an inch of the urethra was involved, and on separating the lips of the meatus there was a crescentic ulcer, a true primary chancre, in the fossa navicularis. Such cases are uncommon and there is no proof that the syphilitic virus can get far back into the urethra during sexual intercourse. To recapitulate the result of the analysis of 125 cases of genital chancres in men, the majority occur in the inner surface of the prepuce and at the furrow—viz., 60 per cent. In a smaller number—viz., 27 per cent.—the chancre occurs on the outer surface of the penis; only 8 per cent. occur on the glans and 4 per cent. at the meatus and adjoining part of the urethra.

Of course, a primary syphilitic sore may be accompanied by one or more soft chancres, but apart from this comes the question, Are the primary infecting sores often multiple? You know that in books it is stated that one of the chief points in the diagnosis between a soft sore and a syphilitic sore is that the syphilitic sore is single and the soft sore is multiple. Do not attach too much importance to that statement. Now, of the 125 cases which I have analysed the actual infecting indurated sores were multiple in 20 per cent., or possibly rather over that figure. So that in one out of every five cases of primary infecting sores of the genitals you must expect two or three or perhaps even more indurated chancres. Of course, in cases where inoculation of the syphilitic virus has been performed at the same time at several points all those points develop indurated chancres. A syphilitic infant with mucous patches in its mouth may infect the breast of the nurse in many points, and Fournier quotes a case where there were 30 primary chancres on the breast from this cause. With that premise that they are not infrequently multiple, due to inoculation at the same time at different spots, we will note that they may be multiple from inoculation after the first chancre has developed. Let me give you a few instances of this. A woman came up to the hospital with a primary sore of the lower lip. We could not ascertain how it was obtained; in all probability it was through kissing. Six weeks later a second sore developed on the upper lip, exactly opposite the first one, and then it took on the characters of a primary sore. They were both indurated sores, with a smooth, glossy surface and scanty secretion. That is as clear a case of auto-inoculation as you could have. Then I have notes of several cases in which primary chancres have occurred on the penis and on the corresponding position of the scrotum where the two would come into contact. In another case there was a large primary chancre at the end of the penis, which the patient poulticed, and after two months a second chancre developed at the root of the penis, on the dorsum. At the end of seven months, when he first came for treatment, both chancres were typical, and he also presented a double bubo and a papulo-erythematous rash. A man who attended at the Lock Hospital had a very large primary chancre on his penis, the furrow being chiefly involved. He had to dress this sore himself, drawing the foreskin back several times a day. He was engaged in metal work and no doubt chips of copper frequently produced abrasions on his fingers. At the end of two months, during which time he was under constant observation and internal treatment with mercury, he appeared one day with a bandage round the right index finger. On inquiry he said he had injured the finger at his work and that the sore would not heal. It was found to be a typical primary sore. But this sore did not develop until six or seven weeks after the first sore on his penis, and he was under mercury at the time. It ran the usual course, became a large indurated sore, and he had a bubo in his armpit. Such a case is very striking and proves that whilst primary syphilitic sores are not, as a rule, auto-inoculable, they undoubtedly may be so even many weeks after the first infection.

This leads one to the subject of extra-genital chancres—primary syphilitic sores on other parts of the body than the genitals. They are probably of much more frequency than is generally supposed. You ought, therefore, to be thoroughly familiar with the points about them, and you should be always on your guard lest you overlook a primary infecting sore on a part remote from the genitals. First as regards their occurrence on the hands. I saw not very long ago a medical man who had a primary chancre on each hand, acquired in reducing a para-phimosis (the patient must have had a syphilitic chancre at the time). There was no doubt infection of both hands at the same time, which is unusual. I have seen at least 20 chancres on the fingers of medical men or nurses who have been attending midwifery cases, the patient having syphilis. With regard to these digital chancres, there are some very good drawings in our museum showing the different forms which they assume. There is an excellent article by Mr. W. H. A. Jacobson lately published in the "Guy's Hospital Reports." These sores may occur on any parts of the fingers, but for an obvious reason they are most common towards the end. They usually have the form of circular granulating patches, with an edge of discoloured or pigmented skin, and they are usually somewhat raised. The induration may be only slight and they are, as a rule, painless, unless they happen to occur just round the nails (the perionychial whitlow). Another position is well illustrated in the drawing I now pass round. It happens to be a much larger granulating surface on the part where the skin is thin and delicate, on the dorsum of the first phalanx, going down into the cleft. Of that I have seen several instances. Occasionally one sees the lesions on the knuckles or higher up on the hand. I have seen knuckle chancres on the hands of both medical men and nurses. Let me impress upon you this fact, that although often suspicious in appearance there is nothing absolutely characteristic about these sores to show that they are primary chancres. There is, however, always marked glandular enlargement in the axilla and perhaps at the bend of the elbow as well, and this axillary bubo is as constant as that of the groin with primary sores of the genitals, and often even larger. Then these primary infecting sores may only arouse your suspicion because they will not heal like ordinary traumatic ulcerations. Long duration and failure to heal alone should elicit the suspicion of the medical man who is attending the case. I could relate to you case after case where primary chancres of the hands have been for weeks mistaken, even after the roseola or papular eruption has developed, with danger not only to the patient (the risk of the attack of syphilis being extra severe because treatment was not begun early), but also because of the chance of infection to other people.

Next as regards the lips. I saw some years ago an interesting case in which syphilis was acquired in a curious way. A young married lady was returning from India with her husband and when coming through the Suez Canal she was foolish enough to smoke cigarettes which had been made by Arabs and brought on board, and she developed a chancre on her lip from this cause. I saw her husband and he had no trace of syphilis about him. As you know, infection from pipes and cigarettes, though infrequent, has been proved by many instances. Lately a female, 60 years of age, came up to my clinic with a typical indurated chancre of the lip, acquired from nursing a grandchild, whom I also saw, with secondary syphilitic sores about its mouth. I have mentioned to you the case of a young woman who had an indurated chancre of the under lip and another on the upper lip from auto-inoculation. I have also mentioned the case of a man who denied—and with every appearance of truth—any risk of genital contagion for two years, but who presented a chancre on the mucous membrane of the cheek

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on the tonsil, since my experience of these has been very small.

In ophthalmic work one occasionally comes across cases of chancres on the eyelids. I have also seen examples of chancre of the eyelids in students or medical men who, whilst seeing a great number of cases of primary syphilis, are apt to be careless and to rub the eyelids and thus introduce infection. There is in our museum a good coloured photograph from a case of mine showing primary chancre in the middle of the forehead in a boy with secondary eruption. This is certainly a very unusual site and we could obtain no evidence as to the method of contagion. I have, of course, seen a good many cases of primary chancre of the tongue, and whilst most of them were characteristic enough—circular or oval raised sores, with slight ulceration and well-marked induration—the following notes relate to a case which was a revelation to me because the chancre had only the appearance throughout of an insignificant white patch. The facts were these. A gentleman came under the care of another surgeon on account of such a patch on his tongue. He was told that it was syphilitic and was given mercury. He was not satisfied with this opinion and a few days later he came to me. All that he presented was a small white patch, not raised, on the outer side of the tongue, far back. It looked just as though the tongue had been touched with nitrate of silver. As the diagnosis was so doubtful we thought the patient had better wait, especially as he was a heavy smoker, and he was advised to give up mercury. He was seen independently by another surgeon, who gave him the same opinion, and neither of us suspected that the patch was a primary sore. Within about two months the patient developed a copious rash, undoubtedly of syphilitic nature, and then on the same side as that on which the patch appeared there was a large bubo of the submaxillary region which had appeared since his last visit. This case illustrates how deceptive a primary sore may be, and how difficult it is to be sure of infection in certain cases.

A case of primary chancre of the chin was interesting. A woman had two primary sores, one on each side of the middle of the chin. These were acquired in a manner which it is better not to discuss, but I mention the case because of its interest in other ways. The bubo was large and painful and slow to subside. The patient was at first treated by a surgeon with pills of green iodide. There is no doubt that the use of green iodide is largely responsible for the feeling sometimes met with amongst medical men and others against mercury given by the mouth. I never order green iodide because of all the preparations of mercury it is the most unstable and the most apt to cause diarrhœa and stomatitis, and therefore its administration has to be suspended. The production of stomatitis and diarrhœa is apt to prejudice the person against taking mercury by the mouth, and quite naturally. In this case the treatment had to be suspended, the chancres were very conspicuous, and the patient was much concerned about her appearance. She took three grains of mercury a day regularly for a year without the slightest ill effect, and beyond a slight annular syphilide she had no reminders of the disease.

Regarding extra genital chancres on the lower limbs I have met with two particularly interesting cases. One was a primary sore on the heel in a boy who was an out-patient of the London Hospital. The lesion was right over the tendo Achillis—a most unlikely place, you would think, for infection. There was a well marked bubo in the groin and he had a copious roseola. The history was as follows. He had had a scratch on the heel and had come up to the hospital to have this slight wound dressed. Whether the infection was conveyed in the receiving room—which is possible seeing the number of syphilitic patients who come there—or whether it was done at home by using dirty dressings we cannot say. But certainly that scratch had become inoculated in some way with the syphilitic virus. Curiously, about that time I saw a chancre on the top of a patient's head, so that touches the two extremes of distribution in the body. I have notes of an interesting case of chancre of the thigh, a very uncommon position for such a lesion. The patient was a man, aged 22 years, who noticed after venereal contagion in June a sore on the front of his thigh half-way down towards the knee, "like a blind boil." It was painful, it ulcerated, and it then slowly scabbed. He came up to be seen in August—that is to say, three months after the contagion. He still had some soft sores on his penis and half-way down the thigh there was a raised purple disc, indurated and having a dry scab. This sore was two inches across. The glands were enlarged to a slight extent and there was a copious secondary eruption on the thighs, the arms, and the abdomen.

I have now briefly mentioned particulars of a good number of cases of extra genital chancres under my own observation. Dr. Bulkley, in a most laborious and excellent work called "Syphilis of the Innocent," gives notes of 100 cases of
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It is interesting to recall the fact that in the early epidemics of syphilis, when the disease was brought over from America to Europe after the voyages of Columbus, this method of infection seems to have been very common. Before people knew the dangers of it it was spread widecast by drinking-vessels—which were not so plentiful as they are now—by spoons, and by other eating implements, and in all sorts of ways, apart from venereal contagion. At the present time probably the best places to see extra-genital chancres are the Paris hospitals.

A few words in conclusion on the subject of the indurated lymphatic cords which are often, as we have seen, present with primary infecting sores. If carefully looked for you will find indurated
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you the importance
tioned in any publishe
in conjunction with chancres of the furrow or the inner aspect of the prepuce. One grants that they are less constant than the bubo, but sometimes they are better marked and of greater value in diagnosis. They seem to be in no way proportional to the number or size of the chancres or to the degree of the surrounding inflammation. As a rule, there is one indurated lymphatic cord running from the chancre, which usually tapers off towards the glans and can be often traced directly into the inguinal glands, but you may frequently find two, and in one case there were four, under the skin of the penis. They may be as thick as the stem of a clay pipe; they are often knotty, and occasionally they give rise to little lymphatic "abscesses," so-called, towards the root; a small collection of leucocytes and lymph forms and breaks, and the skin soon heals again. They may last into the secondary stage, but they usually disappear before the glands have subsided. Still, I have found them two or three months after infection. In one case there was a disc of induration, apparently lymphatic, right round the penis. The primary sore was at the frænum.

The question naturally arises, Are these indurated lymphatic cords ever found without primary syphilis? We have noted that they may be of great help in the diagnosis and that they are present in probably from 40 to 50 per cent. of the cases. I wish one could say that they are never observed without infecting sores, but though the exceptions are few they seem to be undoubted. Here is an example. A man had primary and secondary syphilis, and it was treated in this hospital in 1894 under one of my colleagues for four months. In 1895 the patient came to me at the Lock Hospital with gonorrhœa and phimosis, and he had a hard knotty cord going up to a swollen left inguinal gland. The cord persisted for a week or two.

I have notes of one or two other cases in which with inflammatory œdema of the prepuce and gonorrhœa indurated lymphatic cords were present, but these exceptions are so few that one is justified in attaching much importance with regard to the diagnosis of primary syphilis on the detection of these lymphatic cords.

SOCIETY FOR THE PREVENTION OF CRUELTY TO CHILDREN.—The annual meeting of the Bath branch of this society was held on May 19th under the presidency of the Mayor. The report for 1899 stated that 168 cases had been investigated, 11 prosecutions had been undertaken (all of which resulted in convictions), and 54 warnings had been issued, the total number of children looked after being 217. The financial statement showed a favourable balance of £12.

PREVENTIVE INOCULATION AGAINST TYPHOID FEVER.[1]

BY ALEXANDER G. R. FOULERTON, F.R.C.S. ENG., D.P.H. CAMB.,

LECTURER ON PUBLIC HEALTH AND BACTERIOLOGIST TO THE MIDDLESEX HOSPITAL.

[illegible] I have chosen to discuss this evening, [illegible] against Typhoid Fever, is one which, I venture to hope, will have some sort of special interest for you who are for the most part engaged in the practice of that bra[illegible] ich deals more [illegible] with the [illegible] ease. An additional reason which has influenced me in selecting this subject is the fact that it has at the present time a further interest for all of us, because of the extensive use which is now being made of the method in [illegible] some degree our troops now [illegible] inst a disease which is severely [illegible] especially to be dreaded under the insanit[illegible] which necessarily attend on the movements of the large army corps of modern warfare.

In the first place I will ask your patience whilst I refer in detail to the experimental work upon which this practice of preventive inoculation against typhoid fever is [illegible]. If a suitable dose of a culture of bacillus typhosus of average virulence, such, for instance, as one obtained fresh from the spleen of a patient dead from typhoid [illegible] the peritoneal sac of a rabbit or a [illegible] follow as a rule in from 24 to 96 h[illegible] exact amount of the dose injected and the individual susceptibility of the animal experimented upon. And, as a matter of fact, the individual [illegible] animals of these species to the a[illegible] cultures fresh from human source[illegible] ably and is frequently a source of some difficulty in laboratory work. In the case of a guinea-pig weighing about 250 grammes a dose of one cubic centimetre of a 48 hours' old culture will generally cause death in about 48 hours. But by a simple passage of the bacillus through a series of animals the specific virulence of the culture may be considerably increased, and its action rendered more certain of result. This increase of virulence is obtained thus. A fatal dose of broth culture is injected into the peritoneal sac of a guinea-pig, a second guinea-pig is then similarly inoculated with the peritoneal effusion from the first, a third is inoculated from the second, and so on through a series of animals. With each successive inoculation it will be found that the virulence of the bacillus increases, so that gradually decreasing doses of peritoneal effusion are sufficient to cause death, and after the bacillus has passed through about 20 animals it will be found that the virulence is now so increased that 0·2 cubic centimetre of a 24 hours' culture in broth will almost certainly kill a guinea-pig within 24 hours. The animal dies with a general blood infection by bacillus typhosus, and the anatomical changes found after death may include engorgement of the spleen, the liver, and the kidneys, congestion and swelling of Peyer's patches, enlargement of the mesenteric glands, and serous effusion into the pleural and peritoneal sacs. A culture of virulent bacillus which will produce such effects as these is then used for the purpose of testing the degree of protection afforded to animals immunised by the method next to be described.

The immunisation is carried out by injecting into the animal selected several doses of a broth culture of the bacillus which has been sterilised by heat. Such a sterilised culture contains, in addition to the dead bacilli, various more or less toxic substances which the bacteria have formed in the broth during the course of their growth. And the degree of actual toxicity of such a sterilised broth will vary with the method of its preparation. Thus a highly toxic broth may be obtained by some such method as that of Sanarelli, which consists in incubating a highly virulent culture of the bacillus at 37°C. for one month, at the end of which time the broth is sterilised at 80°C. and the flask containing it is allowed to stand for some months at room temperature. The flask, after its neck has been hermetically sealed, is then heated for several days at 60°C., the sediment in the flask is allowed to settle, and the clear fluid is decanted. This clear fluid contains the soluble constituents of the bacilli together with the toxic substances formed during the development of the culture. A sub[illegible] f about six cubic centimetres of this [illegible] inea-pig weighing 400 grammes in less [illegible] mptoms following inoculation are th[illegible] accompanied by a fall in temperature, diarrhœa, and various [illegible] After death there may be found a [illegible] the peritoneal sac, engorgement and softening of the spleen, petechial hæmorrhages into the mucous membrane of the stomach, and hæmorrhage into the cavity of the intestines. A somewhat less toxic broth [illegible] mmunising purposes. A virulent broth [illegible] for a fortnight at 37°C. and then sterilised at 100°C. For an average-sized guinea-pig four doses of five cubic centimetres each of this sterile broth are injected subcutaneously, an interval of two or three days being allowed to intervene between each dose in order to allow the reaction which follows one injection to pass off before the next is given. This having been done it will be [illegible] the animal has acquired an active immunity [illegible] phoid infection and will survive the injection into its peritoneal sac of at least 10 times that dose of actively virulent living culture which would inevitably prove fatal to an unprotected animal.

This condition of "active" immunity is characterised by certain changes in the animal's blood serum which will be found to have acquired three important new properties, which may be termed respectively agglutinative, protective, [illegible] curative. The agglutinative property is shown by the [illegible] mping" or agglutination of the bacteria in a culture of [illegible] specific bacillus to which the diluted serum has been added, and with the serum of a well-immunised animal this agglutinative reaction will be actively manifested with a [illegible] of at least 1 in 1000. By virtue of its protective [illegible] the serum of the immunised animal when injected [illegible] other susceptible animal will confer on it a temporary or "passive" immunity against typhoid infection. Thus, if a dose of about two cubic centimetres of the serum be injected into another guinea-pig the latter will for a certain length of time afterwards be immune against an ordinarily fatal dose of virulent living culture. In a similar way the curative property of the serum of the immunised animal may be demonstrated by the following experiments. If an ordinarily fatal dose of living culture be mixed with about 0·5 cubic centimetre of the serum and then injected into a guinea-pig no result will follow. Or if the guinea-pig receives a full fatal dose of the living culture and then within about three hours a dose of the serum a similar curative effect will usually be manifested and the animal will usually survive the inoculation.

If we compare the serum of a patient who has passed through an attack of typhoid fever with the serum of the artificially immunised animal it will be found that the same agglutinative, protective, and curative properties are present; but in a lower degree as a rule in the human serum. Thus after an ordinarily severe attack of typhoid fever the agglutinative reaction is not as a general rule obtained with a dilution of more than 1 in 300, and very often fails before this dilution is reached; whereas with the serum of the immunised animal it is usually active with a dilution of 1 in 1000 and often after the dilution has been carried much beyond that point.

As regards the protective and curative properties Chantemesse and Widal have shown that the quantity of serum from a patient convalescent after typhoid fever which is necessary to confer a passive immunity against typhoid infection on a guinea-pig varies from two cubic centimetres to 10 cubic centimetres, as against a maximum of two cubic centimetres from an artificially immunised animal which will effect the same purpose. On these facts we are justified in assuming that a patient who has passed through an attack of typhoid fever has acquired an active immunity against typhoid infection. The direct proof of this is of course impossible, but for the reasons which I have given, and for other reasons which there is no time to discuss now, we cannot but assume that such is the case.

We have seen, then, that the blood serum of a patient who has passed through an attack of typhoid fever, and who has so far as we can judge acquired an active immunity against typhoid infection, possesses certain essential properties in common with the blood serum of a

[1] A paper read before the Home Counties Branch of the Incorporated Society of Medical Officers of Health, April 26th, 1900.

guinea-pig which has received an injection of the dead bacilli, and which we know with absolute certainty has acquired this active immunity. In view of these facts the next question we have to consider is whether it is possible by employing the same method which is so successful in the case of the guinea-pig or rabbit to confer on man also an active immunity against typhoid infection. At the outset one must notice that a
have been raised two
valid.—This objection w
typhoid fever as it occurs in man cannot be artificially produced in animals, therefore experiments on the latter do not apply. And so long as typhoid fever was looked upon as a disease essentially characterised by certain changes in the mucous membrane of the intestine this objection was without doubt a difficult one to answer, in spite of the fact that in one or two isolated instances a typhoid infection with actual ulceration of Peyer's patches had apparently been produced in the guinea-
ngs to the class of infective

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blood infection by the bacillus in addition to the enteric lesions, but also that typhoid fever may occur in man without any enteric lesions at all; and I think that the objections

typhoid fever is, as you
work of Professor Wright of the Royal Army Medical School at Netley. And, whilst the utility of the method is still under trial, one cannot but pay tribute to the impartial and scientific way in which Professor Wright has dealt with the matter and to the care and minute attention to detail which have been observed in the preparation of the prophylactic fluid. In the procedure now recommended by Professor Wright a broth culture is used which after from 14 to 21 days' incubation at 37° C. has been sterilised by heat at 60° C.; lysol in the proportion of 0·5 per cent. is then added in

of the first may be given after an interval of a week or so. The actual toxicity of different cultures varies, and sometimes considerably, but uniformity of dose is ensured as far as possible by the method of standardisation recently described by Wright and Leishman.[2] My own experience of the method is founded entirely on inoculations with sterilised cultures prepared as above with which Professor Wright kindly supplied me. The inoculations are made with an ordinary hypodermic syringe into the loose subcutaneous tissue either of the flank or of the back of the arm over the triceps muscle, the latter position being the more convenient if for any reason the person inoculated is unable to keep quite at rest during the next 48 hours or so. In my own cases I have always inoculated late in the afternoon and the patient has been kept at rest for the whole of the next day. The symptoms following the inoculation have been as follows. Towards the evening more or less severe
constitutional symptoms
severe frontal headache,
actual rigors and nausea, accompanied by vomiting,

for some hours. All these const
perhaps a little headache, have in
next morning—that is to say, within about 18 hours of the inoculation. The patient feels fairly well except for the

local reaction which now begins to make itself felt at the site of inoculation. The local reaction results in a firm and painful œdema of the subcutaneous tissue with redness of
about two inches round the
; there may also be redness of
tle distance along the line of the lymphatics. Shooting pains may be present which radiate from the puncture in the flank principally upwards towards the pectoral region.
enlarged and tender. By the
signs of local inflammation will
every case, and the completeness of the disappearance of what is sometimes a very intense local reaction in the short space of time is very striking. The only remaining effects of the inoculation felt by the patient are a general feeling of tiredness and a sensation of bruising and stiffness about the site of inoculation, although no trace of redness or œdema is now perceptible nor is there any tenderness on pressure. The temperature reaction is shown in these eight charts which, with the exception, perhaps, of the first, to
n as fairly representa-
the prophylactic fluid
s in Cases 1, 2, 3, and
hose in Cases 5, 6, and
e 8 from a third. For
dded the temperature
rabbits which had received rather large
of a sterilised broth culture prepared by

e immediate effect of the operation on the temperature seems to be a slight fall below the normal; the temperature soon begins to rise and attains its maximum within about 12 hours; it then falls rapidly and again sometimes to below the normal. The local reaction, as
but since the inflammation
is a purely aseptic one there
prehension of suppuration,
provided that the syringe has been properly sterilised and that the person inoculated is in ordinarily good health. If the inoculation has been successful it will be found that the blood serum has after a certain interval acquired the specific agglutinative property in a marked degree. A second inoculation may be thought necessary in some cases, a point to which I will refer again.

At present we know but little as to the details of the process which results in an immunity against an infective disease such as typhoid fever, and which may be set in action by this method of inoculation with a dead culture of the specific bacillus. Keeping the anti-typhoid inoculations
e the following data to work
power of the blood serum,
take as being in some way
a measure of the degree of immunity, does not appear until a certain interval of time has elapsed after the inoculation and then gradually increases up to a certain point; and (2) that the same agglutinative power may persist in the serum for a period of at least two years. The consideration of these facts will lead us to the conclusion that the protective substance or substances are not contained in the original dose of dead cultures, but are produced in the tissues of the individual after inoculation. Also in favour of this view is the fact that (as we have seen) a small dose of serum from an immunised animal will confer an immediate "passive" immunity upon another animal, a fact upon which the whole system of serum therapeutics has been based, while, on the contrary, it is found that the active immunity induced by inoculation with a dead culture, although much more effectual and lasting, does not become manifest until a definite interval of time has elapsed. These facts are also in accordance with what is observed in the course of a case of typhoid fever in man. In an ordinary case a definite interval of time elapses after infection before the agglutinative power of the blood can be demonstrated and this agglutinative power, as a rule, then increases in intensity up to the time when the disease is brought to an end by a process of natural immunisation. We have, then, definite grounds for assuming that there is something contained in the original dose of sterilised broth culture which on inoculation causes such a reaction that the tissues of the individual produce a substance or substances which exert a protective influence against the living bacilli. The sterilised broth culture contains both dead bacilli and various substances which we may term generally toxins, but as to the exact

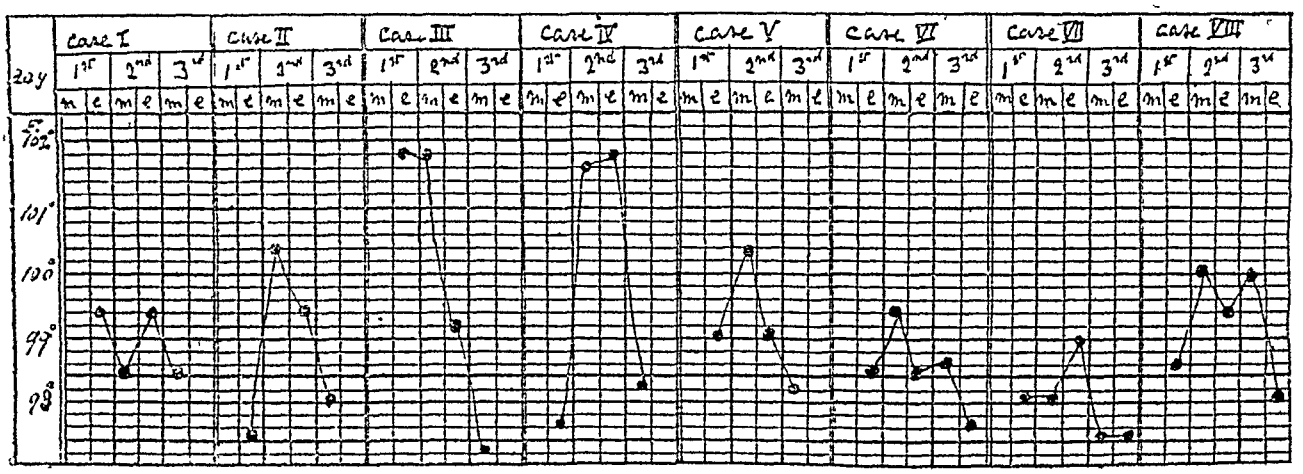
[2] Remarks on the Results which have been Obtained by the Anti-typhoid Inoculations and on the Methods which have been Employed in the Preparation of the Vaccine. Brit. Med. Journ., March 17th, 1900.

nature of which we know very little. And the next question to be considered is whether the substance which is capable of calling forth this reaction on the part of the tissues is contained in the dead bacilli themselves or is one of the soluble toxic bodies formed in the broth by the bacilli whilst still alive. The answer to this question is not easily given, but the fact that an emulsion made by scraping off a surface growth of the bacillus on agar into a normal saline solution will produce the same immunising effect as a sterilised broth culture would suggest that it is some constituent of the bacilli themselves rather than any soluble extra-cellular toxin which is essential. Other facts, also, might be brought forward in support of this view.

I must now pass on to what is, after all, the most important point in connexion with this preventive inoculation against typhoid fever—Does it in practice realise what is hoped for from it? It may at once be said that this question cannot yet be answered, for the time which has elapsed since the inoculations were commenced is yet too short to enable us to judge fairly whether the almost perfect case in favour of this method which has been founded on the evidence of the laboratory is justified by the results obtained in actual practice. The first occasion on which the method was practically tested on anything like a large scale was during the Maidstone epidemic of 1897, when inoculation was offered to the medical staff, nurses, and attendants of the Kent County Asylum at Barming Heath. The main facts relating to the inoculations, with an account of the reaction of the blood of some of those who underwent the operation, have already been published by your President[3] and I need not refer to them now. The actual results were as follows. The first case of typhoid fever occurred at the asylum on Sept. 20th and the last on Nov. 10th. The total number of insane patients in the asylum was 1650; none of these were inoculated. The medical staff, nurses, and attendants numbered 130 in all, and of these 84 were inoculated between Oct. 5th and 9th. Amongst the insane patients who were not inoculated 88 cases of typhoid fever occurred, 74 cases before Oct. 9th and 14 cases after that date. Amongst the medical staff, nurses, and attendants 19 cases occurred, 15 before Oct. 9th and four cases afterwards, and the four cases thus occurring were all amongst those who had not undergone inoculation.

Professor Wright has lately published some statistics[4] bearing on the results of inoculations performed in India during the year 1898 and the early part of 1899. These statistics relate to 11,295 men belonging to various regiments stationed in different parts of India who had the opportunity of inoculation offered to them. Of the whole number 2835 elected to undergo the operation, whilst 8460 remained uninoculated. It was thus possible to observe the incidence of the disease on two classes of men, one presumably protected and the other not, both living under exactly the same conditions and both exposed to the same risk of infection. The results available up to the time of the publication of Professor Wright's paper were as follows. Of the 2835 inoculated, 27, or 0·95 per cent., subsequently contracted typhoid fever; of the 8460 uninoculated, 213, or 2·5 per cent., contracted the disease. The mortality figures applying to the

FIG. 1.



Charts showing the temperature reaction after anti-typhoid inoculations.

FIG. 2.

RABBIT 1. RABBIT 2.

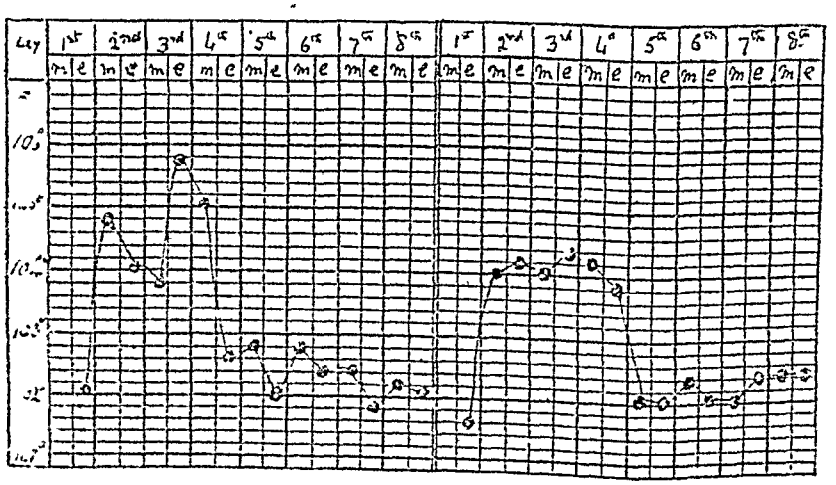


Chart showing reaction in rabbits after inoculation with dead cultures. Each animal received on the first and third days rather large doses of dead culture. The inoculation was performed at 4 P.M. each time, the evening temperatures were taken at 5.30 P.M.

[3] J. S. Tew. The Agglutinative Reaction in Typhoid Fever and Anti-typhoid Vaccination. Public Health, 1898, vol. x., p. 183.

[4] On the Results which have been Obtained by the Anti-typhoid Inoculations, THE LANCET, Jan. 20th, 1900, p. 150.

total of 11,295 men are not at present available, as the returns from the different regiments did not in every case give the result of the illness. From the cases in which the issue of the illness was stated, the mortality among the inoculated was calculated at two per 1000 and among the uninoculated at 3·4 per 1000. The case mortality was at the rate of 185·2 ppr 1000 among the inoculated and 103·3 among the uninoculated. These figures are undoubtedly in favour of the inoculated and might have been more strongly so had it been possible to have classed the men as "successfully inoculated" and "others," instead of as simply "inoculated" and "uninoculated." For with the methods in use at present the inoculation is unsuccessful in a certain proportion of the cases, and those who after inoculation do not give a good agglutinative reaction with their serum cannot for statistical purposes be fairly classed amongst the "inoculated."

Of the results of the inoculations which have been carried out in the case of the troops in South Africa it is too early to form any opinion. Mr. Osborn,[5] in commenting on the large number of cases of typhoid fever which have occurred among the troops, stated that at Modder River the disease occurred at the rate of 6 per 1000 among those who had been inoculated and at the rate of 9 per 1000 among those who had not. No stress can be laid on these last figures one way or another, but extremely valuable data will be available after the war when the complete returns are forthcoming. And in connexion with these statistics it
thorough effort will b
serum test what prop
the operation on the way out had really reacted to the inoculation. It has been said that the active immunity which follows the injection of a dead culture in animals takes some time to develop and that after the inoculation in man a definite interval elapses before the agglutinative property is manifested in the serum. It is not, therefore, to be expected that any protective effect will follow the operation immediately. I do not think, for instance, that protection would be afforded against an infection within about a week after the inoculation. In speaking of this I would particularly refer to Case 1 on the temperature chart. In this case there had been exposure to the risk of infection under rather exceptional circumstances both before and after the inoculation, the patient being one of four who contracted the disease by direct personal infection from one individual. As far as one could judge the patient must have been inoculated some five or six days after infection had occurred, and definite symptoms of the disease appeared on the eleventh day after the inoculation. The patient passed through an ordinary mild attack of the disease. It will be noticed that the temperature reaction after inoculation in Case 1 on the temperature chart differs very distinctly from the type occurring in Cases 2, 3, and 4, which were inoculated at the same time and from the same sample of serum.

At present we do not know exactly what length of time any protection afforded by the inoculation may be expected to last. In a certain proportion of cases, if we accept the persistence of agglutinative power as an indication of the persistence of immunity, the protective effect lasts for at least two years. By the kindness of Dr. Arthur Jackson, assistant medical officer to the Kent County Asylum, I had the opportunity in October last year of examining the blood of nine of those who had been inoculated just 24 months previously. The results obtained on testing the agglutinative power of the serum in these nine cases are shown in the following table which has already been published elsewhere.[6] Of the nine cases four had previously been tested by Dr. Tew[7] and two of them (Case 4 and Case 5) had given only doubtful reactions shortly after inoculation; the serum from the last five cases had not been tested previously.

From what I have said it will have been gathered that the immediate after-effects of an anti-typhoid inoculation may be distinctly unpleasant, and it is not suggested that these inoculations should be employed generally, but only for those who may be specially liable to the risk of infection. And among those to whom preventive inoculation is likely to afford most benefit are nurses in hospitals into which cases of typhoid fever are admitted, and soldiers who are serving in India and other places where this disease is most prevalent. And it need scarcely be added that if inoculation is advisable for

Case.	Sex.	Dilution of serum used in testing for agglutination.			
		1 in 10.	1 in 50.	1 in 100.	1 in 200.
1	M.	—	—	—	Instantaneous reaction.
2	F.	—	—	—	Instantaneous reaction.
3	F.	—	—	Instantaneous reaction.	Not tested.
4	F.	—	Reaction within 20 minutes.	No reaction	—
5	M.	No reaction	—	—	—
6	F.	"	—	—	—
7	F.	"	—	—	—
8	F.	"	—	—	—
9	M.	"	—	—	—

a nurse or a soldier the younger the individual may be the more strongly is inoculation to be advised. And it must not be forgotten that these two classes which I have mentioned include those who are not safeguarded by ordinary sanitary measures. In this country typhoid fever is essentially a water-borne disease and the majority of us can rely for protection against infection upon the work of our medical officers of health. But the nurse is brought into intimate contact with patients who are suffering from the disease, and those who have had long experience of hospital work will well know that there is in some cases such a thing as personal infectivity in typhoid fever, and that quite apart from careless or unskilful nursing there is a real risk in personal contact. Soldiers living in camp in hot dry climates where typhoid fever is an air-borne as well as a water-borne disease also require special protection. In such a climate it would seem under the prevailing conditions all but impossible to prevent the dissemination to some extent of particles of organic matter from latrines by the wind.

Finally, it may be pointed out that whilst the immediate effects of inoculation may be, and often are, decidedly unpleasant they are merely temporary, lasting only for a few hours, and up to the present time have never had any more serious result than the short period of discomfort. It need scarcely be added that if the most ordinary care has been observed in the preparation of the prophylactic fluid there is not the very remotest chance, either in these anti-typhoid inoculations or in the similar procedure against cholera and bubonic plague, of conveying the disease itself. In every case in which it is desired that there should be a [illegible] than two years [illegible] tissue reaction by [illegible] The second dose may be given a week after the first, and the agglutinative reaction of the blood tested after a further interval of a few days.

Sutton, Surrey.

[5] S. Osborn: Hospital Arrangements in the South African War, THE LANCET, April 21st, 1900, p. 1158.

[6] Fouleriton On the Serum Treatment of Enteric Fever and Bacterial Prophylactic Inoculation. Middlesex Hospital Journal, vol. iii, No. 4, 1899.

[7] Loc. cit.

A CONTRIBUTION TO THE STATISTICS OF RHEUMATIC FEVER AND ITS COMPLICATIONS.

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THE total number of cases of rheumatic fever admitted into Charing-cross Hospital in the course of eight years (1890-97 inclusive) was 450.

Sex and age.—Of the whole number 237 were males and 213 were females, from which it might appear that both sexes are equally liable to the disease. Since, however, there are nearly twice as many male as female beds in the hospital it is probable that these numbers really show a greater liability

of the latter sex to suffer from rheumatism. The following table shows the age-incidence of the cases as admitted to hospital:—

—	1 to 10 years.	11 to 20 years.	21 to 30 years.	31 to 40 years.	41 to 50 years.	51 to 60 years.
Males	11	78	79	43	21	5
Females	8	88	82	26	9	2

By far the greater number of cases thus occur between the ages of 10 and 30 years, no less than 157 males and 168 females being included in this period, or over 72 per cent. of the whole number. It is noticeable that within these limits the female cases, in spite of the smaller number of available beds, slightly outnumber those of the other sex. It may be right to point out that the incidence of the disease on children under 11 years may not be fully represented for several reasons. In the first place, the number of children's medical beds in the hospital is only nine and the population from which they are filled is possibly more limited than in the case of adults, owing to the preference of parents for special children's hospitals. Further, it cannot be doubted that the disease often passes unrecognised in children owing to the ill-marked joint-symptoms to which it gives rise at this time of life and the fact that this disease is not popularly associated with childhood. Several instances have come under my own observation in which an illness occurring in a child which was almost undoubtedly rheumatic fever, accompanied by actual swelling of the joints and subsequent valvular disease of the heart, was called "influenza" at the time. In another instance a similar attack was called "malaria"; and it is practically certain that many mild cases of rheumatism which may yet leave serious sequelæ are either entirely overlooked or are treated as mere "feverish attacks," "biliousness," or other creations of household medicine. It might even be suggested that some of the success of salicylate of sodium in the treatment of influenza and some of the cases of cardiac mischief attributed to this protean plague are in reality to be attributed to errors of diagnosis in cases of genuine rheumatism.

Taking first attacks only, including those patients who stated that they had never had a previous attack, and accepting the accounts given by others who were able to fix the date of their first experience of the disease (a total of 304 cases), it appears that no less than 156 (50 per cent.) of these first attacks fell between the ages of 11 and 20 years (females 79, males 77). Under 11 years, 17 cases occurred in male and 21 in female children. From 21 to 30 years there were 42 first attacks in males and 39 in females. The earliest recorded instance among the number was a boy who was reported to have had rheumatism at the age of three weeks. Other early cases were those of a girl aged two years, a boy aged three years (actually observed in hospital), and a girl and boy aged four years respectively. The latest occurrences said to represent first attacks were at 53 and 57 years, both in men. Only one first attack occurred in a woman over 40 years of age.

Heredity.—No very definite reliance can be placed on the family history of these patients, the accounts given of the health of parents and relatives being as a rule untrustworthy, especially with regard to a common and not fatal illness such as rheumatism. As a matter of fact in 99 cases, or approximately 22 per cent., the patients gave a history of rheumatism in one or more members of their families.

Occupation.—With regard to the influence of employment and mode of life only one fact appears at all prominently, namely, the great number of domestic servants who suffer from rheumatism. Out of the present 450 cases no less than 105 (23 per cent.) occurred in this class, 85 being female servants and 20 males. If we add to this number 19 cases of waiters, 10 of barmaids, four of male cooks, and two of office boys, we have a total of 140 cases out of 450, or 31 per cent., belonging to this class of society, while of females alone nearly 40 per cent. were in service.[1] No special liability to rheumatism in those exposed to vicissitudes of weather was evident in this series of cases. The reason for the special incidence on women between 10 and 30 years of age can only be surmised; but the prevalence of anæmia at this period is a very marked coincidence, while both of these diseases seem to fall specially on the servant-class of society. It may be suggested that the existence of anæmia acts as a predisposing cause of acute rheumatism. In this connexion it is interesting to note that in one case, that of a woman, 42 years of age, several attacks had occurred, each in connexion with pregnancy, the period of lactation being always accompanied by rheumatic symptoms. Here, too, perhaps, the anæmia brought about by this drain on the system acted as the predisposing cause. This might well be the case if rheumatic fever is due to the action of some micro-organism, as seems highly probable, although there is little evidence of any transmission of the disease from one individual to another.

Season.—As far as can be gathered from the limited number of cases here recorded rheumatic fever has two periods of maximum [illegible] ear corresponding to the months of May [illegible] That a much larger series is necessary be[illegible] to construct a true curve of incidence for the year seems shown by the sudden drop that occurs in the present record between May and June, these months having 47 and 29 cases respectively, or practically the highest and lowest numbers throughout the 12 months (November, the actual maximum, shows 48). It is worthy of remark that while the admissions to this hospital of cases of enteric fever and of acute pneumonia correspond very closely with the accepted periods of maximum frequency of these diseases the cases of rheumatism do not correspond so closely. Probably the seasonal curve of rheumatism is less well defined than that of either of the two other maladies. It is to be remarked that the two months showing the highest averages of cases are months associated, as a rule, with chilly and unsettled weather, when there occur constant changes of temperature.

Onset.—In the [illegible] the first thing complained of by th[illegible] matism was pain in one or more joints, which generally began gradually and only caused them to take to bed after one or more days. In a certain number of cases sore-throat was the first thing noticed, apparently in about 5 per cent. Vomiting occurred early in about 3 per cent. of the cases, and shivering or actual rigor in about the same proportion. In approximately 5 per cent. headache was a prominent symptom at the beginning of the illness. Its occurrence later as a result of treatment with salicylates is too well known to need mention and cannot be considered a symptom of the disease.

Another mode of onset, but by no means a common one, was with symptoms of acute pneumonia which masked the pains in the joints, while in one case (that of a girl, aged 14 years) the onset was gradual without joint-pains, but with headache and general malaise, suggesting enteric fever. In another instance enlargement of the spleen was noticed which, if it had occurred along with the former insidious onset, would have caused a misleading resemblance to enteric fever before the occurrence of the typical articular affection.

Duration.—With regard to the duration of the disease it is difficult to say anything definite. When once admitted to hospital the temperature in most cases fell within two or three days, and the pains vanished simultaneously under the influence of salicylate-treatment. On the other hand, patients gave histories of their "rheumatics" having lasted for months before they came for treatment. It is impossible to determine whether these cases are to be considered instances of one long attack or, as seems more probable, as constituting a succession of relapses. Accepting the statements of the patients and calculating from their account of the beginning of their symptoms, the larger number, or nearly two-thirds of the whole, were free from pain and fever within two weeks; but it is impossible to say how long they would have been ill if, on the one hand, they had not come for treatment, or, on the other hand, if they had been treated sooner. Occasionally, even in hospital, cases proved very refractory: in one instance in the present series the patient (a male, 20 years of age) was seven weeks ill in hospital; others were as long as 33 and 39 days, with continued fever and pain in spite of the usual treatment. In two patients, both females, 26 and 36 years old respectively, the disease ultimately settled in one joint and became chronic, the patients leaving the hospital with knees still stiff and painful.

Joints affected.—It is recognised as a feature of the disease that it affects many joints in succession, "flying from one to

[1] The ratio of service to other occupations among 415 female patients admitted during 1899 whose occupations were stated was 25 per cent., which may be taken as the ordinary proportion among patients in this hospital.

another," but on surveying a number of cases it shows a ... ut 430 ... knee- ... ankle in 202 (47 per cent.), and the shoulder in 115 (26 per cent.). The elbow, the wrist, and the small joints of the hand and the foot were affected with nearly equal frequency ... came next with 54 cases and ... 11 times, ... the temporo-maxillary articulation twic... all the joints were said to be painful ... statement probably only signified the gener... misery of the sufferers. It thus appears that the knee and ... er joints. ... arthritis, ... instances traumatism of a joint (strain, &c.) seems to have determined the seat of onset of the malady.

Complications.—The most frequent complication of acute rheumatism—if it is to be called a ... seems more probable, a distinct feature of the disease—is undoubtedly endocarditis, and in the present series of cases ... times, the aortic alone in four cases, and both together in 12 instances. In the females the aortic valve suffered alone on two occasions and combined mischief was only met with once, the rest being pure mitral cases. Ulcerative endocarditis occurred in three patients ...

Pericarditis was met with in 17 males and 11 females. Of these three died ... that of a girl, ... sole complicatio... monia, associated ... add to the above ... in the hospital i... total of 60 cases ... occurred in the ... sidered rheuma... was 19 or nearly 3... was associated w... in two with grar... respectively. Th... other hand of 10 cases asso... nts died, or 60 per cent. Two suppurative cases occurred in rheumatic subjects, included in the above numbers, and were both fatal; but they were not associated with symptoms of rheumatic fever at the time ... e subtracted from the above ... fibrinous pericarditis com... appear to be only about 15 per cent.

The frequency of the occurrence of relapse in cases of ... in 42 cases, or roughly 10 per cent.; but the figures are not of much value.

Pneumonia occurred in 14 cases of the present series, equally divided between the two sexes. Of these two, accompanied by pericarditis, were fatal. The total number ... diseases are connected, and it is permissible perhaps to surmise that in cases of pneumonia, especially those which run a rather atypical course and end by lysis, closer search would reveal a rheumatic predisposition more often than is at present suspected. In only two of the above 24 cases did the disease end by crisis. The value of salicylate of sodium in acute pneumonia is also of interest in this connexion.

Hyperpyrexia occurred in two cases only, in one of which it was associated with pneumonia. The number seems small, and it is possible that early treatment with salicylates prevents a more frequent occurrence of this fatal complication. Pleurisy was found 14 times and bronchitis in 22 cases; in one patient the latter malady seems to have been responsible for a fatal issue.

Chorea occurred in two males and 11 females, giving an average of nearly 3 per cent. The oldest patients were ... of in 13 cases without obvious cause, and diarrhœa occurred ... possibly to papilloma of the bladder. Epistaxis was twice observed. In one case blood was passed per rectum without obvious cause other than the general disease. Phlebitis occurred once and arterial thrombosis (endarteritis?) affect... the two ... disease, ... gue.

Death.—In no case of the present series did death occur from an uncomplicated attack of rheumatic fever. Seven cases proved fatal altogether (about 1·5 per cent.), six patients being males and one a female. Two of these cases were due ... not included in the above series, appeared to derive benefit from treatment with hot air, a method which is certainly worthy of trial in many cases of chronic joint-disease.

Harley street, W.

ON OPERATIONS FOR CANCER IN THE AGED.

BY E. HARDING FREELAND, F.R.C.S. ENG.,
SURGEON TO THE ST. GEORGE'S AND ST. JAMES'S DISPENSARY, LONDON.

THE LANCET of May 5th, 1900 (p. 1276), there appeared by Mr. T. Frederick Gardner entitled "Three Cases of Surgical Interest." The first of the series—a scirrhous cancer of the breast—raises the question of the advisability of operating for cancer in extreme old age. This case has for me a peculiar interest, as a similar case occurred in my practice about two years ago which, taken in conjunction with Mr. Gardner's case, may be worth recording and prove interesting to others.

A spinster, aged 83 years, thin, wiry, and intelligent, somewhat feeble, but for her years in fairly good health, consulted me on March 18th, 1898, for a painful tumour in the left breast, which, she said, she had noticed about a fortnight previously. She told me that she had been "out of sorts" for several months and she thought that she had been losing flesh. On examination I immediately found a nodular swelling of stony hardness of about the size and shape of a plover's egg in the left breast, situated about an inch below, and external to, the nipple. The skin over the tumour was freely moveable except at one point

* The total number of cases of erythema nodosum admitted in the eight years was 20, of which only three were males, aged respectively 12, 14, and 17 years. The oldest female patient was aged 31 years, the youngest seven years. In the latter the condition was accompanied by glandular enlargement.

where it was dimpled and evidently becoming adherent to the parts beneath while there was a tendency to retraction of the nipple. The tumour was moveable, but not freely so, in the surrounding breast tissue. In the axilla a hard gland as large as an almond was felt under cover of the border of the great pectoral muscle and several smaller shotty glands were apparent higher up. The pain, which was acute and tended to recur in paroxysms, was of a "sharp stabbing" character and was felt not only in the tumour but "down the inner side of the left arm" as far as the elbow. This symptom, which first led the patient to take an anxious view of the situation, was increasing rapidly in severity and was telling considerably on her general health, interfering with sleep and giving rise to much mental distress. Such, then, in brief, is the history of the case to which I wish to call attention.

For reasons which I shall presently state, notwithstanding the patient's feeble state of health and advanced age, I determined to operate and the patient readily consented. Accordingly, on March 23rd, chloroform was administered by my friend Mr. G Everitt Norton, and I removed in one mass the whole of the left breast, the underlying pectoral fascia, and the axillary glands, together with the whole of the axillary cellular tissue, which was studded with numerous small shot-like nodules. The operation lasted some 40 minutes and was accompanied by considerable shock, from which, however, the patient soon rallied. The wound was dressed for the first time after the operation on the eighth day and union was found to be perfect. The patient was completely relieved of her pain, her appetite returned, she gained flesh, slept well, and became more cheerful. She got up on the fourteenth day and in another week left the nursing home for her own abode. The stiffness in her arm soon disappeared and she was able easily to approximate the palm of the hand to the occiput. Her general health continued good and the patient enjoyed life in her own way without pain or any sign of recurrence to the day of her death, which took place suddenly from heart failure on Oct. 20th, 1899, 19 months after the operation, she having been out for a walk the evening previously. The result, I think, quite justified the procedure resorted to.

"All's well that ends well," says the proverb, and it is easy to shake hands with and congratulate oneself on the success of a perilous venture. In cases such as these the point of prime importance is the accurate gauging of the *pros* and *cons* for operation. In the present instance the patient placed herself unreservedly in my hands, steadfastly refusing to have another opinion, so that on my shoulders fell the responsibility of deciding the momentous question as to whether an operation should be undertaken for her relief or whether she should be left to her fate. On thinking over the case at the time the following questions occurred to my mind: 1 Is it possible to remove the whole of the disease with good prospect of subsequent immunity? 2. Supposing this question to be answered in the affirmative, is the patient in a fit condition to withstand the shock necessarily attendant on a somewhat prolonged surgical operation under anæsthesia? 3. Supposing the two foregoing questions to be answered in the negative, what will be the probable subsequent history of the case if left to run its course? In other words, one had to weigh the risk of shock and risk of recurrence after removal with their attendant consequences against the inevitable increase of the tumour, which would probably sooner or later ulcerate, and the increase of pain which opiates sooner or later would cease to relieve. In the present case the facts seemed to me to be as follows.—1. The complete removal of the disease would entail an extensive operation which would occupy some time and give rise to considerable shock. 2. The patient, though somewhat feeble and advanced in years, was in fairly good health, thin, wiry, and of a cheery, hopeful disposition, and she should be, for her age, possessed of fair rallying powers. 3. The growth was evidently increasing rapidly and the pain was already as much as the patient could bear. On reviewing these facts carefully I came to the conclusion that notwithstanding her advanced years it would be better, on the whole, for the patient to run the risk of operation rather than to face the inevitable and in all probability be condemned to a life of suffering and a miserable death. How far this opinion was justified by the result the brief notes of the case above related bear witness.

No doubt, as Mr. Gardner remarks, cases of scirrhus in people of advanced age are rare. This, I take it, is due partly to the fact that the number of people who reach advanced age, say of 80 years, is comparatively small, and partly that those who do survive to such an age have outlived the time of life at which the incidence of cancer is common. But the chief lesson to be learned from cases such as Mr. Gardner's and my own is, I think, that while we should by no means under-estimate the increased risk which must necessarily occur in operating on the aged we should not without the most mature consideration withhold from a patient, however old, the benefits which surgery alone can bestow.

Beaumont-street, W.

A CASE OF TWO ANEURYSMS OF THE TRANSVERSE ARCH OF THE AORTA.

BY GILBERT J. ARNOLD, F.R.C.S. ENG.

THE following is an account of a case which presents some points of interest.

A patient, a man, aged 40 years, consulted me on March 23rd, 1900, stating that the previous night he had been somewhat alarmed by an attack of difficult breathing He further stated that he had suffered for some years from bronchitis and emphysema of the lungs and latterly occasional attacks of spasmodic asthma for which he had been under treatment abroad. His voice was hoarse and there was sometimes a dry cough. He had marked inspiratory stridor. The hoarseness had, he said, come on suddenly a few days previously. A laryngoscopic examination revealed the cause of the hoarseness. There was abductor paralysis of the left vocal cord. The larynx was normal in other respects. I should have mentioned that the patient had had, and been under treatment for, syphilis some 16 years ago. A thoracic aneurysm involving the left recurrent laryngeal nerve appeared by far the most probable diagnosis, but an examination of the chest did not reveal any abnormal pulsation, any murmur, any dull area on percussion, or cardiac hypertrophy, neither was there any inequality of pupils or difference in the radial pulses. I did not find tracheal tugging well marked. A guarded prognosis was given and potassium iodide was administered, gentle walking exercise being allowed. A few days later the condition of the vocal cords was practically the same—the right cord moving well and the left relaxed in the cadaveric position; there was therefore some paralysis of adduction too. The hoarseness and inspiratory stridor continued unchanged and he complained of very slight difficulty in swallowing The dosage of iodide was increased. I by no means anticipated that a fatal termination was so near at hand. On April 16th the patient sent for me on account of slight hæmoptysis. He was put to bed, the services of a nurse were obtained, and the recumbent position was insisted on. Ergot was administered and ice was given to suck. The hæmoptysis, which amounted to half a wine glassful of bright red frothy sputum, ceased within two hours. The patient informed me that he had spat blood on one occasion about three weeks before. He died the next day in bed from a sudden profuse hæmorrhage from the mouth.

Necropsy.—The heart and lungs were practically normal except that the bronchi were partially filled with blood Arising from the convex upper border of the transverse arch of the aorta was a firm sacculated aneurysm situated between the origins of the innominate and left subclavian arteries and behind the left common carotid, the lumen of which was somewhat flattened out by pressure of the aneurysm. Passing in front and in contact with the sac, which was of the size of a hen's egg, was the left vagus nerve. The sac was nearly filled by firm buff-coloured clot disposed in concentric laminæ. There was a second sacculated aneurysm of the size of a billiard ball also originating from the transverse arch and communicating with it by an aperture of the size of a crown-piece. This sac was in direct contact posteriorly with the trachea and also slightly with the œsophagus, but did not obstruct these structures post mortem, although it probably did so to a slight degree during life when distended by the blood-pressure. It contained recent blood-clot only. On slitting up the trachea posteriorly there was seen opening into it in front the aperture of a small ragged channel of communication, passing between two of its cartilage rings exactly one and a

half inches above its bifurcation, leading into the second sac. Through this channel, which was about five millimetres in length and one in diameter, the hæmorrhage had occurred. On the left side of this sac and intimately incorporated with its adventitious walls the left recurrent laryngeal nerve could be traced, its component strands being spread out and of the same dark colour as the rest of the walls of the sac. From its origin from the vagus under the arch of the aorta until it reached the sac and again above the sac the nerve was of normal appearance macroscopically. It is obvious that its conductivity must have been quite abolished. The arch of the aorta showed gross changes of a chronic inflammatory nature (aortitis). There was great thickening involving all the coats. The thickening was not uniform, but was especially marked in the form of hyperæmic patches, over which the intima was slightly raised. The thickening of the aorta was particularly noticeable around the orifices of the two aneurysms which were distant at their nearest points by about half an inch. Sections here showed marked thickening and hyaline degeneration of the coats; the adventitia and adjacent cellular tissue also exhibited groups of small round inflammatory cells which had penetrated the walls

laryngeal paralysis. This symptom had been manifest less than one month. Had the laryngeal paralysis appeared earlier in the

have heard little of "spasmod

attacks being doubtless due t

tion coming on earlier than the paralysis. 2. The narrow channel through which the blood escaped. The aneurysm did not burst. The case closely resembles in this respect the one figured on page 382, vol. vi, of Allbutt's System of Medicine, by Sir W. T. Gairdner. 3. The occurrence of two aneurysms arising so close together in the same vessel—the one having undergone spontaneous cure, the other, probably of much more recent origin, showing no signs of doing so. 4. These aneurysms could not be attributed to strain or laborious occupation. Also, the patient, who was a gentleman, had, as far as I could learn, never indulged in much

as rather

certainly

lesions in

with that

fact.

Torquay.

INTESTINAL OBSTRUCTION DUE TO PERSISTENT MECKEL'S DIVERTICULUM; SUCCESSFUL LAPAROTOMY.

BY F. FAWSSETT, M.B. LOND.,
SURGEON TO THE LEWES INFIRMARY AND VICTORIA HOSPITAL;
AND
R. F. JOWERS, F.R.C.S. ENG.,
ASSISTANT SURGEON TO THE SUSSEX COUNTY HOSPITAL.

A HEALTHY girl, aged 11 years, went to bed in her usual health on the evening of March 13th, 1899. Although her bowels had been twice relieved during the day she was given a dose of compound liquorice powder. At midnight she awoke with violent pain in the abdomen and was sick several times. On the following day, March 14th, she was seen by Dr. Fawssett, who prescribed an effervescing mixture containing diluted hydrocyanic acid, iced milk, and soda-water, and also hot fomentations to her abdomen. The pain was a good deal relieved but recurred at intervals. Vomiting occurred, but only after taking nourishment, and two or three times the milk-and-soda was retained. No action of the bowels took place. On March 15th no food was given by the mouth and vomiting only occurred once, when the child was moved in bed. As the pain continued and as nothing passed per rectum Dr. Fawssett held a consultation with Dr R. Sanderson late in the evening of this day. An enema of warm water was given which returned clear with the exception that the last portion was slightly blood-stained. While the water was retained it was thought that an indistinct lump could be felt in the right iliac region. Much gurgling and peristalsis were present. The diagnosis arrived at was acute intestinal obstruction, probably due to intussusception. A small dose of morphia was given hypodermically. As it was then late and as the patient was at Lewes it was decided that Mr. Jowers should be asked to operate in the morning.

On March 16th, at 11 A.M., Mr. Jowers saw the patient with Dr. Fawssett. The child complained of pain at the umbilicus, the abdomen was hard and rigid and slightly distended, distended coils of intestine could be seen, and there were marked peristalsis and gurgling on pressure. No lump could be felt. The tenderness seemed more marked in the left iliac region than elsewhere, the rectum was empty, and no motion or flatus had passed. The child was slightly under the influence of morphia at this time. Dr. W. A. Dow gave chloroform. The abdomen was opened below the umbilicus. On dividing the peritoneum a quantity of serous fluid escaped, greatly distended small intestine bulged into the wound, and after a considerable quantity had been drawn out of the abdomen and covered up in warm boiled towels, a bunch, consisting of several coils of collapsed small intestine, was found tightly nipped by a thin cord which came from the extremity of a Meckel's diverticulum, which was again attached to bowel, forming a ring through which the strangulated coils had slipped. The bowel down to, and including, the diverticulum was greatly distended. The patent portion of the diverticulum was about one and a half inches long and its base or opening into the bowel was fully two inches. To have excised it would have prolonged the operation, but as it was found to be impossible to return the bowels in their distended condition it was determined to utilise the diverticulum to relieve the distension. After covering the wound and the bowels, with the exception of the diverticulum, with boiled towels, the extreme tip was cut off with scissors, making a small opening through which a quantity of gas and a small quantity of liquid fæcal matter escaped. The mucous membrane, which slightly prolapsed, was ligatured and returned, and the peritoneum was then sutured by a double row of Lembert's sutures so as to invert and considerably shorten the length of the diverticulum. The abdominal wound was closed with silk-

inserted for 24

moved and the

for the purpose

terrupted, there

being no sickness and the temperature not rising above normal. The sutures were removed on the tenth day.

The striking thing about this case was that, considering the tightness of the constricting band, the symptoms were not more severe. The vomiting was never stercoraceous or continuous, the child did not look seriously ill, and the temperature was below 100° F. On the day preceding operation she vomited only once. Nor was this absence of vomiting due to masking of symptoms by morphia, as none was given till the night preceding operation

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

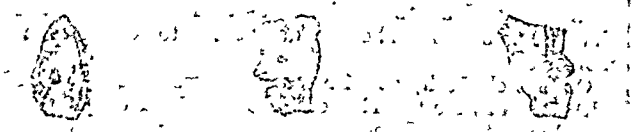
NOTE ON THE PASSAGE OF A CALCULUS OF EXCEPTIONAL SIZE THROUGH THE RIGHT URETER AND THE URETHRA OF A MAN ABOUT 50 YEARS OF AGE.

BY J. A. CUNNINGHAM, M.D., M.CH., R.U.I.,
MAJOR, I.M.S.

THE appended illustrations are faithful representations of a calculus composed chiefly of oxalate of lime with a coating in spots of urates and phosphates, which was passed recently by an officer in the Punjab Public Works Department. In its longest diameter the calculus measures fully half an inch.

It is of an irregular oval shape with nodular projections, and when quite dry it weighed seven grains.

The attack of renal colic began when the patient was out in camp towards the end of January, 1900, and when he was at a distance from medical aid. When the attack had lasted



Three different views of the calculus. Actual size.

10 days without relief, and the patient was nearly exhausted he was visited by a medical officer from a neighbouring district who advised him to proceed to Delhi, where it was expected that an operation would be required to relieve him. He undertook the journey (about four hours by rail and with accommodation for lying down) with some apprehension, but except that he felt weak and exhau[illegible] harm. On arrival it was found that the [illegible] had ceased, and he was conscious that [illegible] reached his bladder, having taken 11 da[illegible] the ureter. The pain was not constant during this period, but it occurred in intermittent paroxysms lasting from five to 20 hours each time. After remaining for seven days in the bladder the calculus was voided with the urine without much inconvenience.

Delhi.

REMOVAL OF A FOREIGN BODY FROM THE EAR.

By JAMES G. MACASKIE, L.R.C.P., L.R.C.S., D.P.H. EDIN.

I WAS called in to see a schoolboy who had pushed into the right meatus a piece of indiarubber which had previously been attached to a lead pencil. I found that he had driven the rubber well in, and as it was almost an exact mould and presented to view an entirely flat surface it was impossible to catch it with forceps and syringing did not seem likely to improve matters. I therefore, on the following day, teased out the end of a small piece of twine and giving this a good coating of seccotine I pushed it tightly against the indiarubber, packing it closely all round with cotton-wool. This was allowed to remain in position for 24 hours when there

Reproduction of photograph of indiarubber and string attached. Actual size.

was firm cohesion and I found not the slightest difficulty in withdrawing everything [illegible]. I may mention that before forming the connexion I thoroughly cleaned away all the wax, of which there was a good deal, with ether. It is very possible that this expedient is by no means new, but as it was so successful I beg to suggest it to any who may be confronted with the same difficulty.

Belfast, North Ireland.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

[illegible] pro certo [illegible] et [illegible] onum hist[illegible] [illegible] collectus haberet, et inter se comp[illegible] [illegible] Morb., lib. iv. Proœmium.

NEW HOSPITAL FOR WOMEN.

THREE CASES OF INTESTINAL SUTURE.

(Under the care of MRS. STANLEY BOYD, M.D. Brux.)

THE three cases recorded below illustrate well two of the more important conditions for which [illegible] be required. Cases 1 and 3 are exampl[illegible] for irremoveable malignant disease, and Case 2 is a good instance of resection for gangrene and adhesions. Post-operative intestinal obstruction is yearly becoming more frequent, for abdominal operations are now much more readily undertaken than was even lately the case. It is probable that complete covering of the pedicles of ovarian tumours by peritoneal flaps would diminish greatly the tendency [illegible] post-operative bands.

CASE 1. [illegible] *intestinal obstruction due to malignant* [illegible] *e iliac glands and cæcum.*—A married woman, aged 27 years, was admitted to the New Hospital for Women on June 30th, 1897. Vaginal hysterectomy had been performed in August, 1896, for malignant disease of th[illegible] case and sh[illegible] two and thre[illegible] attended as [illegible] was relieved [illegible] was heard of her till [illegible] she wrote complaining of flatulence. [illegible] attended at the hospital and was admitted. She gave the following history. The bowels had acted regularly up to June 7th. On that day she was seized with violent pain in the abdomen and vomiting which lasted a few hours and recurred four days later after taking some castor oil. The bowels did not act until the 15th (one week's constipation), when the action gave great relief. From that date, in spite of salts, liquorice powder, and enemata, she had had no real relief, although an enema had occasionally brought away small scybala. Flatus was passed only once or twice without an enema. She had suffered much from colicky pain and nausea. She had taken only liquid food. Her face was anxious; the pulse was 120, falling when she was in bed to 88. The vaginal scar was quite soft and normal. The abdomen was hard and tense and distended coils of intestine a[illegible] were visible. It was thought that [illegible] was kinked by adhesion to the vaginal scar and that by carefully given enemata it might be possible to unload the bowel and relieve her for the present. She was ordered regular enemata and gentle massage of the abdomen. She remained in much the same state till July 4th. The enemata had practically no result, nor had some small doses of castor oil repeated at six hours' intervals. On the 4th she felt sick towards evening and during the night. It was therefore decided to open the abdomen.

An operation was performed on July 5th. On opening the abdomen by a median incision above the pubes distended small bowel presented. The source of obstruction was found to lie in a mass of malignant glands lying along and adherent to the right external iliac vessels, infiltrating and binding down the cæcum; to this was adherent also by infiltration of its wall with growth the lower end of the ileum. The ascending and transverse colon beyond the obstruction were contracted and pale. In separating a coil of distended ileum which hung down into the pelvis and was firmly adherent there its peritoneal coat was slightly torn. As complete removal of the malignant mass was impossible it was decided to short-circuit the bowel. The transverse colon was drawn down after ligature and division of omental

in the pelvis was torn where it had been injured by separation of adhesions. It now seemed best to utilise this tear, as the injured coil could be brought up to the transverse colon without much difficulty. Liquid fæces had escaped as was promptly arrested. The ide the abdomen, allowed to th 1 in 2000 solution of per- hen clamped above and below the tear by an assistant's fingers. At first peristalsis was strong and forced out gas and even a little fæces. The tear was larger than was desirable and was transverse and therefore a little more difficult to bring into line with a longitudinal

angles to form the deep row in front of the opening. A second anterior row of Lembert's sutures completed the penings parts of per- ed, the closed end of hypo- ia was utrient enemata.

On per rectum and on the patient pain or blood. From this and the bowels acted well; h the stool and sometimes on the whole there was no abdominal wound was found to to be opened up freely. She spital on August 12th with the aled. It was noted that the

fornix. On Sept. 12th a vaginal fæcal fistula patient was suffering mu dominal wound had healed. On Sept. 20th pus had made its way through the abdominal seen. She was keeping her b had closed. There were two s

miting, the vomiting continuing for a aperient, the bowels not having 20th, but it acted hardly at all. On the 25th an enema was given without effect and some milk with brandy was given by the mouth; this the patient retained. She was brought back to the hospital on the same afternoon. On admission the temperature was 100 8°, but after this it did not rise above 99 6° or the pulse over 100. There was little to note; the abdomen was not distended, the patient seemed to be fairly comfortable, and when fed frequently with small quantities retained her nourishment. Enemata were given and acted. On the night of the 26th she vomited jelly-like mucus and some brown stuff which was said to have had a fæcal odour. There was no further vomiting for 36 hours, but on the morning of the 28th her aspect had changed for the worse. She was complaining more of pain, chiefly over the stomach, and it was paroxysmal in character. The enema given had acted only very slightly. The abdomen was somewhat distended and moved with respiration, but a transverse coil of intestine was visible. There were signs of a small amount of fluid in the abdomen. The pulse remained about the same, 96, and fairly good. The tongue was red and fissured, but not dry. At noon the patient vomited a large quantity of "fæcal" fluid and operation was undertaken without further delay.

The abdomen was opened through the former scar without any parietal adhesions being encountered. Dilated and congested small intestine presented. The hand, passed behind the uterus, found it and Douglas's pouch to be free from intestine. A small amount of blood-stained fluid was found in the abdominal cavity. Two coils of intestine were adherent to each other and these were brought up, dissected free, and bleeding points tied. The intestine so freed was followed up and was found to be held by one of the above-mentioned bands which was ligatured and divided. The bowel above the band was considerably dilated and that below was completely collapsed and it had sloughed just where the band constricted it. About eight inches along the collapsed bowel was a sharp kink caused by dense adhesion to each other of the walls of a short loop of intestine— most the piece About ntery being secured as they were divided. The cut ends of intestine were brought together by a Murphy's button, but the distal end was so collapsed that it was not easy to introduce the button here, and the bowel was quite markedly stretched over it. On pushing the button home the e dilated upper end bulged out A continuous Lembert horsehair nd and the V-shaped wound in the terrupted horse-hair sutures. The coil of intestine was then sponged with saline solution and dropped back into the abdomen. Two omental bands and the sigmoid flexure were freed from the back of the pedicle.

CASE 2. *Resection of the small intestine for gangrene from obstruction by band.*—A young woman, aged 23 years, unmarried, underwent abdominal section in the new Hospital for Women on Dec. 31st, 1897, for the removal of a large multilocular cyst of the right ovary which filled the abdomen up to the liver; there were no adhesions. The contents of the cysts were so thick that the trocar was useless; the opening had to be enlarged and the cysts broken down by hand; some of the contents, in spite of careful packing, escaped into the peritoneal cavity. Otherwise the operation was easy and convalescence was uninterrupted, the wound healed by first intention, though the evening temperature was usually above 99° F. After three weeks she was sent to the convalescent home, and before she left it was noted that the uterus was freely moveable and in normal position and that the rectum was slightly ballooned. The bowels were opened on Jan. 20th, 1898, the day before she left the hospital. On the evening of the 23rd, after an indigestible supper of mince-pies and nuts, which the patient managed to procure, she had severe

evening 130 and the temperature rose to 104°. Flatus passed freely once and on Jan 30th the bowels acted twice after an enema, the stools being very offensive. There was no blood in the stools. Abdominal pain was a marked symptom for the first few days. Feeding by the mouth was begun on the 30th. By Feb. 1st the temperature had become normal and on the 4th the wound was found to be healed. After this there was a check; vomiting returned with increase of pulse and temperature, and by Feb. 15th an induration had formed to the right of the scar and necessitated re-opening the abdominal wound. A localised collection of pus was found deep to the muscle and pressure on the right iliac fossa small quantity of fæcal matter not strike the button. gauze, the temperature mixture, and the sinus was passed on Feb. 17th, Throughout the convalescence aperients were needed and there was always a certain

amount of distension of the abdomen. The patient returned to her work and went on fairly well until September, when she had an attack of abdominal pain and sickness with three days' constipation relieved by castor-oil. During the next five weeks she was sick on four occasions and brought up blood and had attacks of constipation lasting from three to seven days. As self-administered enemata failed to overcome the constipation and the retching and pain continued, she was re-admitted to the hospital on Nov. 1st. The abdomen was a good deal distended on admission and the temperature was slightly raised, being 99° or 100°. For a fortnight she was dieted and treated with enemata and purgatives with varying result. Occasionally there was a good action, but the distension was little relieved and it seemed clear that she was suffering from some chronic obstruction.

On Nov. 19th the abdomen was re-opened through the upper end of the old scar. There were no adhesions of omentum or bowel. A large portion of small intestine was found collapsed. A fibrous band three inches long uniting two coils of bowel was tied at both ends and cut. A second fibrous band was found and from beneath this a large mass of collapsed small intestine was withdrawn. This fibrous band was found to take origin from a coil of small intestine close to the site of the former resection, which was marked by a slight but distinct constriction. Here, in the bowel and in the mesentery, horsehair stitches were embedded, while from the free margin of the bowel projected about two and a half inches of horsehair surrounded by a fibrous envelope, evidently part of the continuous suture inserted to reinforce the button. The strictured coil lay in the pelvis. The horsehair knots and stitches were cut out and the peritoneal coat reunited with fine interrupted sutures of catgut. No other bands were found and the abdomen was closed by tier suture without drainage.

The patient made an excellent recovery with much less pain than on the previous occasion and the bowels acted after an enema on the fourth day. She was discharged from the hospital on Dec. 12th with the wound soundly healed and the bowels acting regularly with the help of mild aperients. She has remained well up to the present time, although she always has to take aperients and gets at times attacks of vomiting, when she is said to bring up blood. This, however, was not substantiated when she was again admitted to the hospital for observation after such a reported attack. During each convalescence there was evidence of the patient's hysterical tendencies.

CASE 3. *Gastro-enterostomy for malignant disease of the stomach and pancreas.*—A married woman, aged 37 years, was admitted to the New Hospital for Women in November, 1898, under the care of Miss Cock, M.D. Brux. There was a history of nine months' definite illness and of an attack of vomiting 15 months previously which passed off. For nine months the patient had noticed a small lump in the epigastric region to the right of the mid-line and had suffered from abdominal pain, discomfort, and distension. These attacks of pain were terminated and relieved by vomiting of large quantities of offensive liquid. At first the attacks occurred with weekly intervals, but later the intervals were only from 24 to 48 hours, and the pain had become more or less continuous. She had never vomited blood. In August, 1898, her weight was 6 st. 4 lb. On admission it was 5 st. 4 lb. There was no history of previous gastric trouble or of syphilis. On admission it was noted during an attack of distension that there was considerable separation of the recti. The upper part, sometimes the whole abdomen, was distended by the stomach. The outline of the smaller and greater curvatures could at times be distinctly seen as well as felt. They extended respectively to the level of the umbilicus or just above it (smaller curvature) and to the pubes (greater curvature). On palpation succussion splash and waves of peristalsis could easily be obtained over the dilated stomach, and to the right of the mid-line just below the liver and beneath the edge of the right rectus muscle a tumour of the size of a small egg could be plainly felt, hard, not tender, moveable both vertically and laterally, separable from the liver edge. The vomit which was offensive and chiefly fluid, contained neither blood nor sarcinæ. As much as three or four pints were brought up at once. The patient remained in the hospital over three weeks and at first derived slight benefit from medical treatment and dieting; the improvement was not maintained, however, and after leaving the hospital the symptoms were as bad as ever. Her weight on her discharge was 4 st. 8 lb. On March 17th, 1899, she was re-admitted to a surgical ward with a view to operative measures. Her weight on admission was 6 st. 2 lb., a distinct gain in spite of the persistence of the symptoms. The local condition was unchanged except that the distension was more intermittent. The patient was most anxious for surgical relief.

After preliminary washing out of the stomach for four days, and immediately before operation, an exploratory laparotomy was performed on March 23rd. The incision, which was three inches long, extended to within an inch of the umbilicus and part of the anterior wall of the stomach presented in the wound. Examination showed the tumour noted above to be an infiltration of the coats of the stomach near the pyloric end, involving and constricting the whole circumference and welding it into one mass with the similarly infiltrated pancreas below. The pyloric orifice as apart from the mass could not be made out nor could the foramen of Winslow be traced. There were hard glands in both omenta. The liver was unaffected. As the infiltration of the pancreas rendered an excision of what was regarded as a malignant growth impossible gastro-enterostomy was resolved upon. The most dependent part of the stomach was drawn upwards out of the wound and the posterior wall of the stomach was exposed by a crucial incision through the transverse mesocolon. The commencement of the jejunum was felt for and a high coil that would lie in easy proximity to the stomach was selected and clamped, gauze veils being carefully packed round and beneath the stomach and intestinal coil. The viscera being held in contact two rows of continuous Lembert's sutures of fine silk were passed over a length of two inches and tied. An anterior row of interrupted stitches was passed, leaving sufficient space for opening the viscera between this row and the two previous ones; these were not tied, their ends being left long, clamped, drawn aside, and protected, while the viscera were opened for some one and a half inches. Small bleeding points were secured. The surfaces having been well sponged with saline solution the mucous coats were brought together with a few interrupted silk sutures to keep them out of the way, and the anterior row of sutures was tied and reinforced by a second row of continuous silk sutures anterior to them. The parts were again well sponged with saline solution and returned to the peritoneal cavity, where they lay without strain, the transverse colon falling naturally into position in front of them. The abdominal wound was sutured in layers.

The patient made an excellent recovery. She was fed by nutrient enemata for two days but from the first was given sips of hot water by the mouth. On the third day milk was given by the mouth in teaspoonfuls, and by the sixth day all rectal feeding was stopped and she was given minced meat by the mouth. There was no sickness from the time of the operation and there was no pain. She was discharged from the hospital on April 8th feeling better than she had felt for months. Her weight on discharge was 6 st. 2 lb. Owing to the tension of the recti from the line of suture it was no longer possible to make out the swelling in the neighbourhood of the pylorus, but the shape of the abdomen had become much more uniform and the rather marked distension which at first existed in the neighbourhood of the wound had quite disappeared. The patient was seen on Nov. 1st, 1899, her weight then being 7 st. 8 lb. She expressed herself as being extremely well. She was able to do all her own work and had gained flesh and colour in a remarkable way. The tension of the recti was still so marked as to preclude the possibility of feeling the tumour, the abdomen was uniform and symmetrical, but perhaps slightly fuller above than below the umbilicus. To percussion the greater curvature lay at the lower limit of the abdominal scar (about one inch above the umbilicus). In March, 1900, her weight was 7 st. 12 lb. and her health continued excellent. The epigastrium was less tense and palpation was possible. Nothing could be felt of the tumour which seemed to have diminished or disappeared.

Remarks by MRS. BOYD.—In Case 2 the second operation gave an opportunity of observing the nature of the junction effected by Murphy's button. It cannot be considered a typical case on account of the reinforcing line of suture, and further the intra-peritoneal abscess that formed after the first operation was undoubtedly due to leaking at the site of the button. The difficulty in adjusting the button to ends of such different calibre was answerable for this, causing at the

proximal end considerable frilling of the mucous membrane, and at the distal end dangerous pressure from distension by the button. The line of suture was not efficacious in ultimately preventing leaking, although it was doubtless useful in strengthening the junction until adhesions had formed round about. The late development of the abscess points to this conclusion, although the early abdominal pain suggests irritation about the line of junction. That the continuous stitch had cut out at some time was clear from the length of straight horsehair found hanging from the free margin of the bowel, while the mesenteric portion remained embedded with no sign of irritation. This would seem to point to certain disadvantages in the use of a somewhat rigid, non absorbable suture for a continuous stitch where it happens to cut out, for the long end thus found surrounded by organised lymph might certainly have proved an additional trap for the bowel. The external stricture at the line of junction was extremely slight and there was no marked thickening to suggest that the calibre of the bowel might be diminished disproportionately. It is interesting to note the very slight evidence that remained at the second operation (after an interval of six months) of the fairly extensive intra-peritoneal abscess—viz., the two distinct fibrous bands passing from one part of the intestine to the other. Indeed, it is not clear that these bands may not have had their origin after the ovariotomy with the band that formed the first source of obstruction, but were overlooked as causing no trouble at that time.

Case 3 calls for little remark except to emphasise the extremely easy convalescence with entire absence of pain and intestinal worry. This seems partly due to the area of stomach chosen for anastomosis, to the method of suture in a perfectly free access and the convenience of the disappearance of the tumour and the prolonged improvement in the patient's health make it probable that the obstruction was cicatricial rather than malignant, as was diagnosed at the time of operation.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Exhibition of Cases and Specimens.—Annual Meeting.

A MEETING of this society was held on May 29th, Mr. A. PEARCE GOULD being in the chair.

Dr. MORLEY FLETCHER exhibited a specimen of Hypertrophied Brain which had been removed from the body of a boy, aged 10 years. During life the head was noticed to be of unusual size. The child was somewhat backward but not imbecile. The father had rather a big head. The skull-cap and membranes were normal, the weight of the brain being 73 ounces. There was a uniform increase in size and the different parts were also all relatively increased. Microscopically the chief change consisted of an increase in the neuroglia. In various parts were found non-nucleated round bodies, more abundant in the white matter. They were dissolved by xylol and probably consisted of some fatty substance. This was the heaviest brain on record as far as he (Dr. Morley Fletcher) was aware and corresponded to the pathological variety known as cerebral hypertrophy. The recorded cases had been found in children and adults, most of whom exhibited a deficiency of intellect. Megalencephalic would be a more suitable name. He was indebted to Sir Dyce Duckworth for permission to publish the case.

Dr. FLETCHER also exhibited a Tumour of the Posterior Mediastinum probably originating in the sympathetic system. The patient was a woman, aged 32 years, who was admitted under the care of Dr. P. J. Hensley into St. Bartholomew's Hospital. She had had pain in both groins and later pains in the chest and all the symptoms of mediastinal tumour. There was excess of white corpuscles in the blood. A small nodule of secondary growth was present in one lung. The tumour measured six inches vertically and consisted of two lobes. The tumour had also invaded the spinal canal though not the intra-dural cavity. Microscopically the tumour consisted of myxomatous tissue with fibres resembling non-medullated nerve fibres and cells resembling sympathetic nerve cells. Other parts of the tumour were sarcomatous with spindle cells. In the spinal canal the structure was different. It was suggested that the tumour originated in a sympathetic ganglion and that it was a neuroma.—Dr. H. D. ROLLESTON, remarking on the rarity and interest of the growth, suggested that it should be referred to the Morbid Growths Committee and this suggestion was adopted.

Dr. MORLEY FLETCHER and Mr. H. J. WARING exhibited two cases of Congenital Sacro coccygeal Tumour. The first was removed from a child, aged two years, who was under the care of Mr. J. Langton at St. Bartholomew's Hospital. The tumour which was present at birth had been gradually increasing in size. It was removed, but two months later the child returned with recurrence in the iliac and lumbar glands. The primary tumour and the pelvis were both exhibited. The tumour was cystic, the cysts being lined by columnar epithelium. The more solid portions had the structure of an adeno-carcinoma. As far as Dr. Fletcher and Mr. Waring knew no other case had been recorded of a congenital sacro-coccygeal tumour becoming carcinomatous. The second specimen shown was a sacro-coccygeal tumour from an infant, seven days old. This was a cystic tumour containing spindle and round cells, myxomatous tissue, and cartilage. The embryological origin of these forms of congenital tumour was discussed.

Dr. E. CAUTLEY showed the brain from a case of Congenital Hydrocephalus with Complete Atrophy or Non-development of the Prosencephalon. The patient was a male infant, aged four months, who died after an illness of three weeks' duration, characterised by vomiting, drowsiness, occasional screaming, spastic rigidity of the limbs, retraction of the head and rigidity of the neck muscles, exaggeration of the knee-jerks, and extensive craniotabes. The head was of normal size for the age and weight of the child, but the sutures and fontanelles were open, the anterior fontanelle being large and bulging. The brain was represented by the medulla oblongata, pons varolii, cerebellum, crura cerebri, and optic thalami, all of which were small and ill-developed. The rest of the brain consisted of a membranous bag composed of two dilated lateral ventricles, which had held about a pint of clear watery fluid. The membrane was about the same thickness as the dura mater in a normal adult and did not appear to contain any nervous tissue elements. Dr. Cautley ascribed the condition to an excessive formation of fluid in that part of the anterior cerebral vesicle known as the prosencephalon or procerebrum, and interference with its escape. This probably occurred very early in fœtal life and the prosencephalon became a membranous bag containing fluid instead of developing into the usual cerebral hemispheres, lateral ventricles, corpora striata, and olfactory lobes.

Mr. WALTER EDMUNDS exhibited the Thyroid of the Puppy of a Bitch from whom the Thyroid had been Removed. Halsted had shown that the thyroid of a puppy from a bitch partially deprived of its thyroid was hypertrophied; it was about 20 times larger, and microscopically the colloid was absent and the vesicles were very rare. This experiment Mr. Edmunds had repeated. Nearly the whole of the thyroid was removed from a bitch, leaving only one parathyroid and a morsel of thyroid proper. A few months later the bitch gave birth to a puppy and it was found that the thyroid of the puppy was large. Microscopically the colloid was absent and the secreting cells lining the vesicles were hypertrophied. These were the appearances of compensatory hypertrophy. It had been observed that the health of women suffering from either myxœdema or Graves's disease was much improved by pregnancy.

Dr. ARTHUR SAUNDERS exhibited the Legs of a Duck which had Webless Feet. He had only been able to find records of two instances of webless feet in ducks, one by F. O. Morris in *The Zoologist*, vol. iv. (1846), p. 1214, and one by Möbius in the *Transactions of the Zoological Society of Frankfort-on-Maine*, vol. xviii. (1877), p. 223. It was a duck excepting the absence of the web, which was represented by a slight membrane. The duck was able to swim, but not so well as other ducks.

Mr. S. G. SHATTOCK exhibited some Anatomical Rarities: 1. The hand and forearm of a chimpanzee in which the tendons of the flexor profundus digitorum were ruptured near their insertions into the terminal phalanges. The tendon of the index was tied in a knot around the ruptured tendon of the flexor sublimis after having been

completely withdrawn through the perforation in the latter. The rupture doubtless arose from a violent contraction of the muscle made to save a fall, whilst the terminal phalanges of one hand alone supported the weight of the body. 2. Unilateral synostosis of the temporo-maxillary articulation, preceded by an unusual amount of destruction of the jaw. No history was forthcoming. The degree of destruction suggested a tabetic arthropathy. The whole of the condyle and neck, with a portion of the ramus, had completely disappeared. 3. The tusk of an African [illegible] .rp angular curvature. Its surfaces [illegible] .cial destruction, associated with abnormal productions of cement, indicative of an alveolar periostitis. These changes explained the occurrence of the curvature. In consequence of a condition like that of pyorrhœa alveolaris in the human subject the tusk became [illegible] .ts sheer weight then underwent down- [illegible] As the production of ivory proceeded from the persistent pulp in the base the deeper or growing end of the tusk formed—i e , after the occurrence of the displacement had been developed in the normal axis. Mr. Snattock questioned whether the mobility of the tusk of the elephant, usually regarded as normal, was not really a result of alveolar inflammation, for such observations related to animals living in the unnatural conditions of captivity. In man pyorrhœa alveolaris was known not only to induce premature absorption of the alveoli and exposure of the fangs of the teeth, but in extreme cases a tooth isolated by this disease might assume a horizontal position; were it furnished with a persistent pulp the after-growth would be followed by a curvature, as in the case of the tusk described. 4. Two Umbilical Calculi which consisted of squamous cells and hairs with needles of fatty acids. They had been removed from the umbilicus, in which situation they had produced a suppurative sinus.

Dr. JOHN FAWCETT exhibited a Fibroid Lung following Broncho-pneumonia. The patient, a child, had been admitted several times into Guy's Hospital under the care of Dr. Hale White with recurrent bronchitis and broncho-pneumonia. At the necropsy both lungs were found to be affected with old and recent pleurisy, thickening of the pleura, and a general increase of the fibrous tissue. As to the etiology of the condition broncho-pneumonia was the cause in this case, as it generally was in children. In looking up the Guy's Hospital post-mortem records from 1875–98 inclusive Dr. Fawcett had found that there had been 97 necropsies on cases of fibroid lung apart from tuberculous disease. In 43 of these the exciting cause was apparently some pleural lesion and in only five of these could there be said to have been any acute pulmonary lesion which might have been a "pneumonia." 18 of the cases were thought to be syphilitic and 10 were due to broncho-pneumonia. The majority—viz , 57—of the Guy's Hospital cases were between 30 and 60 years of age. These data were quoted to show that when a larger number of cases were taken it was clear that fibroid lung affected a longer period of life than was stated by some observers and also to show that pleurisy might be in later years probably quite as potent a factor in the causation of fibroid lung as broncho-pneumonia in the earlier ones.

Dr. A. J. CLEVELAND and Dr. J. FAWCETT exhibited a specimen of Diplococcus from a case of cerebro-spinal meningitis. The patient was a youth, aged 19 years, who died after an illness of five days. At the necropsy there was turbid serum in the ventricles and round the spinal cord. In the lymph at the base of the brain and round the cord diplococci were found, but no cultures could be obtained from this or from the serum or from the blood.

Dr. H. D. ROLLESTON showed a Pedunculated Spindle-celled Sarcoma arising from the submucous coat of the posterior surface of the œsophagus in its middle third. The tumour was white, friable, and in places superficially ulcerated. The base of attachment measured three inches on the long axis of the gullet. The growth was moulded to fit the lumen of the œsophagus and therefore was more pedunculated in the long than in the transverse axis of the gullet. It extended from a point one inch above the cardia to within one and a half inches of the cricoid. Reference was made to some other recorded specimens, of which three—Targett's, Ogle's, and Liverpool's—were pedunculated. Most of these cases were spindle-celled and arose from the submucous coat. Clinically, sarcoma resembled carcinoma of the œsophagus. The patient was a man, aged 49 years, who died with signs of fracture.

Dr. FRANCIS H. HAWKINS exhibited as a card specimen a Lympho-sarcoma of the Thorax occurring in a child, aged six years.

The annual meeting of the society was held subsequently. The report of the council showed that the society was in a satisfactory condition, the members amounting to an aggregate of 681. Reference was made to the new departure in the shape of laboratory meetings which had been held during the past session with conspicuous success. Various alterations had been made in the rules to meet the modern development of pathological science and an editor had been appointed. Votes of thanks were passed to Mr. A. Pearce Gould who had acted as president during the latter part of the session, to the retiring vice-presidents, members of the council, and the retiring officers. The following officers were appointed for the session 1900–1: President: Mr. W. Watson Cheyne. Vice-Presidents: Dr. E. Crookshank, Dr. S. Martin, Dr. F. W. Mott, Dr. G. Newton Pitt, Mr. Victor Horsley, Mr. G. H. Makins, Mr. Charters J. Symonds, and Mr. J. H. Targett. Treasurer: Dr. Sidney Coupland. Honorary secretaries: Mr. Charles A. Ballance and Dr. J. Rose Bradford. Council: Dr. F. W. Andrewes, Dr. T. Grigor Brodie, Dr. Sheridan Delépine, Dr. James Galloway, Dr. Archibald E. Garrod, Dr. Herbert P. Hawkins, Dr. R. G. Hebb, Dr. Patrick Manson, Dr. Cyril Ogle, Dr. H. D. Rolleston, Mr. William H. Battle, Mr. Cecil F. Beadles, Mr. H. P. Dean, Mr. A. G. R. Foulerton, Dr. C. D. Green, Dr. F. G. Hopkins, Dr. John McFadyean, Dr. Allan Macfadyen, Mr. D'Arcy Power, and Mr. Frederick C. Wallis.

CLINICAL SOCIETY OF LONDON.

Case of Gastro-enterostomy followed by Pylorectomy.—Septicæmia treated by Anti-Streptococcic Serum and Nuclein.—Conclusion of a case of Graves's Disease.—Annual Meeting.

A MEETING of this society was held on May 25th, Sir R. DOUGLAS POWELL, Bart., the President, being in the chair.

Mr. ARTHUR E. BARKER read a paper on a case of Gastro-enterostomy followed by Pylorectomy and Recovery. The case was that of a woman, aged 55 years, who presented herself in March, 1899, at University College Hospital with very obscure symptoms of partial intestinal obstruction. There was a defined tumour to the left of the left rectus muscle under the border of the ribs. This was variously diagnosed, but Mr. Barker held it to be a growth of the splenic flexure of the colon. The abdomen was opened on this hypothesis by an incision at the left border of the left rectus. The tumour was found to be a carcinoma of the pylorus. Retro-colic gastro-enterostomy was at once performed, from which the patient made a rapid recovery. Five weeks later Mr. Barker removed the whole of the pyloric end of the stomach and closed the resulting openings in it and in the duodenum. Recovery was rapid, and the patient put on flesh steadily and went about as before, eating, as a rule, ordinary food. She died from recurrence exactly one year after the operation. The first operation was done under local (eucaine) analgesia and the second under chloroform anæsthesia. Murphy's button was employed and came away on the twelfth day. The operation was much facilitated by taking it in two stages. The following points were raised: (1) the peculiar position of the tumour, being in the splenic region; (2) the general propriety of pylorectomy; (3) the performance of a preliminary gastro-enterostomy, which was of undoubted advantage, and Mr. Barker thought that it might be made more of a routine procedure; (4) the selection of the anterior or posterior operation, the latter being in most cases as easy as the anterior and, in Mr. Barker's opinion, preferable; (5) the use of Murphy's button, as compared with simple suture, Mr. Barker showing a preference for the latter; and (6) the advantage of local anæsthesia as obviating the vomiting during the operation.—Mr. LEONARD BIDWELL quite concurred with Mr. Barker in preferring the double operation and he quoted some cases in which he had operated in that manner, all of which could be regarded as successful though the growth had recurred later. In one case in which he had performed the operation in one stage the patient died within ten days of the operation from the adhesions in the jejunum, which resulted in a kink. To prevent this accident the loop of the jejunum attached to the stomach should not be too close up to the duodenum. If it were, regurgitation of the bile into the stomach occurred.

He (Mr. Bidwell) advocated Halsted's method of suturing and in only one case had he had the slightest trouble afterwards. As to the interval of time which elapsed between the two operations, he had allowed 18 days and thought that that was a suitable time. In regard to the diagnosis of the early stages of stricture of the pylorus there was at first increased [illegible] might be [illegible] stomach r[illegible] of life was [illegible] operation than after gastro enterostomy alone.—Mr. BARKER, in replying, said he would have liked to have heard more particulars of Mr. Bidwell's cases. As to the duration of life, he was not very sanguine. The operation prolonged life, and the average duration of life was not seven years but perhaps two or three years. Everything depended on an early diagnosis and the courage of the patient to undergo the operation. One thing was quite certain, pylorectomy should never be done for anything excepting malignant disease.

Dr. W. F. VICTOR BONNEY (introduced by Dr. JOHN ABERCROMBIE) read a paper on a case of Obscure Septicæmia treated by Anti-streptococcic Serum and Nuclein. The case was that of a young man who was seized, without any history of previous disease whatsoever, with fever of a persistent type, associated with joint swellings, femoral thrombosis, and abdominal distension. On the forty-second day of the disease rigors began, with a remittent temperature reaching nearly 107° F. on several occasions. He was treated by injections of anti-streptococcic serum, receiving within a period of 17 days 420 cubic centimetres in 42 injections. During this period the temperature fell and the patient greatly improved. A relapse on the sixty-fourth day was treated by injections of *nuclein*, 1 per cent. solution, in two cubic centimetre doses. He received nearly 30 cubic centimetres in eight days, during which period the temperature fell and the patient rapidly convalesced. He recovered and was now in complete health. The diagnosis, which was obscure at first, was divided between malignant endocarditis, enteric fever, and some obscure form of pyæmia. The first was negatived by the absence of cardiac signs and the second by Widal's test twice applied. Several bacteriological examinations left the matter still unsettled, though Mr. A. G. Foulerton was suspicious of having detected the gonococcus *in the blood, but could not, by a mishap, confirm it.* Reviewing the whole case, the likelihood that it was a gonococcal septicæmia was not improbable. The serum used was that made by Mr. Bokenham, while Messrs. *Burroughs and Wellcome kindly gave the nuclein free.* No ill-effects followed the injection of either.—The PRESIDENT remarked on the interest of cases of this kind which ought always to be carefully recorded in order that they might be more readily compared. The patient whose case he had recorded, to which Dr. Bonney had referred, was still alive, but the diagnosis was still uncertain. The cardiac signs disappeared and the patient had had recurrent attacks of *fever and of albuminuria.—Dr. ABERCROMBIE remarked* that he could not help believing that the treatment by serum and nuclein had the chief share in the recovery of this case, though he had used these remedies in other *cases of septicæmia without success, excepting in one* instance. As to Dr. Bonney's case, the patient had since presented himself for treatment for urethritis.—Mr. ARTHUR E. BARKER remarked that many cases of *gonorrhœal pyæmia came under the notice of the surgeons* and he would hesitate to accept the view that this case was checked by the anti-streptococcic serum. Cases of this disease went on to an extreme degree and then got well in a *very remarkable way without any remedy.* The bacteria probably grew until the soil was exhausted.—Dr. BONNEY, in reply to the suggestion that the recovery was a coincidence, remarked that the patient was getting progressively worse *on two occasions* and each time that the *remedies were* given he got well.

Dr. WILLIAM PASTEUR communicated the conclusion and post-mortem notes of a case of Graves's Disease with Bradycardia shown at a clinical meeting in April, 1899. The patient, a widow, aged 67 years, had suffered from Graves's disease for 20 years and exhibited the disease in a typical form, with tachycardia, when first seen at the Middlesex Hospital in 1896. Under observation the enlarged thyroid dwindled and the tachycardia gradually gave place to marked bradycardia. The demeanour and facial expression were placid and almost apathetic. She said that her voice had altered in quality. [illegible] rather clumsy with [illegible] the bradycardia was [illegible] of the heart, of which there was physical evidence; or whether, with other symptoms just mentioned, it indicated the supervention of myxœdema. The latter was the opinion generally expressed. The patient was re-admitted to hospital in July, 1899, with acute symptoms of heart failure from which she rallied for a time. In January, 1900, she returned to hospital in a critical condition with signs of extreme tricuspid regurgitation and died within 24 hours of admission. The thyroid gland was rather small but not atrophic to the naked eye. Microscopically, parts of the gland appeared fairly healthy, but others showed an extensive round-celled infiltration of the alveolar structure. There were hypertrophy and dilatation of the left ventricle of the heart, but little change was present at the valves and in the coronary arteries. The thymus was not persistent. There were no obvious changes in the brain or meninges. Dr. Pasteur considered that the case afforded valuable pathological evidence of the occurrence of thyroid atrophy in the wake of Graves's disease. The case was of interest in presenting the symptoms of the two diseases in combination. He was of opinion that the bradycardia was more probably related to the condition of the heart than to the thyroid cirrhosis.—Dr. ALEXANDER MORISON said that after hearing Dr. Pasteur he had come to the conclusion that the bradycardia was related in some way to the thyroid disease. He would like to ask if any notable effect resulted from treatment and if it had modified the pulse in any way. The degenerative [illegible] those constantly met with [illegible] pulse and could therefore [illegible] dia. A systematic examination of the nervous system ought more constantly to be conducted in these cases. His own belief was that they would never be able to speak positively until the nerves' association with the heart could be investigated.—Dr. PASTEUR, in reply, said that the nervous system had not been investigated in this case. As to the results of treatment by thyroid they were negative, and this was not surprising when so much colloid material and cell infiltration were found in the thyroid.

Subsequently the annual meeting was held. The report of the council showed that the financial position of the society was *satisfactory* and that the work of the society during the past year had been well maintained. Hearty votes of thanks were given to the retiring Vice-Presidents and members of council. The following gentlemen were elected *to hold office during the session 1900–1:*—President: Sir Richard Douglas Powell, Bart. Vice-Presidents: Dr. Sidney Coupland, Dr. Stephen Mackenzie, Dr. W. Joseph Tyson, Mr. A. Pearce Gould, Mr. John Hammond Morgan, and Mr. Herbert W. Page. Treasurer: Mr. Howard Marsh. Council: Dr. J. Rose Bradford, Dr. C. W. Chapman, Dr. J. K. Fowler, Dr. Archibald E. Garrod, Dr. H. P. Hawkins, Dr. J. A. Ormerod, Dr. H. D. Rolleston, Dr. Harrington Sainsbury, Dr. R. Percy Smith, Dr. J. O. Uhthoff, Dr. A. F. Voelcker, Mr. W. H. Battle, Mr. James Berry, Mr. Stanley Boyd, Mr. L. A. Dunn, Mr. F. S. Eve, Mr. Raymond Johnson, Mr. G. H. Makins, Mr. John D. Malcolm, and Mr. Stephen Paget. Honorary secretaries: Mr. Charters J. Symonds and Dr. Percy Kidd.

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION.—The general meeting of this society was held on May 11th, Dr. Barclay Baron, the President, being in the chair.—Dr. John Macintyre (Glasgow) gave a demonstration upon the Use of the Rontgen Rays in the Diagnosis of Diseases of the Throat, Nose, and Neighbouring Organs, illustrated by numerous lantern slides, photographs, and apparatus. In the first part he dealt with certain matters of technique, alluding especially to the advances made since his last demonstration to the association in 1896. After speaking of the most convenient source of electricity and discussing the relative advantages of Wimshurst machines and coils for Rontgen ray work he mentioned various forms of interrupter, including the Wehnelt and a form devised by himself. He also described various modes of controlling the vacuum in Crookes's tubes, and an ingenious automatic mercurial pump used by him when making his own tubes. Barium platino-cyanide was the salt that Dr. Macintyre found to be the best for screens. The potassium platino-cyanide,

though more brilliant, was less durable. The use of the screen was gradually coming into greater prominence; but, when photography was necessary, plates requiring only a very short exposure were now being used—a matter of no little importance when the patient was very ill. The second part was devoted to the application of the Roentgen rays to medical work. Speaking first of the application of stereoscopic vision to screen work and photography Dr. Macintyre passed on to the narration of individual cases. He showed now, besides the use of x rays in locating foreign bodies in the œsophagus, the larynx, the antrum, and the bronchi, fractures of the jaws could be seen, enlargement of the cardiac area recognised, and thoracic aneurysm rendered visible when other means of diagnosis had failed. He had also observed enlarged mediastinal glands and the presence of fluid in the pericardium and pleuræ. One interesting point mentioned was the distinct shadow cast by phthisical deposits at the apex of the lung. Examination of the accessory cavities of the nose had also revealed important information; for instance, the presence of a probe passed through the infundibulum into the frontal sinus could be clearly verified. Finally, Dr. Macintyre recommended the systematic examination of patients by the x rays. In many cases this method would only be supplementary to other means of diagnosis, but in a certain few instances he had been able thus to obtain valuable information which could not otherwise have been gained.—A short discussion followed.

WINDSOR AND DISTRICT MEDICAL SOCIETY.—The first annual dinner of this society was held at the White Hart Hotel, Windsor, on May 23rd, Mr. W. B. Holderness, the President, being in the chair.—Amongst other guests the mayor of Windsor, Mr. A. T. Barber, and the ex-mayor, Sir John Soundy, who had granted the use of the Guildhall for the society's meetings, were present.—The Vice-Presidents were represented by Mr. Arnold Thomson and Mr. Martin and the committee by Dr. H. T. Newman and Dr. E. S. Norris. The metropolitan members present included Mr. G. P. Field, Mr. Noble Smith, Dr. Fletcher Beach, and Mr. H. W. Allingham; and in addition to Windsor and Eton the [illegible] the neighbourhood were represented: [illegible], Chertsey, Egham, Staines, Ascot, Weybridge, Ashford, Iver, and Bracknell. In all there was a muster of over 40. After the usual loyal toasts had been duly honoured, Mr. Noble Smith, in proposing the "Windsor and District Medical Society," drew attention to its strength and remarkable rate of growth. He also made suggestions as to the possibilities of its further development.—The President after alluding to the immense amount of labour expended by Dr. E. B. Hulbert in organising the society and expressing the universal regret of the members at his resignation, handed him a silver cigarette-box and match-box to correspond as a mark of their appreciation of his work. Both were engraved with a suitable inscription.—Dr. Hulbert responded, expressing his warmest thanks.—Various other toasts having been proposed and acknowledged the proceedings terminated with the National Anthem.

SOUTH WEST LONDON MEDICAL SOCIETY.—A meeting of this society was held on May 9th, Dr. W. G. Dickinson, the President, being in the chair.—Mr. C. A. Ballance gave a demonstration on the Operative Treatment of Chronic Otorrhœa. Mr. Ballance commenced by dividing chronic otorrhœa into two classes: (1) tractable otorrhœa; and (2) intractable otorrhœa. With regard to the first group, antiseptic irrigation, alcohol instillation, the removal of adenoids in children, and various minor operative measures in the adult were discussed. In intractable otorrhœa Mr. Ballance advocated operation in two stages: (1) the complete mastoid operation for the removal of the disease; and (2) the healing of the operation cavity some seven or ten days later by the application of large epithelial grafts. The advantages claimed were: (1) the immediate healing of the wound; and (2) that now for the first time in the history of the operation the surgeon could honestly promise his patient (a) a certain and rapid cure and (b) a considerable probability of improvement in hearing. Mr. Ballance also hinted at the boundless possibilities which the success of the grafting of the bony walls of the tympano-mastoid cavities seemed to offer in the surgery of the bones in all parts of the body and the likelihood that the method might be successful in the treatment of post-suppurative [illegible] dry deafness by the application of epithelial grafts to the labyrinth. The address was illustrated by lantern slides.

Reviews and Notices of Books.

Acromegaly. By Dr. MAXIMILIAN STERNBERG, Privat-docent in the University of Vienna. Translated by F. R. B. ATKINSON, M.D., C.M. Edin. London: The New Sydenham Society. 1899. Pp. 138.

THIS volume, one of the latest published by that excellent body, the New Sydenham Society, contains a good account of the somewhat rare disease "acromegaly."

The author gives an interesting and complete account of the "history" of the disease, starting from the original description given by Marie in 1886, although, as it is pointed out, cases of this affection had been previously described under other names.

A brief review is then given of the principal clinical appearances of the disease, but the symptoms are considered in detail further on in the book. Dr. Sternberg has evidently made a careful study of the literature of the subject and has collected the reports of 47 necropsies of undoubted cases of acromegaly, so that the chapter on Pathological Anatomy is made a most instructive one. A comprehensive description is given of the changes found in the bones and some good illustrations, which materially aid in following the descriptions, are supplied in the letterpress. The account of the conditions found in the skull is minutely carried out. With regard to the structure of the bones the author is of opinion that a systematic histological examination of the whole osseous system—certainly a very laborious task—has yet to be undertaken, for in referring to the literature of the subject he found that each author seemed inclined to declare as typical the conditions found in his own case, and the value of these observations was lessened inasmuch as frequently the inquiry was limited to an examination of a few bones or even of only one. Due attention is, of course, devoted to the changes which have been described in the pituitary gland, or, as Dr. Sternberg prefers to term it, "the hypophysis." He considers, however, that the histological conditions met with must be received with a certain amount of reserve owing to the circumstance that the organ possesses a fairly complicated structure and our knowledge of its morphology is not thoroughly exhausted. Further, the interpretation of the reports is also rendered more difficult owing to the fact that the terminology of the pathological anatomy varies in different schools, so that we cannot attach without further consideration a similar meaning to designations which sound identical.

Chapters IV. and V. are devoted to the symptomatology of the disease, its development, course, terminations, the types that are encountered, and the prognosis. Dr. Sternberg's description of the symptoms are clear and concise and Dr. Atkinson has performed the task of translation admirably.

The chapter on the Relationship of Acromegaly to Other Diseases and Conditions will also be found interesting, especially the remarks on "myxœdema and cretinism" and on "gigantism." The author states that it will be found by anyone who collects the cases described in literature as "giants" and considers them strictly according to their pathological conditions that about 40 per cent. of all giants are also the subjects of acromegaly. This proportion suggests the inference of a closer connexion, and after a review of the arguments and cases which have been raised and quoted in favour of the supposition that there is a relationship between the two Dr. Sternberg comes to the conclusion that acromegaly is a well-defined disease, with perfectly sharply-marked characteristics, whilst gigantism is an anomaly of development which in itself has nothing to do with disease, but may occur in connexion with various illnesses and

certainly with universal dystrophies. Acromegaly is one of these illnesses.

The subjects of the etiology and pathology of the disease are fully discussed, stress being laid on the "hypophysis theory." Dr. Sternberg is of opinion that notwithstanding the reserve that must be maintained regarding the histological results met with in the hypophysis, the connexion between the course of the disease and the post-mortem appearances is so striking that it adds, no doubt, an important support to that view which sees in the cessation of the normal function of the hypophysis the cause of acromegaly. "Whatever may be imagined as to a closer connexion it is at present entirely left to conjectures which are as numerously present in the literature as they are unproved." An especial difficulty, which is at present insurmountable, arises from the fact that there is no doubt that tumours of the hypophysis may exist without acromegaly.

One of the best chapters in the book is that dealing with diagnosis, and we need only refer to the list of diseases which the author states may be mistaken for acromegaly to appreciate the great care with which he has written his book. To readers interested in this subject we can confidently recommend a perusal of this work.

On Neuroma and Neuro-fibromatosis. By ALEXIS THOMSON, F.R.C.S. Edin., Assistant Surgeon to the Royal Infirmary, Surgeon to the Deaconess Hospital, and Lecturer on Surgery, Edinburgh. With 20 plates. Edinburgh: Printed by Turnbull and Spears. 1900. 4to, pp. 168. Price 21s.

NEW growths in connexion with nerves are rare, yet these tumours are so striking that medical literature contains records of a large number of cases. The attention of Mr. Alexis Thomson seems to have been directed to this interesting and important subject by a very remarkable series of 15 cases which were in the wards of the Royal Infirmary, Edinburgh, within six years.

In 1803 Odier of Geneva introduced the name "neuroma" for tumours forming in connexion with nerves. In 1829 a valuable paper was read before the Medico-Chirurgical Society of Edinburgh by William Wood who gave a careful account of the clinical and pathological characters of the disease and records 24 cases which he had collected. Various other papers on the subject have from time to time appeared, but in 1849 was published an important work on Neuroma by R. W. Smith of Dublin. His descriptions have been copied into all text-books since, and though Virchow in 1863 distinguished between the true neuroma which consists of true nerve tissue and the false neuroma which is derived from the connective tissue of a nerve, yet the term "neuroma" has very conveniently been applied to all tumours arising in connexion with nerves. The true neuroma, composed chiefly of nervous elements, is of extreme rarity, and only five certain cases have been put on record; they have probably all been connected with the sympathetic system, and abstracts of the notes of all the cases are given in Mr. Thomson's work, and Dr. Knaus's remarkable case is figured. The "false neuromata" are the really important growths and the author classifies them thus: (1) circumscribed tumours; (2) diffuse overgrowths of the connective tissue of nerves—that is, "neuro-fibromatosis"; (3) traumatic neuromata; and (4) enlargements of nerves in leprosy and syphilis.

The circumscribed variety of the false neuroma may be either innocent or malignant. The innocent growths are far from uncommon and one form is well represented by the "painful subcutaneous tubercle." The malignant variety is a sarcoma and it usually occurs in the prime of life—from 30 to 40 years of age; it is much rarer than the innocent form, and Mr. Thomson has collected 12 cases of well-authenticated primary sarcoma of nerve. Of these in five cases recurrence occurred and death ensued, and in only two has removal of the tumour been followed by two years' freedom from recurrence. It is a remarkable fact that in half the cases the great sciatic nerve was affected.

Of even greater interest than neuromata is the condition which has been called "generalised neuro-fibromatosis." As the author remarks, "the clinical and pathological records of this remarkable disease are so numerous that there is no want of material upon which to base" a description. The nerves are the seat of a great number of tumours and are also diffusely and unequally thickened. In a transverse section of such a nerve-trunk there is seen to be a formation of new connective tissue within the primary bundles of nerve fibres. These changes may occur in the cerebral nerves as well as in those arising from the spinal cord. Curiously, however, the meninges of the brain and cord are never affected, although they correspond to the fibrous tissue of nerves. The tissue in the nerve which appears to suffer most is the endoneurium. Different observers disagree as to the effect of the fibromatosis on the nerve fibres, but Mr. Thomson is satisfied from the special investigation of two cases that degenerative changes are present. As to what nerves are affected the author tabulates 45 cases in which the cranial nerves were implicated and of these the vagus was involved in 29 instances and the fifth nerve in 12, but no nerve was exempt, though it has been stated that the olfactory, optic, and auditory nerves are never affected.

Another form of neuro-fibromatosis is that called "the plexiform neuro-fibroma." It may be looked upon as a fibromatosis confined to the distribution of two or more contiguous nerves or of a plexus of nerves. Histologically, the condition is identical with generalised neuro-fibromatosis, and the two conditions may co-exist in the same individual. Though the disease is rare 62 cases have been collected. By far the most frequent situation of these growths is the subcutaneous tissue of the head and neck in the area of distribution of the fifth cranial and the superficial cervical nerves.

The third variety of neuro-fibromatosis is that form of tumour which is usually called "molluscum fibrosum," and the connexion of this new growth with disease of the nerves was first pointed out by von Recklinghausen in 1882. In this disease the new fibrous tissue is for the most part situated between the bundle of nerve-fibres and the investing perineurium. These skin tumours may occur combined with other forms of neuro-fibromatosis. A still more remarkable condition associated with an increase in the fibrous tissue in nerves is that known as "elephantiasis neuromatosa." This was specially described by Mott of New York in 1854 under the name "Pachydermatocele." It includes those forms of neuro fibromatosis in which in addition to the fibromatosis of the cutaneous nerves there is also a well-marked and diffuse overgrowth of the skin and subcutaneous tissue in a particular region of the body. The disease is of congenital origin and it increases slowly at first but often more rapidly after puberty. The special seat of the overgrowth is in the pons reticularis of the corium. In other cases neuro-fibromatosis is associated with pigmentation of the skin.

It happens not rarely that patients who are the subjects of neuro-fibromatosis develop sarcoma in the diseased nerve-tracts. This has been well called "secondary malignant neuroma." It chiefly manifests itself by great local malignancy, though exceptionally visceral metastases may occur. In a few cases multiple tumours of the brain have developed in patients with one or other variety of neuro fibromatosis, but the author considers that this combination of tumours of the central nervous system with

fibromatosis of the nerves is only a coincidence. Mr. Thomson has tabulated the particulars of 77 cases of neuro-fibromatosis, so that reference may be made to them very easily.

The author in summing up his conclusions with regard to this disease tells us that he is inclined to think that it arises before birth or in early childhood, that it is sometimes inherited (as shown by 10 cases which he has collected), that mental deficiency is often also present, and that sex seems to have no influence. He is able to suggest no satisfactory explanation of its actual cause but regards it as a developmental disease. Clinically there is wonderfully little to be said about neuro-fibromatosis. As a rule the tumours are quite insensitive—a striking contrast to the solitary tumours of nerves. Occasionally one tumour, especially where exposed to pressure, may cause pain but this may vary from day to day. It happens, but only very rarely, that the enlarged nerve may press on the brain or spinal cord close to its origin, and so symptoms may arise of pain or paralysis.

A chapter is devoted to detailed accounts of the cases which have come under the author's personal observation, and in the last chapter the traumatic neuromata are discussed. An extensive and valuable bibliography is given. Unfortunately there is no index; this is a most regrettable omission, for every scientific work loses some of its value if the contents cannot be readily referred to.

The 20 plates are carefully executed; they represent well the gross and minute anatomy of the disease. The book is clearly printed on good paper, but the quarto form is certainly not so convenient for general use as is the octavo.

There can be no doubt that Mr. Thomson has made a very valuable contribution to our knowledge of an important class of tumours which have hitherto hardly received their due share of recognition.

Rhinoplastic Operations, with a Description of Recent Improvements in the Indian Method. By D. F. KEEGAN, M.D. T.C.D., F R C S. Eng., Indian Medical Service (retired). With 21 Phototype Portraits and 11 Engravings in the Text. London: Baillière, Tindall, and Cox. 1900. Roy. 8vo. Pp 72. Price 5s.

DR. KEEGAN's thoroughly practical manual is to some extent an after-growth and expansion of his article on Rhinoplasty which appeared in THE LANCET of Feb. 21st, 1891 (p. 419). At that time he had performed a large number of rhinoplastic operations in the Charitable Hospital at Indore and had devised the modification of the ordinary procedure which it is the object of the present volume to describe more in detail. In some respects the conditions under which he worked were more favourable than those with which British surgeons have to deal, his patients being mutilated not by disease but by cutting instruments. This form of cruelty, although rare in modern Europe, is nevertheless of great antiquity. Many of our readers will recollect the passage where Virgil describes the visit of Æneas to the under-world and his meeting with his friends who had been killed at the capture of Troy.

> [illegible] Deiphobum crudeliter ora,
> Ora, [illegible] populatque tempora raptis
> Auribus et truncas [illegible] vulnere naris.

Dr. Keegan mentions that in modern India nose-cutting is a not infrequent form of vengeance for matrimonial offences, and the Trojan legend affords a curious parallel, for Deiphobus after the death of Paris became the consort of Helen, the runaway wife of King Menelaus, and was eventually killed by the aggrieved husband. The distinctive feature of Dr. Keegan's operation, for which he modestly makes no claim of priority, consists in this, that whereas formerly the nasal defect was covered only with a single layer of skin borrowed by means of a flap, operations flap nostrils, lined internally with skin taken from over the nasal bones and covered externally in the usual way with skin raised from the forehead. The difficulty has always been to ensure the prominence and shapeliness of the nose, and to prove that this problem has now been solved 21 phototype portraits of seven patients are introduced, four of them being shown both full-face and in profile. We have no hesitation in strongly recommending the book as the work of a skilful operator. The history of rhinoplasty by means of a forehead flap is not without interest to British surgeons, as it was first practised in Europe by Mr. Carpue of London, of whose cases Dr. Keegan gives a summary. The volume is well printed and its handsome appearance reflects credit on the publishers.

JOURNALS AND REVIEWS.

Revue de Gynécologie et de Chirurgie Abdominale. Tome IV. Nos. 1 and 2. January—February, March—April, 1900. Paris: Masson et Cie.—The first number of this review for the current year contains a most interesting paper by Professor Cornil upon the Anatomy and Histology of Tubal Pregnancy, founded upon a careful examination of seven cases. MM. Jayle and Delherm contribute a study of Extra-uterine Tubal and Intra-ligamentous Gestation after the fifth month, with details of 29 cases collected from the literature and including two of their own observation. M. Vidal writes upon the Technique and Results of Some Conservative Operations upon the Uterine Appendages. A paper upon the Dangers and Accidents of Incomplete Hæmostasis is contributed by M. Rebreyend. A Critical and Historical Study of the Treatment of Fibromata of the Uterus by Electricity by M. A. Zimmern affords a good account of the latest views upon the subject. M. François Neugebauer adds another series of 29 observations of Error of Sex to the 50 cases already recorded by him in the April number of the review for the year 1899. In the second number is a short paper by Professor Pozzi upon Four Cases of Torsion of the Dilated Fallopian Tube. The condition associated with the torsion was in three of the cases a pyosalpinx and in one a tubal gestation. The question of making traction upon a Fibromatous Uterus during Abdominal Hysterectomy is discussed by Professor Reverdin. He describes in detail the method employed by him of suspending by means of a special apparatus large and heavy fibroid tumours during the progress of an operation undertaken for their removal. An interesting case of Fistulous Communication between the Sigmoid Flexure and the Vagina is recorded by M. Xavier Delore. The fistula was closed by the following very ingenious method. The recto-vaginal septum was split up to the site of the opening and after the adherent piece of gut had been separated from the vagina its anterior wall was drawn down and attached to the anus. The anterior wall of the rectum was then cut through up to the level at which it had been separated from the posterior vaginal wall. In this way the piece of bowel above the site of the fistula was made to open into the rectum, while the intervening portion of sigmoid flexure was, as it were, short-circuited. The result was good. M. Fontan continues his series of articles upon the Surgical Treatment of Abscesses of the Liver invading the Thoracic Cavity. The remaining part of the numbers is taken up with analyses of current literature.

VICTORIA HOSPITAL, FOLKESTONE.—The Duke of Cambridge on Saturday last laid the foundation-stone of a new wing to this hospital. It is to commemorate the Queen's Diamond Jubilee, will cost £6500, and will consist of two new wards of 14 beds each, affording additional accommodation which is greatly needed.

THE LANCET.

LONDON: SATURDAY, JUNE 2, 1900.

THE papers read at the last meeting of the Royal Medical and Chirurgical Society were of unusual interest. The topics discussed, like the enveloping British forces now invading the Transvaal, covered a wide field, which had to be traversed with great celerity in order to bring the discussion within the limits of the time at the disposal of the speakers. Any attempt on our part to pass the subjects in review would only prove futile, but we select a few points for comment.

The first to address the meeting was Mr. CLINTON DENT whose remarks had the merit of being both practical and suggestive. Sir WILLIAM MACCORMAC followed Mr. CLINTON DENT with an address which was published in our issue of May 26th. Sir WILLIAM MACCORMAC'S observations dealt mainly, of course, with the surgical aspects of the present war. He detailed the conclusions which he had formed thereon, with which those who have read the series of surgical notes which he forwarded to THE LANCET from the actual scene of warfare, while the facts and the impressions he derived from them were still fresh in his mind, are already acquainted. But Sir WILLIAM MACCORMAC having had leisure to arrange his thoughts was enabled in his address to summarise and supplement his original observations by a running commentary. The impression that must be derived from reading his address is that it contains the results of thoughtful experience set forth in admirably simple and clear language. Terrible as war always must be, Sir WILLIAM MACCORMAC is reassuring because he presents a vivid and realistic picture of the far less serious and fatal injuries inflicted by modern rifled arms; while he inculcates the hopeful lessons to be learnt from our recent experience as to how much may be expected by abstention from operative interference. In what Sir WILLIAM MACCORMAC has to say about abdominal surgery in the field most persons will thoroughly concur. After a big battle by no reasonable provision beforehand can an adequate amount of surgical aid to the wounded be supplied at once, although the modern methods of field medical organisation are probably the best that have yet been devised for stripping the battle-field of its wounded. The pressure after an action is so great and the energies and resource of the surgeons are so overtaxed as not to admit of early or prolonged operations. We fully concur, too, in what Sir WILLIAM MACCORMAC has to say about operations for the removal of bullets. The reasons which have been recently put forward for their removal where they are not giving rise to pain, trouble, or inconvenience are, it seems to us, altogether insufficient. Again, in his expressed views about the position of female nurses at the seat of war Sir WILLIAM MACCORMAC is eminently sound; a moving army in the field with an enemy confronting it is emphatically not the place for women, and no general or commanding officer would ever willingly consent to their being there. But we especially desire to express our hearty concurrence in what Sir WILLIAM MACCORMAC has urged about the duty of Governments to send properly accredited military medical officers as military medical *attachés* to the seats of war. It should be an established rule to do this, for every military power, especially those where conscription is in force, is concerned in providing the best possible system of medical administration. The military *attaché* accompanying the headquarters staff may know very little of the military operations, but he would always find a welcome from his brother medical men who would have nothing to conceal from him with respect to medical organisation.

Mr. CLINTON DENT'S address also calls for attention—an opinion in which all will concur who heard it or who have perused the summarised report of it in our issue of May 26th, p. 1515. It deserves careful study because it deals with a number of details which do not readily lend themselves to a hasty purview or brief comment. Military medical and sanitary authorities alike will probably agree with Mr. DENT in what he has to say about accommodation for the wounded. Churches, schools, and public buildings are, as a rule, quite unfitted for such a purpose and are certainly inferior to temporary canvas structures. For one thing, most permanent buildings of this nature are usually quite insufficiently ventilated; and whether a cathedral or a schoolroom has to be occupied the free admission and movement of fresh air are essential. In the views of Mr. DENT concerning additional air space in the marquees, bedsteads of less width than that of the regulation pattern, the provision of flooring, and the desirability of having a more permanent and special kind of operating theatre than a tent, we concur, and we trust that some of his very sensible and practical suggestions will bear fruit in the future. We have possessions in all parts of the globe and in every sort of climate and never know where our next war will be. Military success often depends upon the mobility of our forces; and whatever we provide in the way of hospital stores and equipment has to be packed and transported to the scene of action and adapted, as far as practicable, to the varying circumstances of the country and campaign. Those responsible for medical administration must therefore often have before them very difficult problems—which fact should ensure a ready hearing for wise criticism.

WE have several times alluded in our columns to the Consultative Medical and Surgical Institution of Birmingham, the projection of which has called for great and misspent energy from Mr. ARTHUR CHAMBERLAIN, who already with the Birmingham Hospital Saturday Fund the responsibility for a curious departure in medical practice. We dealt with the matter fully in a leading article which appeared on May 20th, 1899, under the heading, "The Degradation of Consultation." The scheme has now become a fact, for we read in the advertisement columns of a lay contemporary

that the institution was opened on Monday, May 21st. The advertisement, which we print in another column (see p. 1633), states that the institution has for its object "to lessen the strain upon hospital charity by providing, on terms within and under conditions suitable to their pecuniary means and position, medical and surgical aid to those who would otherwise seek it gratuitously or be unduly taxed by paying the usual consultation fees." To carry out this object this institution offers to those in need of it the services of a consulting medical practitioner at the reduced rate of half a guinea per consultation. In the original scheme there were to be two such medical officers, but we believe that as yet only one officer is provided, though if the supply of cheap consultants were unlimited the objections to the scheme would be as forcible.

Birmingham is a shrewd city which has made its mark in the world by its quick solution of economical difficulties and by its orderly management of municipal affairs, and we believe that a community which has shown itself so distinctly level-headed will see at once that the Consultative Medical and Surgical Institution offers no advantages to the public whatever. The general advice that the public will obtain for half a guinea, however sound, will not be the kind of advice for which those who can afford it are wont to pay proper fees; while to those who cannot afford to pay two guineas or one guinea what they will get for a smaller sum might prove of but small value in highly special or obscure conditions. The scientific opinion upon all sorts of pathological conditions of one or two gentlemen cannot in these later days of medicine be as valuable, as informative, and as little open to error as the aggregate advice given by the staffs of general hospitals and special hospitals. This is obvious, however well equipped in many scientific directions the cheap consultant officers may be; whilst if it should chance that their endowments are not on the face extraordinary acceptance of the post will lead to the suspicion that desire for employment has overcome modesty. All this will be obvious to Birmingham, and we believe confidently that the people will decide for themselves that they must see a genuine consulting surgeon or physician if they want to have genuine benefits from a consultation. To ask the advice of an institution which will be unable to guarantee the services of men having beneath their hands the proper fields from which to glean their experiences will be felt to be an idle and dangerous course; and if this does not appear at once it will on the first occasion when a man finds himself consulting for presbyopia the same gentleman who has already given ten-shillings-and-twopence-worth of specialised opinion upon a neighbour's fractured patella. The public recognises that the general practitioner is able to treat such conditions and only looks for the services of a consultant when the circumstances are exceptional. And, equally, the public will find it curious that an optional knowledge of such a wide range should be centred in one or two gentlemen without hospital appointments.

The general practitioner in Birmingham can help the sick in Birmingham as he is helping the sick throughout the kingdom. Under all ordinary and most extraordinary circumstances, he can do for them what their condition requires and he can tell whether they need further advice than his own. For, unlike the officers of the Consultative Medical and Surgical Institution, he has no need to wear the appearance of knowing everything. If the case is one where consultation with some man of wide or special experience, some man with all the peculiar advantages of being in touch with a hospital, is necessary, the general practitioner can decide how such consultation should be obtained. Few families require the services of a consulting surgeon or consulting physician very frequently, and the expense of paying the usual fee is one which, when regarded as an extraordinary item, is not crippling to persons unless they are really poor. Where, on the other hand, the payment of two guineas or one guinea is entirely out of the question the general practitioner will direct them into their right course. Such patients can go to a hospital, or they can ask their medical man to represent to the consulting physician that there are considerations in the case which would make it a kind thing to waive a portion of the fee. Most consulting physicians and surgeons in Birmingham will see patients at a reduced rate if the propriety and humanity of doing so are proved to them. And the medium through whom the consultant medical men should be approached is the general practitioner, who alone can say whether a case is one demanding particular attention, and who can generally estimate with some accuracy the pecuniary position of the patient. The intervention of the general practitioner will secure that only those borderland cases reach the consultant which clearly belong neither to the class from which hospital patients should be drawn nor to the class which can easily pay full fees.

IN THE LANCET of May 19th (p. 1420) we published an address which was recently delivered before the annual meeting of the Gloucestershire Branch of the British Medical Association at Cheltenham by Dr. ROBERT SAUNDBY who selected as his subject "The Modern Treatment of Diabetes Mellitus." Dr. SAUNDBY'S previous writings on this disease are well known, and his remarks on this occasion are particularly worthy of perusal and careful consideration. In discussing briefly the "theory of diabetes" he laid stress on certain points which have not received from most observers the attention which should be paid to them. It is well known that the withholding of carbohydrate food fails to stop the excretion of sugar in severe cases of diabetes. An explanation of this phenomenon has been adduced by Dr. PAVY and others by demonstrating that the albuminous molecule whilst undergoing decomposition into urea, water, and carbonic acid splits off a carbohydrate molecule from which sugar is formed. The resulting sugar and urea bear a definite relation to one another, so that if we know the quantity of urea excreted in 24 hours we can calculate the amount of sugar formed in the body from the decomposition of albumin. Yet if the tissues continued to consume a normal proportion of sugar all of this should be used up in the body. This important consideration has not been sufficiently recognised in framing a theory as to the morbid factors which bring about the condition of diabetes mellitus, and

therefore the usual conception that the essential cause of the disease is a derangement of the glycogen-storing function of the liver caused by bodily or mental shock or other *noxa* has to be modified by postulating a further failure of the sugar-destroying function of the tissues. It is difficult to explain, as Dr. SAUNDBY points out, how the tissues come to lose, partially at all events, their power of assimilating sugar, but there seems to be reason to believe that it is directly caused in some way by the excess of sugar which reaches them. When this quantity is restricted by careful diet many diabetic patients show after some time an increase of sugar-destroying power. Dr. SAUNDBY very concisely sums up his inferences as to the theory of diabetes thus: "We have therefore arrived at the conclusions that under the influence of certain agencies . . . . the liver loses its power of storing glycogen; in consequence the tissues gorged with sugar suffer a diminution of their power to consume that substance; and finally glycosuria ensues which becomes persistent and increasing unless arrested by treatment." Equally interesting and precise are Dr. SAUNDBY'S remarks on the pathogenesis of diabetes mellitus, but we have not space to comment on them here, suffice it to say that he believes that there are three principal organs to which, upon more or less important grounds, we look for the seat of the original mischief to which the functional disturbance of the liver must be attributed. These are the nervous system (more especially the brain, the medulla oblongata, and vagi), the pancreas, and the liver.

It is, however, to that part of Dr. SAUNDBY'S address which deals with the treatment of diabetes mellitus that we would particularly direct the attention of our readers. There is, unfortunately, an absolute consensus of opinion among those who have most experience of this disease that no drug hitherto suggested has any influence upon its course, and therefore the treatment must be entirely dietetic. It is by no means an easy matter to draw up a diet table which will satisfactorily fulfil all the indications for the well-being of the patient, but Dr SAUNDBY succeeded in placing the subject before his hearers in a manner succinct and most practicable. In the first place he pointed out that attention must be paid to quantity as well as to quality, for it is more than probable that such untoward results as are alleged to have followed sometimes the use of strict diabetic diet were due to excessive quantities of albuminous food. The quantity of food that a patient should consume is calculated in heat units. The usually accepted heat values of the ordinary elements of food are, roughly, for one gramme of albumin, four heat units; for one gramme of carbohydrates, four heat units; for one gramme of fat, nine heat units; and for one gramme of alcohol, seven heat units. A person weighing 10 st. requires daily on slight work an alimentary value of 2450 heat units. In addition a diabetic subject must receive a quantity of food equal in heat units to the amount of unconsumed sugar which he secretes.

On this basis tables are given by Dr. SAUNDBY indicating the quantity and nature of food substances which may be given to diabetic patients so as to fulfil the above requirements. The amount of sugar passed by the patient has to be estimated frequently and the diet altered in accordance with the results obtained. This necessary analysis may perhaps seem a stumbling-block, but by means of the apparatus now manufactured the necessary operation may be successfully accomplished in a very few minutes. Especially noteworthy are the "extras" which may be gradually added to the diet of a diabetic patient, the apportioning of them being strictly governed by the results of the urinary analysis. The monotony of the *régime* may thus be considerably modified, much to the patient's satisfaction, but, as the lecturer maintained, for safety to be assured in making these additions to the diet each extra must be allowed separately, and no further change should be permitted until the result of consuming the new articles of food has been tested by careful analysis of the urine. When a sufficiently varied diet has been reached a sternly uncompromising attitude should be maintained upon the question of further concessions. Having thoroughly followed Dr. SAUNDBY'S arguments and studied the illustrative cases quoted by him we believe that practitioners will find that they have acquired much valuable information as to the dietetic treatment of diabetes mellitus, the success of any such therapeutic measure being governed by the care and completeness with which it is applied. Dr. SAUNDBY has done good service in laying his views with such clearness before the profession.

THE fluctuations of the money market are, at least in their minor details, a little outside the comprehension of the majority of our profession who might even find some difficulty in defining accurately a "bull" or a "bear." And, as a rule these fluctuations do not concern us as a profession, but when our contemporary the *Times* reports, apparently in all seriousness, that the progress of plague is beginning to exert a prejudicial influence upon the buoyancy of certain stocks we feel compelled to ask how far such a condition is justified by facts. Naturally our chief concern is with our own country and we are anxious to consider whether there is a likelihood of the scenes associated with the Plague of London being ever re enacted in our midst; for this is the vision which the Stock Exchange seems to have conjured up. Is there anything in the behaviour of plague as it is manifesting itself among Europeans at the present time which would lead us to view the immediate future as regards the British Isles with misgivings? It is a serious fact that to answer this question with a direct affirmative or negative would be to go beyond what the facts justify.

Since the recent appearance of bubonic plague in the East the disease has been studied in almost all its aspects by representatives of one or another country, and although our own Royal Commission has not yet said its last word we are in possession of knowledge which enables us to understand at least some of the means by which the disease may be spread and its presence determined. The discovery of the specific bacillus has helped us materially, and although we are perhaps as far as ever removed from an understanding of that mysterious combination of causes which, after a lapse of so many years, has bestowed upon plague a certain power of epidemic diffusion, we seem to have a more correct conception of the multitudinous forms in which probably, in the first instance at least, the disease may stalk abroad. Not a few recent

facts—as indeed does the whole history of plague—point to the enormous influence which what is known as "pestis ambulans" may exert upon the diffusion of this disease, and if the true detailed history of plague were known it would be found in the majority of cases to have spread through the medium of unrecognised cases; in other words, the danger is from the unknown rather than from the known, and under the head of the unknown we must, of course, have regard to the influence of infected rodents. As an instance of the possible operation of the unsuspected agency, we may refer to the story of the voyage of the s.s. *Golconda*, which is told by Dr. BULSTRODE in the current report of the Medical Officer of the Local Government Board. The *Golconda* arrived at Plymouth with a case of pestis ambulans on board, and the history of the patient pointed to the fact that he had suffered from plague since the vessel left Colombo, and that he had been ashore at the ports of call on the way home. If that patient had given rise to plague at any of these points it is not unlikely that the source of the disease would never have been ascertained. He had started from a port which was not at that time recognised officially as infected with plague and hence quarantine would have been useless to prevent the occurrence, and of course he was not known to be suffering from plague when he went on shore. How can importations of this character be guarded against? Certainly not by quarantine, unless the quarantine be directed to the whole world, and together with the prohibition of plague we prohibit the food which maintains our lives. In so far as this country is concerned we must place our reliance upon medical inspection, coupled with a notification forwarded to our inland sanitary authorities of all those who may be considered to have been exposed to infection. The destruction, as far as may be possible, of rats upon ships from infected or suspected localities or infesting the docks and wharves of our ports, must also be undertaken. Our port medical officers of health must in these days throw a wide net. They have ample powers and they must interpret those powers liberally. True this port sanitary net may not keep back every case of pestis ambulans; it probably will not. But everything that passes through this net will be observed and any after-developments will be promptly checked, assuming that our inland sanitary authorities are alive to their responsibilities.

At the present moment, so far as the condition of Europe is concerned, there is little to excite alarm in England, and the presence of plague within a few days' steam of our ports is not yet an immediate source of danger, though, of course, the likelihood of recrudescence in the human species, or of its persistence in rodents, must be borne in mind. In this connexion the recent experience of Alexandria is not without its lessons. Here we find a heterogeneous population of about 300,000 persons living under conditions which are far from sanitary, and although plague obtained a decided foothold at this port, when attacked by European methods it failed to spread; and Alexandria is to be regarded as one of the most important gates of Europe through which a large proportion of possible infection must make entry. So, too, with regard to the behaviour of plague amongst Europeans at that port there are no reliable indications that the disease is either of a highly infective or explosive type, and we may with some reason assume that before this country is seriously affected with plague we are likely to have marked manifestation of the disease upon the mainland of Europe. Plague can only to a very limited extent be classed with cholera, and we know of no explosions of plague such as are matters of history in the case of cholera. Moreover, there is no well-authenticated instance of water-borne plague on record. Perhaps the disease with which plague may be most reasonably compared is typhus fever, and it may be inferred that the progress of our sanitation has at least had some effect in controlling this latter disease, even though, as we are from time to time reminded, it is still with us. It is, of course, conceivable that both plague and typhus fever may one day resume their old epidemicity, but even if this be so we find difficulty in believing that diminished overcrowding, the notification and isolation of disease, and our ability through our sanitary organisation to seek out unrecognised cases will count for nought. As regards the oscillation of the pecuniary pendulum, we can well understand that local outbreaks of plague may have some influence upon the stocks connected in one or another fashion with the commerce of the invaded areas, but apart from this we see at present no sufficient reason for disturbing our securities. It has to be accepted that plague has assumed pandemic proportions, and its presence in Australasia and in North and South America offers much food for reflection, but the hour of actual apprehension has not arrived for the British Isles.

Annotations.

"Ne quid nimis."

THE USE OF HORSEFLESH AS A FOOD.

THE gradually extending use of horseflesh as an article of daily consumption in Germany and the circumstance that many of our brave troops have been compelled to use it as a diet more or less completely replacing beef and mutton for many weeks together in Kimberley and Mafeking make opportune an article upon its effects by the well-known physiologist Ed. Pflüger which is published in the May number of his *Archiv für Physiologie*. Professor Pflüger's experiments were instituted on dogs to determine the metabolism of the body and the capability of obtaining a full amount of work out of the animal on a diet of pure, or nearly pure, albumin. With this object the well-boiled muscles of fish were given, which the animal ate with relish, but which, from the difficulty of freeing it from bones, had to be discontinued, vomiting and staining of the fæces with blood resulting from its use. Horseflesh next suggested itself as representing albumin with an extraordinarily small proportion of fat, yielding, in fact, only about 1 per cent. of ether-extract. This, carefully cleansed from tendon and any apparent adipose tissue, was given to a dog after being passed through a mincer either in the fresh state or after sterilisation and division into equal blocks which kept well. The immediate effects were that diarrhœa set in, which continued as long as this kind of meat was supplied and, in addition, under nearly similar conditions of work, the daily loss of nitrogen by the bowels was found to be doubled, or more than doubled. Professor Pflüger then made inquiries

of the keepers of the Zoological Gardens at Cologne, and found that it was generally known that the use of horseflesh caused diarrhœa in all predatory animals, on which account it had been very generally given up and the flesh of cows, which caused no disturbance of the bowels, had been substituted for it. He found, too, that the same effects followed its use whether it was eaten raw or had been first boiled. Cats were less disturbed than dogs, though still to a noticeable extent. Investigations were now undertaken to determine whether the effects observed were due to the want of fat or to the presence of the large quantity of glycogen which horseflesh is known to contain. Therefore mutton fat from the region of the kidneys in the proportion of 750 grains to each 4 lb. 4 oz. of the meat was added with immediate good effects, for the dog at once began to pass well-formed fæces. The same result followed the admixture of ox fat in like proportion, but pig's fat was much less effective in arresting the diarrhœa. The question arose whether the diarrhœa resulted from the mere poverty of fat in horseflesh or from the presence of some poisonous constituent in it to which fat proved an antidote. Further experiments in which horse-fat was mingled with ox-flesh and administered to the animal as a diet caused no diarrhœa, hence it was concluded that there was no poisonous constituent in horseflesh. Experiments made with starch in the form of rice pap reduced but did not prevent the diarrhœa caused by the exclusive use of horseflesh. When the diet of horseflesh was continued for many months the addition of even considerable proportions of rice-pap and fat had but little effect in controlling the diarrhœa. Next an endeavour was made to determine whether the toxic agent was contained in the water in which the finely divided meat had been boiled This was separated by passing through a sieve, but the addition of this fluid had no injurious effect whilst the meat-pap left on the sieve produced diarrhœa. In other words what the French would call the bouilli was poisonous whilst the bouillon was not. The boiled meat was now subjected to the action of alcohol and experiments were made with both the material that was precipitated by alcohol and with that which was obtained by evaporating the alcohol to dryness. The results showed that the poison was not contained in the precipitate caused by alcohol but in the material left on the evaporation of the alcohol. This material was again treated with ether. The ether dissolved part of the alcoholic extract and left a remainder. Experiment again showed that the toxic agent was contained in the material dissolved by the ether but its action had become considerably enfeebled, probably owing to its decomposition. A quantitative analysis of the ether-extract seemed to show that it was composed of about three-fourths of lecithin and one-fourth of neutral fat and cholesterin. This certainly does not afford any information in regard to the exact nature of the toxin but it indicates the path for further research and leads Professor Pflüger to suspect that it may consist of neurin or some modification of that poisonous agent He concludes with some suggestions for cooks in beleaguered garrisons who are reduced to horseflesh as food, which coming from the pen of one of the most distinguished living physiologists, deserve consideration. In one mode of dressing the horseflesh is converted into a pulp and for every two pounds about three-quarters of an ounce of ox fat or mutton fat taken from the region of the kidneys is served up with a sauce of meal as a hash. Another is to cut it into collops, boil it in water, throw away the broth, and serve the meat with a fat sauce. Beer, wine, tea, or coffee may be taken with it. A third is to convert it into a pulp, add a tenth of its weight of rice and a fortieth of its weight of fat, and cook by steaming; or, lastly, it may be beaten up with plenty of fat and eaten with an oily sauce.

THE TENURE OF OFFICE OF MEDICAL OFFICERS OF HEALTH.

IN THE LANCET of May 19th we drew attention in a leading article to the disabilities under which provincial medical officers of health often labour by virtue of the fact that the insecurity of their offices renders its difficult for them to perform their duties in a manner satisfactory at the same time both to their own self-respect and to the public health, and we referred to the Bill now before Parliament which has for one of its objects the creation of permanent appointments. We expressed our sympathy both with the spirit of the Bill and with the efforts which were being made by certain medical practitioners for furthering its objects, but we also suggested that there might be difficulty in securing the passage of the Bill through Parliament in its present shape, on account of its somewhat far-reaching nature. Moreover, we expressed doubts whether it was altogether desirable in the true interests of the profession or of the public health that an effort should be made to render permanent part-time appointments carrying with them such insignificant salaries as £10 to £50. We regret to find, as will be seen under the heading of "Correspondence," that Dr. J. Groves, the well-known medical officer of health of the Isle of Wight Rural District, regards our remarks as "ungenerous." This is the last form we intended them to take. We are quite aware of the difficulty to which our correspondent draws attention of persuading "local authorities to pay salaries commensurate with the dignity of the office"; indeed, we see no prospect of the smaller and poorer authorities ever being able to do so, and we are afraid, too, that the attempt to compel them to saddle themselves with permanent appointments will also fail. It is partly for this reason and because we think that £10 appointments are inconsistent with the position which the medical officer of health should occupy that we rather advocate the creation of combined appointments carrying with them adequate remuneration; at any rate, we incline to the view that it is appointments such as these which should, in the first instance at least, be rendered permanent. We question the practicability of carrying the present Bill through Parliament and we still advise the modification which we have suggested. Moreover, the loss of office by an officer who devotes his whole time to public health work and who derives his livelihood from it is a much more serious affair than the loss by a general practitioner to whom the paltry pay he receives as medical officer of health is a relatively insignificant matter. It is surely desirable in the interests of the profession that there should be at least some pecuniary and other limitations to the creation of permanent appointments and that some check should be placed upon sanitary authorities anxious to rid themselves permanently of their responsibility in the very cheapest manner possible.

SHELL-FISH AND POLLUTED ESTUARIES.

A PUBLIC inquiry of a somewhat far reaching nature was held quite recently at Exeter before two Local Government Board inspectors. Owing, it appears, to an outbreak of enteric fever which occurred in Exeter and which was locally attributed to the consumption of cockles collected from near a sewer outfall, a representation was made to the Local Government Board by the Devonshire County Council, the Exeter corporation, and other local authorities, asking that the estuary of the Exe should be declared a "stream" within the meaning of the Rivers Pollution Acts, tidal estuaries being in the absence of such declaration outside the operation of these statutes. Much evidence was adduced in support of the application and we shall be interested to hear what view the Local Government Board takes of the matter. As far as we can gather from the

reports in the local papers the application was based almost solely upon danger to health through the consumption of polluted cockles and mussels, although certain other considerations such, for instance, as nuisance during bathing and boating, were brought forward in support of the scheme. There can, we think, be no doubt that danger must attend the consumption of raw shell-fish collected from near a sewer outfall, and this whether the outfall be into a tidal estuary or into the open sea, and there would appear to be reasonable ground for supposing that this danger must at least in some degree obtain even if the sewage be treated before discharge; in other words, it seems impossible to dispose of the risk altogether unless the collection of shell-fish from near sewer outfalls can be prohibited. Those who are familiar with our coasts know how luxuriant a growth of mussels may often be found around sewer outfalls, and how difficult, if not impossible, it is to prevent the public and the vendors of such molluscs from collecting them for consumption. The fact, however, that the danger cannot be entirely obviated is no justifiable reason for neglecting to minimise it, and the abstraction of sewage from our estuaries is certainly desirable upon æsthetic grounds if on no other. We can, however, conceive a position where the existence of a handful of cockles or periwinkles might lead to the expenditure of enormous sums of money in connexion with sewage disposal, and in a case such as that it might be questioned whether the public health could not be more profitably protected by the provision say, of a purer water-supply or of adequate isolation accommodation. Moreover, there arises here, as in the case of nearly all our food-supplies, the question as to how far we may be able to protect ourselves against polluted importations from abroad. It is perhaps not generally known that a very considerable amount of the supply of mussels to this country is derived from the Netherlands. Some control or at least inspection of these foreign sources of supply would seem to be indicated if we wish to place our shell-fish industry beyond reproach and to consume our molluscs with equanimity.

CANCER OF THE STOMACH IN THE YOUNG.

Dr. William Osler and Dr. Thomas McCrae have contributed to the *New York Medical Journal* of April 21st a valuable and exhaustive paper on this subject. A generation ago it was thought that cancer of the stomach could be left out of consideration in the diagnosis of obscure cases if the patient was under the age of 30 years. Unfortunately this is not true. In 3257 recorded cases the percentage of patients under 30 years of age is 2·5. In a series of 150 cases observed at the medical department of the Johns Hopkins University six of the patients were under the age of 30 years—i.e., 4 per cent.—an unusually high proportion. In childhood the disease is a pathological curiosity; there are only six cases on record in patients under 10 years of age. Between the ages of 10 and 20 years cancer of the stomach is also very rare; only 13 cases have been recorded. Between the ages of 20 and 30 years cases are more numerous. In the six cases above mentioned two features stand out prominently—an abrupt onset and an acute course. There was no loss of appetite in three cases, anorexia was present in two, and in one the state of the appetite was not noted. Pain was absent in only one case; in the others it was fairly severe. Vomiting was present in five cases; it was absent in the case where pain was absent. In four cases the duration was known; it was six months in two and four months in two. The following is one of the cases cited by the writers of the article. A man, aged 25 years, who had previously been well and strong, was admitted to hospital complaining of weakness and debility. Eight weeks before admission his friends noticed that he looked yellow. Two weeks later he had a slight feverish attack which kept him in bed for some days. The temperature did not rise above 102° F. He then lost his appetite and became wasted. There were occasional belching of gas and a bad taste in the mouth, but no nausea or vomiting. In the two weeks before admission he lost nearly 15 pounds. His physician discovered a mass in the abdomen and the patient therefore came to hospital. There were moderate pallor, sallowness, and emaciation. Below the ensiform cartilage was an elevation which descended with inspiration. The test-meal yielded 80 cubic centimetres of liquid which contained no hydrochloric acid and gave a reaction for lactic acid. Dr. Osler made this note: "The great mobility of the tumour with varying conditions of fulness and emptiness of the stomach seems very important. The anæmia, nausea, failure of stomach digestion, absence of free hydrochloric acid, and presence of lactic acid, in spite of the patient's age, point to cancer of the stomach." Exploratory laparotomy showed a firm mass near the pylorus of the size of an orange. Small nodules were felt on the posterior portion of the stomach. The patient recovered rapidly from the operation which seemed for a time to have a beneficial effect on the symptoms. He grew feebler and more emaciated, however, and died four months after the onset of symptoms.

SEPTIC SKIRTS.

THE streets and pavements of London are not kept as clean as they should be, and from time to time we have found occasion to direct the attention of some of the metropolitan vestries to their statutory duties in this respect. On the whole, the changes which have taken place in municipal cleanliness have been steadily for the better, but the improvements have been very slowly brought about, and they have not yet arrived at such a pitch of perfection that garments can be dragged on the pavement without becoming soiled. Nor does such an ideal state appear to be within the bounds of possibility. Automobile machines have not entirely replaced horses, and dogs are permitted not only to live, but to move about, in most parts of the metropolitan area, nor is it desirable or likely that either horses or dogs will be banished from London. It does not require any very prolonged observation on the habits of these animals to convince even a person of slow understanding that whilst animals are at large they are addicted to discharge excrement of fluid and of more or less solid character at not infrequent intervals. No means, as far as we are aware, have been suggested for the prevention of these nuisances, which we fear must be looked upon as the normal outcome of life as it at present exists. Another source of the pollution of the pavements results from the habit of expectoration which is practised among men, though less perhaps by Englishmen than by Americans and other foreign races. The habit is sufficiently prevalent to make the products of expectoration an easily recognised and general nuisance. It is one, also, for which the only apparent remedy is a change in the habits of the people and is distinctly not one for legislative interference. The habit of profuse expectoration is one also, it may be said, which had not merely the sanction but the distinct approval of one of the greatest of English physicians. Sir Thomas Watson was accustomed to stop and to expectorate freely in the streets of London whenever he detected a bad smell, and he explained that he considered the practice a valuable one for the prevention of ill effects from the source which produced the malodour. Many British workmen doubtless expectorate as a matter of habit rather than from any prophylactic theory, and perhaps habits have greater fixity of tenure than theories. Enough has been said to indicate the source and nature of some of the most prevalent of the nuisances of the streets and pavements, and it will be generally admitted that under the present conditions of life a certain amount of

such pollution must exist. It does not necessarily follow that this should be brought indoors. Unfortunately, at the present time a large number of women sweep the streets with the skirts of their gowns and other garments and bear with them wherever they go the abominable filth to which we have briefly alluded. Attempts are, indeed, often made by women to keep their dresses from dragging. Such attempts are usually unsuccessful. The management of a long gown is too difficult a matter for the majority of Englishwomen. The habit has arisen of seizing the upper part of the skirt and holding it in a bunch at a place called by women "the broad part of the back below the waist" and amongst anatomists by the less cumbrous term "gluteal region." This practice can be commended neither from a physiological nor from an artistic point of view. It is not to our purpose to descant on the absurdity or on the ugliness of the habit of walking in long skirts—these things are too palpable to be laboured; but we strongly protest from a sanitary point of view against the importation into private houses of skirts reeking with ordure, urine, and pathogenic microbes. For walking in the street a short skirt should be worn, and we commend the sensible walking gown now adopted by the best-dressed women to those whose business it is to write on the fashions in dress for women of the middle and lower classes.

AUTO-INTOXICATION.

DR. O. A EWALD, in a recent number of the *Berliner Klinische Wochenschrift* (Feb. 12th, 1900), deals in a comprehensive manner with the subject of auto-intoxication as it occurs in various diseases and brings much of our scattered and fragmentary knowledge together. As examples of intestinal auto-intoxication he cites the nervous disturbances which occur in acute and chronic digestive disorders—for example, attacks of flushing and giddiness, headaches and curious sensations in the head, and throbbings and noises in the ears. Some cutaneous eruptions such as urticaria, acne, pruritis, and purpura are also due to intestinal auto-intoxication, and Muller and Manicatide have recently published instances of affections of the spinal cord in children resulting from the same cause. Periodic vomiting, asthma dyspepticum, tetany, and some of the anæmias are assignable to the same source. Among the auto-intoxications arising from diseased metabolism within the tissues and organs of the body may be included uræmia from renal disease, pancreatic diabetes, the cachexia resulting from cancer, Graves's disease, Addison's disease of the suprarenal bodies, myxœdema, cachexia strumipriva, cretinism, leukæmia, and pseudo-leukæmia. The eclampsia of pregnant women, gout, and migraine are attributable also to similar diseases of metabolism, giving rise to auto-intoxication with various chemical products. It is not, however, correct, says Dr. Ewald, to classify icterus gravis among the auto-intoxications, and the same may be said of acetonuria and oxaluria, which are symptoms of special diseases and which require treatment accordingly.

THE BIRTHDAY HONOURS.

WE regret that by an oversight the name of Lieutenant-Colonel Aylmer Martin Crofts, I.M.S., was not included in our reference to the honours bestowed upon members of the medical profession in the last issue of THE LANCET. Lieutenant-Colonel Aylmer Martin Crofts, who has received a Companionship of the Most Eminent Order of the Indian Empire, is residency surgeon at Gwalior and medical officer to the Maharajah. He served in the Afghan War of 1878-80 at Kandahar and with the Khyber Brigade, receiving the medal. In the Egyptian War of 1882 he was present at the battle of Tel-el-Kebir and for his services in this campaign received the medal and clasp and Khedive's Star. He was also with the Zhob Valley Expedition of 1884. A telegram to the *Times* through Reuter's Agency, dated Simla, May 22nd, states that "the Queen's birthday honours include 81 silver medals of the new Kaisar-i-Hind Order. 44 natives receive medals, which are given chiefly for services in connexion with the plague and famine." Among the European recipients are Captain John Grant (Medical Service) and Miss Charlotte Adams, Mrs. Henry Smith, and Miss Susan Campbell, lady doctors.

THE ROYAL ARMY MEDICAL CORPS STALL AT THE NATIONAL BAZAAR.

OWING to the untiring exertions of the ladies, married and single, who worked at the Royal Army Medical Corps stall its success was placed beyond doubt. During the days of sale the intake reached a sum close on £200. On the opening day H.R.H. the Princess of Wales visited the stall and purchased from amongst its exhibits. Her Royal Highness had also before the opening of the bazaar contributed some very valuable and pretty articles to the stall which found eager purchasers. The officers of the Corps express their indebtedness to the ladies who so largely contributed to the gratifying results we now announce.

NERVE STRUCTURE ELUCIDATED BY NERVE-STAINING.

IN giving an account of Mr. William H. Wynn's article on the Minute Structure of the Medullary Sheath of Nerve-fibres in THE LANCET of May 5th (p. 1297), we inadvertently omitted to mention that the modification of the Weigert Pal process of staining the nerve tissue which was so effectively employed by Mr. Wynn in his researches was originally suggested by Dr. Joseph Shaw Bolton, now of the Pathological Laboratory, London County Lunatic Asylum, Claybury. An account of Dr. Bolton's method and of the steps by which he was led to it will be found in the *Journal of Anatomy and Physiology* for January, 1899, and for January, 1898. In the former article he called attention to the circumstance that the medullary sheath is deeply stained in parts of its circumference only, this occurring either as six sections separated by gaps or as six dots surrounding the axis cylinder, the outer part of the sheath being practically unstained. Mr. Wynn's article contained a more elaborate and amplified account of the structures seen and partially described by Dr. Bolton.

THE THIRTEENTH INTERNATIONAL MEDICAL CONGRESS PARIS; 1900.

THE committee of organisation of this Congress has issued a circular reminding the members that the titles of communications must be received at the offices of the Congress, 21, rue de l'École de Médecine, before June 10th at the very latest, if they are to be entered on the official programme. The final prospectus is about to be issued and will contain the titles of all communications with the names of the authors which have been sent to the sectional secretaries in Paris in time. It is necessary, therefore, that all notices should be sent to Paris at once. The list of members of the Congress will be closed on July 15th, and communications can be made until that date, but such belated notices will not appear in the final prospectus. The British Government has officially appointed the following gentlemen to represent Great Britain and Ireland at the forthcoming Congress:—(1) Lieutenant-Colonel E. F. Drake-Brockman, I.M.S., delegate from the Indian Medical Service (Great Britain); (2) Brigade-Surgeon Lieutenant-Colonel Alexander Crombie, I.M.S., delegate from the Indian Medical Service (Great Britain); (3) Fleet-Surgeon Gilbert Kirker, R.N., representing the Naval Medical Service; and (4) Mr. Thomas

Joseph Stafford, F.R.C.S. Irel., Medical Commissioner of the Local Government Board (Ireland). These appear to be the only delegates of which the General Committee at Paris have official cognisance. Intending members of the Congress must send a visiting card, an intimation of the section they wish to join, and a post-office order for 25 francs to Dr. Duflocq, 21, rue de l'École de Médecine, Paris. Members of the Congress will receive without charge two sets of publications, the first at the opening of the Congress and the second at a later date. The first set will consist of—(1) summaries of the "reports" relating to the section which the member has joined; (2) an illustrated volume of 400 pages on French mineral waters and health resorts; (3) Medical Paris (a volume of about 400 pages); and (4) Guide Conty (a guide to Paris and the Exhibition). The second set will consist of three volumes relating to the subjects treated of at the Congress. Full accounts of the subjects that have come before the Congress will be published in 17 volumes of Transactions, the subscription price of which will be 50 francs, but which will be reduced to 45 francs for members. Members of the Congress are entitled to take part in the work of all the sections and in all the entertainments. They will also have free entry to the Exhibition during the sitting of the Congress (August 2nd to 9th), they will be presented with a badge, and will have a reduction of 50 per cent. on French railway fares. Rooms can be obtained through the following agencies, with which terms have been arranged by the committee, provided that the members make immediate personal application to the agencies. The Agence Desroches, 21, rue de Faubourg Montmartre, receives members at the railway station, conveys them to their place of residence, and on their departure conveys them to the railway station. Their charge for the first day is 20 francs, and for the last day 15 francs; for each intervening day 10 francs are charged for bedroom, lights, attendance, and early breakfast. The Agence des Voyages Pratiques, 9, rue de Rome, renders similar services at a charge of 6½ francs and upwards per day. This agency also provides sleeping accommodation at various prices, from 3 francs per day in dormitories to 5½ francs per day, and sets of furnished rooms, three or more, for 270 francs per month and upwards. The Agence des Voyages Modernes, 1, rue de l'Echelle, provides bedrooms from 6 francs per day, and board and lodging for 15 francs per day. The Agence Lubin, 36, Boulevard Haussmann, provides bedrooms for 12 francs per day for one person and 20 francs for two persons; the money must be paid in advance to the Crédit Lyonnais. The Société Française des Voyages Duchemin, 20, rue de Grammont, provides sleeping accommodation at charges of from 70 to 120 francs per week, and board and lodging at from 140 to 180 francs per week. By permission of the Minister of Public Instruction members of the Congress travelling alone can have sleeping accommodation in school dormitories for 5½ francs per day. Application should be made to the offices of the Congress, 21, rue de l'École de Médecine.

CAMBRIDGE SUMMER SCHOOL OF MEDICINE FOR QUALIFIED PRACTITIONERS.

A VALUABLE series of lectures and demonstrations to qualified medical practitioners will be delivered at Cambridge from June 25th to 30th. The proceedings will commence with dinner in hall at 7 P.M. on Monday, June 25th, followed at 8.30 P.M. by a reception in the hall of Trinity College by Professor Sir Michael Foster, M.P. On the succeeding days there will be cliniques at Addenbrooke's Hospital and demonstrations will be given in the Pathological Laboratory, the subjects of demonstration as at present arranged being Malaria on June 26th, by Dr. Nuttall; Tuberculosis on June 28th, by Professor Sims Woodhead; Antitoxin on June 29th, by Dr. Louis Cobbett; and Blood on June 30th, by Mr. Strangeways Pigg. Demonstrations will also be given in the Pharmacological Laboratory by Dr. Dixon and in the Physiological Laboratory by Dr. Shore and Dr. Hopkins. Lectures will be delivered on the Fracture of Bones, by Dr. J. Griffiths; on Angina Pectoris, by Professor Allbutt; on the Vermiform Appendix, by Dr. Rogers; on the Factors which Determine Climate, by Mr. Yule Oldham; on Specimens Preserved in Formalin, by Mr. Strangeways Pigg; and on Public Health, by Dr. B. Anningson. Breakfast, lunch, and dinner will be taken in hall each day. On June 27th Professor Allbutt will give a garden party, and on June 29th there will be a smoking concert in King's College Hall. It is hoped that the visitors in order of application will be accommodated in the colleges; the inclusive fee is four guineas. Applications should be addressed to the honorary secretary, Dr. Joseph Griffiths, Medical Schools, Cambridge. The opportunities offered by this invitation, which is a repetition of that given in 1895, are well worthy of attention, glimpses of life in a famous university town being combined with post-graduate instruction by eminent teachers.

PERNICIOUS ANÆMIA AND ITS PATHOLOGY.

DR. RICHARD S. CABOT of Boston, well known for his excellent work on the "Clinical Examination of Blood," read an important paper on the above subject at the recent annual meeting of American physicians, held at Washington (May 1st, 2nd, and 3rd). The conclusions arrived at by him were based on a study of 110 cases of pernicious anæmia. Of the 110 cases reported 57 were males and 53 were females. Of the cases occurring in females four followed parturition and in one of these in which a necropsy was held there were leucocytosis and diphtheritic endometritis. Dr. Cabot finds that the disease is generally one of middle life. He had seen all the cases within seven years. Many of the patients were at first thought to be suffering from tuberculosis and 14 cases occurred at about the time of the menopause. Hæmorrhage is probably a symptom and not a cause of the disease, and it has been observed from the bowels, the stomach, the nose, the gums, and the ears. The symptoms are constant, though in certain cases they are very mild. It is not the lack of red blood corpuscles only that causes the symptoms. Muscular weakness, dyspnœa, and gastro-intestinal symptoms, such as vomiting and diarrhœa, are seen, and the latter train of symptoms may be often paroxysmal. The theory that atrophy of the gastric glands is a cause of the disease cannot be maintained. Hæmic cardiac murmurs are always heard and occasionally a true regurgitant (mitral) murmur is detected. The liver was found enlarged in 30 cases, the spleen in 13 cases. There were hæmorrhages into the retina in 36 cases, and in 15 cases the fundi were normal. In exactly two-thirds of the cases fever was present, the temperature varying from 99° to 100° F. The urine was normal in 53 cases. In other cases albumin and hyalin or granular casts were present. The urine was usually pale. There were nervous symptoms in one-third of the cases, and it is probable that obscure nervous lesions were really present in a larger proportion. In 106 cases the red blood corpuscles were below 2,000,000 per cubic millimetre, and in four cases they were above that figure. The leucocytes in 72 cases were below 5000 per cubic millimetre, and in 38 cases they were above that figure. The hæmoglobin in 79 cases was high and in 31 cases it was normal or low. The red corpuscles were usually enlarged and such enlarged cells were found at one time or another in 107 cases. The lymphocytes were normal in number, the polymorphonuclear leucocytes were decreased, and myelocytes were frequently present. The symptomatology and course of the disease were quite unlike

those of secondary anæmia. No case recovered, though in 69 cases one or more remissions were seen. 20 cases were progressive. In 78 cases the duration of the disease was from one to three years. Treatment was negative, arsenic and bone-marrow had no effect, but in some cases laxative treatment seemed to have done some good. This seems to bear out Dr. W. Hunter's idea that the disease is a toxæmia.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

IN addition to those whose names we have already given, we understand that Mr. Pearce Gould, Dr. J. Ward Cousins of Portsmouth, and Mr. Jordan Lloyd of Birmingham will be candidates for the vacancies upon the Council of the Royal College of Surgeons of England.

HOUSES LET IN LODGINGS.

A CASE of much importance in connexion with the sanitary administration of London was heard last week by Mr. Slade at the Southwark Police-court. Experience of this administration has increasingly shown that the most effectual method of maintaining the houses occupied by the poor in proper sanitary condition and of the prevention of overcrowding is the regulation of houses let in lodgings. This regulation, indeed, is often an absolute necessity, and especially in the central districts where landlords are able more largely than in other districts to trade upon the necessities of the poor. The regulation of such houses not only controls the landlord but also the tenant who is expected to coöperate in the maintenance of cleanliness and proper ventilation of the rooms. The enforcement of the by-laws has served a useful purpose in those districts where the work has been undertaken, and the London County Council have persistently urged upon the authorities of other districts the adoption of a like course. The question has from time to time arisen as to what is a house let in lodgings. There has been no doubt that the ordinary tenement house which was originally constructed for one family but which has come to be occupied by several families, often a family in every one or two rooms, is within this definition. Where there has been doubt is in the case of blocks of artisans' dwellings where each suite of two or three rooms may claim to be a separate house. The case to which we refer is likely to have a considerable influence in determining how far blocks of artisans' dwellings are for the purposes of the Public Health Act to be deemed to be houses let in lodgings. The Gun-street dwellings in the parish of St. George the Martyr, the subject of the proceedings before the Southwark magistrate, have previously been a cause of anxiety to the sanitary authority and on the recommendation of Dr. F. J. Waldo, the medical officer of health, numerous rooms have been closed as unfit for human habitation. Repairs have been effected, alterations made, and the rooms re-let, but while improvements have been made in the buildings the inhabitants remaining have been, to use the words of the vestry clerk, persons who were often uncleanly in their habits and whom it was essential that the sanitary authority should supervise. The vestry, therefore, acting on the advice of their medical officer of health, have wisely determined to bring these premises under regulation, and there seemed reasonable prospect that this could be successfully done because the tenements are not such as are known as "self-contained," but the sanitary appliances on each floor were outside the dwellings and were used in common by the tenants. The contention of the vestry that each block was a separate house and that the rooms were lodgings was strongly contested by the owner who quoted a number of cases ranging from the time of Charles I. and urged that the registration law embodied in those cases must be regarded as safeguarding the interests of the inmates who would be disenfranchised if they were to be deemed to be lodgers. Mr. Slade decided against the vestry on the ground that the landlord did not reside on the premises and did not exercise any control over them either by himself or his servants, and therefore that the tenements could not be regarded as lodgings. It will be seen that Mr Slade's decision is capable of much wider application than to blocks of artisans' dwellings and that if sustained it may affect the regulation of much tenemented property of a higher class. The vestry have appealed and it is to be sincerely hoped that this appeal will be successful and that it will be found that the definition of a lodger for the purposes of the public health law is entirely different from that for the purposes of the registration law. It is, indeed, difficult to believe that this will not be the result, for it would otherwise always be possible for an Act of Parliament dealing with one subject in effect to repeal another Act dealing with an entirely different subject which was not under consideration at the time the subsequent Act was passed. We shall await the final decision with much interest.

THE SOCIETY FOR THE PREVENTION OF CRUELTY TO CHILDREN.

THE annual meeting of the council of the Society for the Prevention of Cruelty to Children was held on May 15th under the presidency of Mr. W. H. Collingridge. The chairman was able to give the satisfactory information that notwithstanding a generally prevalent demand for war funds the income of the society during the past year showed an increase of £1000. This gain, moreover, had resulted from an influx of ordinary subscriptions. On the other hand, a deficit of £7700 on account of expenses had to be met. This amount was covered by reserve funds. Among other business transacted at the meeting was the passing of a resolution in support of Lord James's Juvenile Offender's Bill. It was also decided to petition Parliament for the addition to the Bill of a clause requiring the presence of a medical practitioner during the infliction of corporal punishment. Such an arrangement ought to strengthen the measure, and if sensibly carried out should not impair its punitive effect. Another resolution strongly supported the Bill forbidding the sale of intoxicating liquors to children. It is instructive to note that this resolution was approved by representatives from widely separated parts of England and from Ireland, and evidence was given proving that the proposed legislation is much desired by the working classes in the north.

PILOCARPINE AND WILLOW-BARK.

SOME excellent work is evidently being done in the Wellcome Chemical Research Laboratories judging from the important contributions published from time to time in the Transactions of the Chemical Society. This kind of work should receive every encouragement, since it is devoted to the throwing of further light upon the pharmacology of the materia medica. We are glad to see that these communications as they appear from time to time are being published in separate pamphlet form. Not very long ago we received an interesting paper of this kind on some gold salts of hyoscine, hyoscyamine, and atropine by H. A. D. Jowett, D.Sc., and more recently we have received two further papers on the substances quoted in the title of this annotation. For some time considerable obscurity has surrounded the nature of pilocarpine and the number and kind of specific alkaloids contained in jaborandi leaves. Although the experiments are still in progress some interesting results have been obtained. A base, for instance, isomeric with pilocarpine, is produced from it by the action of heat or alkali and it is

proposed to call it isopilocarpine. This substance has been found in jaborandi leaves. Pilocarpidine appears, however, not to be present in ordinary jaborandi leaves, but in the jaborine of Harnack pilocarpidine as well as isopilocarpine are found. As to the physiological experiments on isopilocarpine, pilocarpine, and pilocarpidine, Professor Marshall of University College, Dundee, reports that the substances produce similar effects on the secretory activity of the sweat and salivary glands, pilocarpine being much the most powerful. Isopilocarpine is comparatively less depressant to the hearts of rabbits but not to those of cats and men. The jaborine prepared by Merck possesses a mild pilocarpine effect. Dr. Jowett has also turned his attention to the chemistry of willow-bark with the result that he has succeeded in recognising and separating a new glucoside for which he proposes provisionally the name of "salinigrin." The yield of this crystalline glucoside is about 1 per cent. of the bark. It yields on hydrolysis a dextro-rotatory sugar which gives qualitative reactions analogous with glucose. At the same time hydrolysis produces metahydroxybenzaldehyde which may be easily distinguished from salicin by the fact that sulphuric acid produces no change of colour whilst with this reagent salicin yields a blood-red colour. This is the sort of work which is calculated to throw a much desired light on the action of various drugs and their principles and it is an encouraging sign of the times that such important work is undertaken by manufacturing chemists.

MILITARY DRILL IN SCHOOLS.

WE are pleased to see that Lord Balfour's useful suggestions with regard to physical training in schools[1] have not been forgotten. Very similar in its purport is a scheme recently introduced at Macclesfield. A Patriotic Association has been formed in that city for the encouragement of physical exercise and military drill among boys from 10 to 17 years of age. The course will begin in the elementary day schools and will be carried out in them, or in a Volunteer drill hall where the school playground is too small, under the supervision of a qualified drill inspector. The boys will also be enrolled in cadet corps and taught to handle a rifle, with a view to their enrolment later in rifle volunteer regiments. This plan ought to work well. It is practical, it is adequate without being too ambitious, it ought not to prove expensive or to interfere with the ordinary school work, it is free from sensationalism (one great pitfall of the times), and finally it has a definite end in view. It thus promises to fulfil very successfully the purposes of Lord Balfour's proposal to which it evidently owes its inspiration. As an example of public spirit judiciously applied we commend this scheme to the attention of all who are concerned with school education.

THE QUESTION OF HORSE AMBULANCES.

IN THE LANCET of Dec. 9th, 1899, p. 1599, appeared a leading article calling attention to the inadequate provision for dealing promptly with the accidents which daily occur in our large metropolis and suggesting some remedial measures. Our first suggestion and the one that we considered to be the most important was the maintenance of horse ambulance wagons at hospitals, and although it still remains a blot upon our great city that in this respect we are far behind some of the large towns in America, and at least one town in Ireland, it is gratifying to learn that Manchester has taken steps towards the establishment of a similar ambulance service to that which we advocated for London. On Thursday, May 24th, a deputation from the Medical Charities Committee of that city attended a meeting of the Watch Committee of the Manchester Corporation and laid before the committee reasons for the provision of horse ambulances, Mr. Alfred Simpson, chairman of the House Committee of the Royal Infirmary, remarking that the provision of proper ambulance facilities had long engaged the attention of the medical authorities. In the beginning of the year, on the advice of Professor D. J. Leech, the matter was brought before the members of the Red Cross Society and a resolution was passed inviting the municipal authorities to provide horse ambulances. This resolution has received the endorsement of the Sanitary Association of Manchester and Salford. Mr. Alderman Rawson, the chairman of the Watch Committee, assured the members of the deputation that his committee were in sympathy with their object. A special sub-committee had already under consideration the whole question of the provision of horse ambulances in Manchester. Surely what is necessary for Manchester is necessary for London with a population ten times larger. How long shall we be put to shame in the cause of humanity by our sister city?

[1] THE LANCET, Feb. 10th, 1900, p. 388.

THE AUSTRO-HUNGARIAN WAR OF 1848-1849 AND THE BOER WAR: A CONTRAST.

A COMPARISON has been frequently instituted between the situation of the Boers in the present war and that of the Hungarian revolutionary army prior to the capitulation of Vilagos in August, 1849. As the circumstances are not parallel, however, any conclusions drawn from such a comparison are not only altogether misleading as to the causes which were operative in the two cases but unjust as to the motives and conduct of the Hungarians who were disinterested patriots fighting in defence of freedom, justice, and independence. Kossuth and Görgey did not enrich themselves, they had not sought to oppress anyone, nor had they been opposed to any system granting an equality of political rights to all—quite the contrary. Some of the facts and incidents connected with the campaign of the Hungarian army in 1848-49 are historically of a highly interesting and romantic character. It may not be generally known that Surgeon-Major Theodore Duka, a retired officer of the Indian Medical Service who has been long resident in London, and Count Julius Andrassy were attached to the staff of the Commander-in-Chief, General Görgey, and took a prominent part in the war. Surgeon-Major Duka—then a first lieutenant and adjutant in the Hungarian army—at the battle of Komorn with the Austrian army on April 26th, 1849, having rendered conspicuous services in rallying some of the Hungarian troops, was decorated with others with the Order of Valour, Class III., in the presence of the Hungarian forces paraded for the purpose by General Görgey in obedience to his general order. That Görgey displayed remarkable ability as a general and was a man of great enterprise and courage goes without saying, seeing that the Hungarian army whilst under his command achieved some brilliant victories and for a long time kept the whole Austrian army at bay; but he was really more than this, for, when Russia threw an overwhelming force into the field and success was no longer possible for the Hungarians, Görgey with patriotic wisdom and courage capitulated in order to avoid an inevitable and purposeless sacrifice of life. The breach which had already taken place between Kossuth and Görgey widened still further and Görgey by his action on this occasion covered himself with unmerited obloquy. But time ultimately brought its recompense and reward, for it was recognised on all sides that Görgey was right and had acted with great wisdom and self-abnegation in what he had done. After the capitulation of Vilagos in August, 1849, Andrassy and Duka

had to flee; they came to this country and had to bear their exile, misfortunes, and straitened circumstances with what fortitude they could. Captain Duka, as he was then, was still a young man; with indomitable energy he learnt the English language and elected to enter the medical profession, and for that purpose became a student at St. George's Hospital, and, having qualified, he passed into the Indian Medical Service from which, after having been present through the Mutiny, he retired many years ago. He took up his residence in his adopted country where he has since had the gratification of entertaining his old general as his guest. Count Andrassy in the meantime had become Prime Minister of Hungary in 1867 on the restoration of the constitution of 1848 and the reorganisation of the Austro-Hungarian Empire. After having been sentenced to death and hanged in effigy with the defeated Hungarian generals, who were actually executed and not in effigy merely, Andrassy had subsequently the privilege of being the official medium for placing the crown of St. Stephen on the head of Francis Joseph as King of Hungary. Time brings great changes on his wings and no ruler is more deservedly popular and beloved than is the Emperor Francis Joseph by his Hungarian subjects at the present time. Surgeon-Major Duka is now one of the governors of the hospital (St. George's) where he was once a student.

THE STUDY OF CHILDREN'S DISEASES.

A MOVEMENT is in progress for the formation of a society devoted exclusively to the study of children's diseases, and a meeting of the supporters of the proposal will be held at 5 30 P.M. on Monday, June 11th, at 20, Hanover-square, W. A circular to this effect has been forwarded to the members of the staffs of the different hospitals for children throughout the country, as well as to the members of the Medical Officers of Schools Association. We understand that the project, so far, has received a liberal measure of approval from those likely to be interested.

"MR. VICTOR HORSLEY AND THE MEDICAL ACTS."

WE have received the following letter from Mr. Victor Horsley:—

To the Editors of THE LANCET.

25, Cavendish square, London, W., May 30th, 1900.

DEAR SIRS,—My attention has been drawn to the fact that in the last issue but one and the present issue of THE LANCET you make certain statements with regard to my speech at the Manchester Conference calculated to convey the idea that my interpretation of the Medical Acts is erroneous; and, furthermore, you place these statements prominently in your columns of annotations. I note that although you head your second annotation with my name you simply publish a letter from some person not in the profession and say you are not called upon to make any remark upon it. As that letter contains a complete misrepresentation of the administration of the Medical Acts by the General Medical Council I think it was your duty as the editors of the leading medical journal to point out the bearing of the Medical Acts on the subject. The obviousness of this will be seen from the fact that at present you have only published one side of the matter and that a misleading one. The Medical Act provides, Sections 28 and 29, two different methods of procedure whereby the General Medical Council is empowered to erase from the Register the name of a practitioner who has been guilty of an offence against the ethics of the profession, such as is defined in Section 29 as being "conduct infamous in a professional respect." These two methods of procedure are as follows, and the first is conditioned by the fact that various medical corporations possess under their charters disciplinary powers. Under Section 28 the Medical Act provides, if a medical corporation examines into the ethical conduct of a practitioner and convicts him, that on such conviction being reported to the General Medical Council, the Council need not put the profession to the expense and trouble of holding a second inquiry, but may, if they see fit, accept the judgment of the corporate body and may forthwith erase the name of the person convicted from the Register. This was the method by which Mr. Alabone's name was erased from the Medical Register. The second procedure is that whereby the Council holds the inquiry itself and if they find the person guilty they erase his name under Section 29 of the Medical Act. My statement at Manchester, therefore, is perfectly true and I protest against your publishing statements respecting the Medical Acts which, if unaccompanied by explanatory correction, are extremely misleading. Further, as you have thought it right to particularise myself in this matter I must ask that you give this letter the same publicity that you have to other statements in your annotations.

Yours faithfully,

VICTOR HORSLEY.

We made no comment upon the letter in question from Mr. Alabone Cheverton because we conceived that everyone knew the position. Clause 28 of the Medical Act, 21 & 22 Victoria, cap. 90, says nothing about the examination into ethical conduct but merely says: "If any of the said Colleges or the said Bodies at any time exercise any power they possess by Law of striking off from the List of such College or Body the Name of any one of their Members, such College or Body shall signify to the General Council the Name of the Member so struck off; and the General Council may, if they see fit, direct the Registrar to erase forthwith from the Register the Qualification derived from such College or Body in respect of which such Member was registered." There is nothing in this clause about "infamous conduct in any professional respect"; that expression is contained in the next clause under which Mr. Alabone was *not* struck off from the Register. We do not understand that Mr. Horsley accuses us of incorrectly reporting and it appears that he has been inaccurate.

INAUGURAL ADDRESS BEFORE THE AMERICAN NEUROLOGICAL ASSOCIATION, 1900.

IN the inaugural address[1] delivered by Dr. Edward D. Fisher, the President, for the present year it is pointed out that the position of neurology among the divisions of medicine and surgery has changed very much in the last 20 or 25 years. "Perhaps no special branch of medicine," continues Dr. Fisher, "comes into quite so close touch with general medicine and medical surgery as neurology." While a high level of work had been achieved in this field it had also been sedulously exploited by the charlatan. The clinics held in the Old World in Paris, Vienna, Berlin, and London had made these places centres of worldwide neurological fame, and eventually it had come to dawn on the professional mind that a full and thorough course in psychiatry and neurology was a paramount necessity. The speciality of neurology should never remain narrow and be separated from general medicine. The heart, lungs, and viscera had to be carefully explored in nervous as in other diseases. A special illustration of this was seen in syphilis which had such well-defined effects upon the viscera and on the nervous system. Therapeutics should receive more attention in the future than in the past; diagnosis and localisation of the disease did not complete the neurologist's work. Scientific training and investigation would lead the way to means of treatment, and the fact that Dr. Weir Mitchell's methods had been thus discovered made it certain that more might be expected in this direction from American neurology. Dr. Fisher concluded by saying that "the note of warning I would sound to those about to enter this field of medicine is to keep up as broad a knowledge of all medicine as possible. No one should enter neurology as a speciality without having first had an experience in general

[1] Journal of Nervous and Mental Disease, May, 1900.

practice. I believe, if I read the signs of the times aright, that is the tendency of the neurology of the future."

THE CROONIAN LECTURES FOR 1900.

THE Croonian Lectures for 1900 will be delivered by Dr. F. W. Mott, F.R.S., before the Royal College of Physicians of London at the College, Pall Mall East, on the following dates: June 19th, 21st, 26th, and 28th. The subject is "The Degeneration of the Neurone," and the lectures will commence at 5 P.M.

A COMMITTEE, of which the Prince of Wales is chairman, has been formed for the purpose of providing a memorial to the late Duke of Westminster. The late duke, as our readers know, always took the deepest interest in all that concerned the poor, and hospitals and nursing necessarily formed part of that interest. The suggestion that the memorial shall be in the form of stained-glass windows for the Abbey which takes its name from the city of which the late duke was Lord High Steward is a good one, and the fund will no doubt be freely supported. The Duke of York is treasurer to the fund, but subscriptions should be sent to the honorary secretaries, 1, Great George-street, Westminster, or to the Bank of England.

IT is announced that the lepers on Robben Island have collected a second sum of money for the African wounded soldiers' fund with the object of showing their appreciation of the benefits conferred upon them by the British Government. The pathos of this act cannot fail to appeal to the medical profession.

Mr. H. T. Butlin, D.C.L., will deliver the Cavendish Lecture of the West London Medico-Chirurgical Society at 8.30 P.M. on Friday, June 22nd, in the Town Hall, Hammersmith. He will take as his subject the Application of Pathology to Surgery.

THE honorary freedom of the Salters' Company will be conferred on Sir William Mac Cormac at Salters' Hall on Monday, June 18th.

THE WAR IN SOUTH AFRICA.

EVENTS have proceeded with dramatic rapidity at the theatre of war in South Africa. Lord Roberts's converging forces—a large crescent-shaped wave overlapping and enveloping opposition by its horns and overcoming all resistance by the driving power of its centre—have moved on a concerted plan with extraordinary rapidity, and the Britishing will soon fly over Pretoria and Johannesburg. We, in common with other journals having direct information from the seat of operations, conjectured some time ago that the resistance offered by Boer forces might collapse at any moment, but we did not realize that the fortunate occurrence would be. Fear of that the news from the seat of war would be a day to day tell one story—that of the hasty retreat of the enemy from one defensible position after another. Such, however, has happened, and now, for practical purposes, the war is over.

While the Boers have shown themselves, whether upon the defensive or upon that of foreign allies, to be good [illegible] they have exhibited an alacrity which [illegible] to retire in adhering upon positions [illegible] to their method of warfare, their weakness [illegible] appears in their want of any [illegible] and original [illegible] generals and mastered the situation [illegible] men at their disposal to carry [illegible] the whole aspect and character of the [illegible] "Napoleon" [illegible] of its body, resolved itself into [illegible] to victory.

[illegible] the results of the [illegible] which appeared in that journal on [illegible] the death rate in the hospitals at [illegible] very high. This is not surprising. The Free State capital is about 4600 feet above the sea level, and the diurnal variation of temperature at this altitude must tell heavily on sick men, and we agree with the writer in thinking that efforts should be made to remove invalids from Bloemfontein to a more equable climate. The Portland Hospital is, however, working well at Bloemfontein.

We have more than once called attention to the admirable services rendered by the Indian coolies and dhoolie-bearers during the present war and have expressed a hope that their work would be requited by something more tangible than mere praise. We were, therefore, glad to notice that Sir George White, on the occasion of his being presented with an address and service of plate from his fellow Ulstermen in commemoration of his defence of Ladysmith, earnestly commended the case of the Indian coolies to consideration in the following words: "These men, who discharged most valuable duty during the siege of Ladysmith, are now drawing pay at Indian rates, which placed them on inferior terms to the soldiers with whom they were serving and inferior to those which they would be enjoying in their own country." This is a matter which should be set right generously and promptly. The war will entail, we know, an enormous amount of departmental work, but we trust that the modest claims of the dhoolie-bearers will not be overlooked in the apportionment of rewards in more obvious directions.

We direct the attention of our readers to the sketches of the Boer trenches at page 1609, which we owe to the courtesy of Mr. Clinton Dent and Messrs. George Bell and Sons. They enable us to realise far better than any description would do the serious nature of the difficulties which our troops had to encounter in the direct attacks on Boer positions which they were in some cases, if not in all, compelled to make.

THE IMPERIAL YEOMANRY HOSPITAL.

BY ALFRED D. FRIPP, M.S., F.R.C.S.

A patient came into the Imperial Yeomanry Hospital with a perforating bullet wound which entered just outside the right angle of the mouth and emerged beside the second dorsal spine two inches to the right from the middle line. The body of the mandible had been splintered just below. The splintering included the sockets of the three molars, and an immediate operation was called for to remove the loose splinters of tooth and bone which had already caused an abscess in the cheek. But the interesting part of his case lay in injuries that had been inflicted on the brachial plexus. Firstly, the eyeball was retracted and the palpebral fissure diminished, and the pupil was very small and dilated neither to shade nor to painful impression on the right side of the neck. Possibly this total paralysis is due to the injury to the cervical sympathetic chain, but since no other structure of the carotid sheath appears to have been damaged it seems more probable that it is due to damage to the ramus communicans of the first and perhaps also the second dorsal root. True, the track of the bullet does not seem to have been close enough to the middle line to hit these rami communicantes, but it is not outside the range of probability that they could have been caused by concussion or hæmorrhage. He has been under observation here for about a month without showing any sign of diminution of the sympathetic paralysis, and nerve lesions, if they are going to clear up, as they frequently do to an altogether astonishing degree when they are due to concussion or hæmorrhage, generally do so long before that period. Secondly, on admission he was found to have complete paralysis of all muscles of the right arm, including the deltoid, the pectorals, and the serratus magnus and the muscles below them. The skin sensations were unimpaired down to the insertion of the deltoid. Below that there was universal hyperæsthesia. This hyperæsthesia has steadily diminished and has given place to normal sensation, until now, nine weeks after the receipt of the wound, it is limited to an area about one and a half inches wide extending along the outer border of the forearm and arm from two inches above the elbow-joint to the wrist-joint. Accurately at the wrist-joint the hyperæsthetic area just described is almost isolated from the second hyperæsthetic area which embraces the entire thumb and just the radial side of the index finger down to the first interphalangeal joint. Thus apparently the whole of the roots of the brachial plexus were involved, though the lesion was probably not an irreparable one, for the two areas still remaining hyperæsthetic are those supplied by the fifth and sixth roots, and it must have been the first dorsal

root which was damaged if, as seems likely, the sympathetic paralysis was not due to a division of the cervical sympathetic cord.

It is by no means uncommon in our experience for a bullet to be found with its wrong end foremost, so to speak, and this even at the very end of a long track which appears to have been inflicted by a direct, not ricochet, shot. Sometimes, but not always, a possible explanation of the turning of the bullet has been given by the fact that it has touched a bone in its course.

Complete transverse penetration of the head or face is by [illegible] of [illegible] en [illegible] al [illegible] he external angular process of the frontal bone on the left side. The patient was absolutely blind in the left eye and the retina was one mass of hæmorrhage. Despite the violently septic character of the entrance wound on admission the man is now making excellent progress in every respect and presents about the best instance we have had of the extraordinary way in which nerves will recover which apparently were completely shattered. The second and the third divisions of the fifth nerve on the right-hand side were completely paralysed both as to motion and sensation. The ocular muscles of the right-hand side were paralytic, but they, too, have recovered, and even the optic nerve, which was so much damaged as to cause very well-marked optic neuritis, is also recovering.

We have had quite a large number of bad cases of hæmorrhoids. Whether they are caused by riding—for almost all the patients have been mounted troops—or by the unnatural stress upon the rectal eliminating apparatus we are not sure, but it is a fact that most people's alimentary canal in these parts varies in a most unaccountable manner between the states of diarrhœa and intestinal obstruction.

A young of [illegible] eight wounds [illegible] and another [illegible] harm result. A piece of shell has blown a piece out of the inner aspect of both thighs and three pieces off the bottom of his scrotum, while a third bullet had lodged in the cruro-scrotal fold, whence it dropped out as he was standing up to be examined. He has left the hospital in no way the worse, apparently, for his narrow escapes. Another most extraordinary case was that of a man in whom a bullet entered the right thigh on the inner aspect about two inches below the cruro-scrotal fold. The leg was skiagraphed, but nothing could be seen of the bullet. An abscess developed in the other thigh at about a symmetrical position to the entrance wound. It was incised and the bullet was found, and the finger could then retrace the track of the bullet across the front of the bodies of the two pubic bones to the wound of entrance.

A man was shot while his right hand was hanging in front of his abdomen, the bullet tunnelling the radius without doing any harm, and then piercing the abdominal wall two inches above the middle of Poupart's ligament it emerged through the middle of the dorsum ilii. When admitted into the hospital he presented no abdominal symptoms whatever, but we kept him in bed and on restricted diet so as to be on the safe side, for I had seen at Wynberg a similar case in which a couple of weeks after the receipt of the wound a hard tender swelling developed in the right iliac fossa, which, as there was considerable pyrexia, was taken to be an abscess. It was incised and proved to be a large hæmatoma. Our patient also was not long before he developed a swelling in the cæcal region. This swelling was neither tender nor painful, nor was his alimentary canal in [illegible] symptom suddenly ceased and the wound proceeded straight away to heal up in a most rapid and satisfactory manner. We have had three or four other instances of perforations through the iliac and cæcal region that have presented no symptoms at all. In another case the man was shot through the pelvic bones lower down; the entrance wound was behind, just two inches below the posterior superior spine and two inches to the left of the middle line, and the exit wound was just to the right of the middle line in front under or through the edge of the descending ramus of the pubes. There was no sign whatever of damage to the bones, the alimentary canal, the blood-vessels, the peritoneum, or the bladder, but only sufficient damage to the cords of the sacral plexus to cause paresis of the gastrocnemii, and an area of anæsthesia over the heel indicates, I take it, damage to the first sacral nerve. The anæsthetic area shortly became hyperæsthetic and is now rapidly returning to normal.

Even before we left England such a large number of perforating wounds of the trunk and head, to say nothing of the limbs, without any permanent damage had been recorded in the medical journals that I take it that you have no desire to hear repeated again all these miracles. Every train-load brings us fresh instances of them. In the last, for instance, was a man in whom the bullet entered behind the middle of one clavicle and emerged through the opposite groin. One thing which I have not seen noted in the medical journals, but which is being borne in upon us more and more, is the rapidity with which the effects of general anæsthetics pass off in this climate. Perhaps it is due to the skill of our anæsthetists, but the fact remains that it is much rarer to see any vomiting or nausea after operations out here than it is at home, and the rule is to find the patient so well that within an hour of his being put back to bed he is asking to be allowed to smoke or even to get up.

Deelfontein, May 7th.

THE CHARING-CROSS HOSPITAL EXHIBITS AT EARL'S COURT.

THE Appeal Committee of Charing-cross Hospital have organised an interesting exhibit at the entrance of the Old English Village which is one of the most attractive features of the Woman's Exhibition held this year at Earl's Court. Outside there are tents fitted up for field ambulance work and dummy figures representing wounded soldiers so as to illustrate the ingenious devices by which dressings and splints are extemporised out of anything that may be found on the battle field, from a broken rifle to the bark of a tree. Within the building there are several compartments, the largest being a surgical ward with eight beds differing in structure and suited for various special purposes. Thus one bed is provided with electric light so as to facilitate examinations with the ophthalmoscope, while a system of rubber tubes enables water to circulate round the head of the patient and thus replaces the more clumsy ice-bag. The Gorham bed attracts much attention. With no great muscular effort, but by merely turning a small wheel, the patient may be raised in almost any position or lifted several inches above the mattress while the sheets are being changed, the body being suspended on canvas bands stretched across a movable iron framework. Other beds are provided with special apparatus for fractured thighs and legs, and for abdominal injuries, &c. The combined bed table and locker used is also very ingenious. These beds stand on Messrs Geary, Walker, and Co's. patent anhydrous flooring. An asphalt foundation is laid first, then a thin layer of wood, and on this are placed oak blocks. Between the blocks a thin partition of an asphalt composition is sufficiently elastic to allow for expansion and thus the risk of cracks or of bulging is met. In the centre a Pridgin Teale fireplace ensures a more perfect consumption of coal, consequently producing more heat, less smoke, and not requiring so much attention as is usually the case. The fan windows devised by Mr. Robert Adams should be carefully examined. Instead of the ugly side projections to which architects to strongly object, when the top of the window is made to open inwards the side draws out a light metallic fan which when unfolded prevents the air escaping otherwise than from the top. Thus directed it must strike the ceiling, whence it is diffused over the ward without causing any sharp draughts. Apart from this the large window panes can be raised by merely removing a small bolt and then tilted right round by means of a central pivot. Thus the external surface of the glass can be brought inside and cleaned. This contrivance would be just as useful in private houses as in hospitals and would put an end to the difficulty and danger of window-cleaning. Messrs. Burroughs and Wellcome exhibit a ward medicine case, not unlike a brief bag, which contains a variety of useful things in a small compass.

Next to the ward there is a model operating room. In the centre to give a good light the wall and ceiling on the northern side are of ground glass. Between this ground glass and a second outer and plain glass covering built for protection there is an electric heating apparatus. This is important, as otherwise the wide glass expanse would chill the air of the operating-room. Inside there are hot-air coils and ventilators. Needless to say, that all surfaces are absolutely smooth and air-tight and that there are no corners or ledges. The water for sterilising the instruments is heated by electricity at a cost of less than a penny per hour. Mr. George B. Davis, sanitary engineer, provides the closets, the baths, and a running-stream lavatory for the operating surgeons, with a shampoo for sluicing the arms. The ledges of this and other lavatories and sinks all slant towards the basins, so that no water or soapsuds can stagnate on the borders. Glass, gun metal, and enamelled hardware alone are employed, and the connexions with the piping are not soldered but established by means of "union" screws, so that the lavatory can be readily removed to any other place. Underneath the waste water discharges into an open channel and the connexion of this channel with the drain-pipe can be plugged up and completely cut off. For the bath, which is in another room, the water enters all round the sides from the rim, so that the bath can be washed out before it is used. The delivery is so abundant that the bath can be filled in three-quarters of a minute and it can also be emptied with equal promptitude. All the fittings are of good gun-metal, and the towel-horse being of hot-water tubing the linen is duly heated and kept warm. At the sink the grid is so made that the bed-pans are placed on end, so that the water-jet is discharged in the centre and thoroughly flushes them out.

To return to the operating-room, it is provided with Dr. Isaac's electric search-light, which is affixed to the forehead in the same manner as a pair of spectacles and is useful for examining the throat or for speculum work. Messrs. S. Maw, Son, and Thompson provide all the surgical instruments and also an air-tight and dust-proof brass and glass instrument-cabinet. In a case of similar construction the aseptic bandages are kept. The flooring is made of the terrazo mosaic supplied by the Artistic Tile Company. This consists of fragments of marble set in cement. Being liquid when applied it can with great facility be rounded off at the corners so as to prevent the forming of angles where the wall joins the floor. When dry it is hard and impermeable. The same firm exhibits a table such as is used at the Pasteur Institute. It is made of volcanic lava, and is so hard that it can only be cut with a diamond saw. The strongest acids produce no effect upon it and therefore it is considered best adapted as being absolutely non-absorbent. In the operating-room there are aseptic irrigators by which water can be brought to the operating table. It comes direct from the main to a nickle-plated cylinder on [illegible] and, containing a sufficient number of [illegible] filtering bougies to ensure a constant current of water. To this cylinder a long india-rubber tube is fixed and the water can thus be brought wherever needed. Throughout the building the Pasteur-Chamberland filter is employed.

Another room is devoted entirely to Roentgen ray apparatus. Dr. Mackenzie Davidson, the medical officer in charge of the x-ray room at Charing-cross Hospital, shows a new zoditory mercury break which can be made to work satisfactorily with any voltage. Here there are many photographs taken from different points of view and combined with the aid of a stereoscope so as to prevent distortion. Then there are various methods of generating the currents required for x ray work and there is also a portable apparatus for field ambulances.

Finally, Messrs. Thomas Bradford and Co. have fitted up a small, compact laundry which is not worked by steam power. A spraying grid used in conjunction with the soaking tank is new. It is worked with the aid of a hose and reduces the necessity of handling the dirty linen to a minimum. Two small fires suffice to do all the washing, drying, and ironing.

Altogether this exhibition is very compact and contains many things of considerable technical interest in a very small space; moreover, the general public cannot fail to be impressed and interested when they see the scientific care that is bestowed on hospital patients. It is to be hoped that this exhibition will awaken sympathy and increase the subscriptions needed for the continuation of the good work done at Charing-cross and other hospitals.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Changes in Plague Policy.—The Progress of the Epidemic.—The Request for a Plague Expert.—The Serum Treatment of Plague.

AN extraordinary change of policy has been gradually adopted by the plague authorities. Whereas formerly detention of travellers with quarantine and thorough disinfection, isolation of the sick in hospital and segregation in camp of those who had been in contact with them, eviction from dwellings with formation of health camps, and disinfection here, there, and everywhere were actively practised one finds that one by one these measures have been gradually relinquished. During the past week it has been notified that disinfection of native passengers to Naini Tal will be restricted to the soiled linen and dirty blankets of third-class passengers who have travelled from a plague-infected district.

The epidemic wave is gradually falling. The deaths from plague throughout India last week fell to 2498 compared with the 3365 deaths for the week previous. It is improving in Bombay city and also in Karachi, and it is markedly less in Calcutta and the Bengal Presidency. An improvement is also reported from Aden. Bombay city has still a mortality at the rate of over 130 per 1000 per annum, and while having 1400 deaths above the average returns but 448 deaths from plague. While plague is thus improving the numbers on famine relief unfortunately continue to increase. The grand total is now over 5 500,000. The Central Provinces and the Bombay Native States show the largest increases this week.

I understand that considerably more than a month ago the New South Wales Government asked the Government of India for the services of a plague expert, but so much time having elapsed since the request they now intimate that they do not require the services of a plague expert from India.

An advocate for the serum treatment of plague after the method of Professor Lustig has appeared in the person of Dr. A. Meyr of the Bombay Municipal Laboratory. In a paper read before the Medical and Physical Society he reviewed the results obtained when the patients were selected for treatment and since then when they have been taken alternately as they were admitted. His figures must be doubted on two grounds—viz., that patients of the later days of disease and moribund and mild cases were excluded. Since May, 1899, some 361 patients were treated, with a recovery rate of 33·8 per cent. The report says that an equal number without the serum treatment only gave a recovery rate of 21·2 per cent. There must here be an obvious fallacy, because without the exclusion of any cases this has been hitherto the average recovery rate of all admissions. 33 per cent., or thereabouts, die within 24 hours. It is clear, therefore, that the exclusion of moribund cases and cases in the later days of disease must considerably improve the recovery rate of the remainder. In fact, exclusion of such cases at once raises the recovery rate 12 or 15 per cent., if not more. If Dr. Meyr could show a real improvement of 12 per cent. it would certainly indicate some promise of future success, but to hold up an improvement of only 12 per cent. after deduction of serious cases over the rate which ruled at the hospitals for all admissions is not very satisfactory. The original Chinese serum was obtained by injecting the horse with living and virulent cultures. This method was thought to be dangerous and was abandoned. Latterly a modified practice has been adopted in Paris. This consists of injecting first of all dead cultures and afterwards living and virulent ones. Serum after this method was used in Oporto and was said to have proved very successful, but here again the same errors were repeated in that similar cases were not taken for comparison. Under these circumstances it is impossible to place faith in the returns notwithstanding that the mortality under the serum treatment is reported to have been five times less than that of cases treated without it. It is very evident that the method of Lustig which has been tried in Bombay falls far behind that which has apparently proved so successful at Oporto. If Lustig's serum possesses any value great alteration must be made in its preparation in order to render it more potent.

May 3rd.

THE BOER TRENCHES.

IN the report in THE LANCET of May 26th of the meeting of the Royal Medical and Chirurgical Society on May 22nd we referred to the lantern slides of the Boer trenches exhibited by Mr. Clinton T. Dent, F.R C S. Eng., in illustration of his address. By the courtesy of Mr Dent, by whom the photographs were taken, and of Messrs George Bell and Sons, we are enabled to reproduce two of these slides, which, with several others, will appear in a book Messrs. Bell are about to publish, entitled, "My Diocese during the War," by the Right Rev. the Lord Bishop of Natal. Fig. 1 shows a typical Boer trench at Magersfontein, the foremost figure in which, that of the [illegible] llent idea of the almost com[illegible] deep trenches to those engage[illegible] was even more complete than appears in the photograph. Skins were spread over the iron supports laid across the trench, and in these skins earth was piled up. In many places sheets of corrugated iron were laid on the iron supports. The trenches were thus to a great extent bullet-proof, if not altogether bomb-proof. The Highland Brigade advanced along the plain on the left. The front wall is covered with mealie sacks filled with earth. In places loop-holes are made between the sacks. Fig. 2 represents another trench, with a roofed-in shelter behind. On the top of the central kopje was an emplacement for a big gun.

FIG 1.

FIG. 2.

ROYAL MEDICAL BENEVOLENT COLLEGE.

THE annual general meeting was held on May 25th Dr. HOLMAN presided and was supported by the following members of council: Mr. John Croft, Mr. C. L Smiles, Rev. E. W. Northey, Mr. H. E. Vardon, Mr. G. O. Croft, Sir Arthur T. Watson, Bart., Q.C., Mr. Stamford Felce, Sir Joseph Fayrer, Bart., Mr. A. E. Cumberbatch, Dr. A. E. Sansom, Dr. J. H. Galton, Mr. Oldaker, Sir R. Douglas Powell, Bart., Dr. M. Baines, and Mr. G. P. Field.

The following pensioners were elected: Annie Blick, John Charles Bonnett, Elizabeth M. Solly, William Dewsnap, Margaret Keith, Ellen Wilson, and Anne Winearl Osborne.

The following foundation scholars were elected: Edward R. L. Warren, Gerald Percy Adams, Charles R. Hamilton, and Cuthbert W. Ellison.

Dr. HOLMAN, in moving the adoption of the annual report, which was in every way a satisfactory one, said: The policy of the council has been to prepare students for entering the profession of medicine and to give to all pupils whatever the course intended for them, a sound, all-round public school education, so that they may be fitted to act not only as medical practitioners or otherwise, but also to hold their own socially in the neighbourhood in which they live. This is in exact accordance with the wishes and aims of the Founder of the College. Epsom College is not a class school, but offers especial advantages to the sons of medical men.

The days of class schools are practically at an end, and it is desired to make our College a public school to all intents and purposes with a medical foundation. Years since it was a common complaint by medical men that they were not given any social status either in private practice or in the public services. It was evident to anyone looking into the question that one cause was the frequent absence of general culture and tone in those who were complaining.

Our object at Epsom is to turn out well-educated gentlemen and students of good tone and high aims, and our experience is that by giving our students the widest education possible we are enabled not only to pass a large proportion through the stiffer medical examinations, but also to ensure their continuing to do well by the avoidance of any sort of cramming. We can often carry them further still and secure university distinctions. I am referring mainly, of course, to those boys intended for the medical profession. Of the general success of other boys I need not touch upon. Our average number of passes in the London Preliminary Scientific and Matriculation Examinations, on which many, though not all, of our valuable hospital scholarships depend, will compare favourably with those of any other school. Of late years we have also gained constantly university open scholarships won straight from Epsom. Between Founder's day, 1893, and Founder's day, 1899, ten open scholarships or exhibitions at the universities have been gained. The two in 1899 were for mathematics. In the *British Medical Journal* of this morning are published the results of inquiries by the General Medical Council into the preliminary examinations in England and Wales by various examining bodies. Matriculation examination, University of London, of all candidates the percentage of rejections is given as 52·2, of candidates from Epsom College it is 35; at the Oxford and Cambridge school examinations for the higher certificate the rejections are given as 43·7, at Epsom it is 20; for the lower certificate the rejections are given as 41·3, at Epsom it is 25. The time has been so limited since I saw these figures that I have not been able to work out our returns in decimals, but the general result is sufficient to show that our teaching is well up to the mark.

Some little time since my attention was drawn to the fact that we could not fill up annually the nine free scholarships most generously given us by the metropolitan hospitals. In all cases it was formerly a *sine qua non* that the student should have passed both parts of the Preliminary Scientific Examination of the University of London and in three hospitals the first division was required. From our school of under 250 boys, not all of whom enter the medical profession, we could not find nine students out of some 50 leaving each year able to gain these valuable and much coveted honours on such conditions and it is clearly too much to expect. The senior form has sometimes had less than nine boys in it. This preliminary examination is composed of three subjects, two of which must be taken together and one standing by itself. Candidates from all parts and from many schools and hospitals will vary in age from 17 to 25 years and upwards. On inquiry I found that by far the larger portion of these candidates had to take this examination in two parts and the proportion passing in all three subjects at once was very small indeed and is growing smaller each year. It is no part of my duty to ask why this should be the case, whether it be the result of stiffer examinations or the poorer mental calibre of the candidates. This is another question. Such a discovery gave an ample answer to our position with the hospitals; and when the whole question was laid before the deans of the various schools they at once allowed their scholarships to be awarded to students who had passed a portion of this examination on the obvious condition that the remaining subject or subjects should be passed so soon as possible. That the deans thought our application a reasonable one was clearly shown by their ready acquiescence with our request.

That every year the candidates going up for certain examinations vary much in quality is the experience of all teachers, and that all candidates with the very best intentions on their own parts and every assistance from their masters can be made to pass such examinations is again an assertion opposed to the experience of all schools. The estimation in which a wrangler's degree is held by university men varies greatly, depending upon the class of men who are competing in any particular year. That our boys, as a rule, do succeed in these higher examinations is incontrovertible. In 1899 nine lads went up for the Preliminary Scientific Examination, six of whom passed in *all* subjects and one of these in Division 1, whilst two others passed in one part of the examination and one only failed. Two forms, 25 in number, were sent in [illegible] matriculation and 16 passed. After much [illegible] on the advice of our head master and oth[illegible]rts well qualified to advise, the whole form is usually sent in. A large percentage are expected to pass. The remainder get over the stage fright of their first interview with the examination papers, and also learn what subjects they are weak in and to which they must give more attention. It is helpful both to teacher and taught and a sure test of general efficiency.

I wish it to be thoroughly understood that every boy intended for medicine is given the best possible attention and every chance of success by careful preparation and even (when necessary) by extra tuition; and I may also assert that boys leaving us are so prepared as to be able to take up practically the position of second-year students to whatever medical school they go. I am also able to say that in only one instance of the scholars going to the London hospitals has any complaint on the score of industry or conduct been made during the past ten years, and then a little judicious advice and remonstrance restrained the student who hardly knew how to govern himself when first exposed to the freedom of London after the discipline of school life. Many of our boys obtain minor hospital appointments and some eventually get posts on the staff of the hospitals. There are now eight old Epsomians who are teachers at the London hospitals. Epsom boys are welcomed at every hospital and rarely fail to qualify in their allotted time.

I should like it to be known as widely as possible that with our recently erected junior school buildings we can admit boys much younger than in past years. Boys entering College early are placed in a much better position to command success than those coming later when too often the preliminary education has been of too cramped a character.

The report having been unanimously adopted, a resolution of regret at the Duke of Abercorn's resignation of the office of President was moved by Mr. S. FELCE and seconded by Dr. GALTON. This having been passed, a resolution concerning the appointment of the Earl of Rosebery as President was moved by Sir JOSEPH FAYRER and seconded by the Rev. E. W. NORTHEY. This resolution was also passed and the proceedings terminated with a vote of thanks to the Chairman, moved by Sir JOSEPH FAYRER and seconded by Mr. SMILES.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of th[illegible] 6230 births and 4098 deaths were [illegible] week ending May 26th. The annual rate of mortality in these towns, which had

been 17·8 and 18·2 per 1000 in the two preceding weeks, further rose to 18·4 last week. In London the death-rate was 16·4 per 1000, while it averaged 19·7 in the 32 provincial towns. The lowest death-rates in these towns were 12·3 in Croydon, 12·6 in Cardiff, 13·4 in West Ham and in Birkenhead, and 15·8 in Swansea; the highest rates were 23·5 in Oldham, 23·8 in Salford, 25·5 in Manchester, and 27·4 in Liverpool. The 4098 deaths in these towns included 443 which were referred to the principal zymotic diseases, against 441 and 431 in the two preceding weeks; of these 127 resulted from measles, 126 from whooping-cough, 81 from diphtheria, 39 from diarrhœa, 34 from scarlet fever, 34 from "fever" (principally enteric), and two from small-pox. The lowest death-rates from these diseases last week occurred in Croydon, Bi
castle; and the highest
Blackburn, and Sheffield.
from measles occurred in
field, and Leeds; from scarlet fever in Blackburn; and from whooping-cough in Liverpool, Manchester, Salford, and Oldham. The mortality from "fever" showed no marked excess in any of the large towns. The 81 deaths from diphtheria included 29 in London, nine in Leicester, nine in Sheffield, five in Brighton, and four in Leeds. Two fatal cases of small-pox were registered last week in Liverpool, but not one in any other of the 33 large towns. There were five small-pox patients under treatment in the Metropolitan Asylums Hospitals on Saturday last, May 26th, against five and three in the two preceding weeks; three new cases were admitted during the week, against none in either of the two preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 1784, against numbers increasing from 1647 to 1733 on the four preceding Saturdays; 216 new cases were admitted during the week, against 176, 203, and 221 in the three preceding weeks. Influenza was certified as the primary cause of 19 deaths in London. The deaths referred to diseases of the respiratory organs in London, which had been 417, 300, and 270 in the three preceding weeks, further declined last week to 269, and were 27 below the corrected average. The causes of 53, or 1·3 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Cardiff, Bradford, Leeds, Newcastle, and in 12 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Preston, Halifax, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 17·7 and 19·5 per 1000 in the two preceding weeks, further rose to 19·6 during the week ending May 26th, and exceeded by 1·2 per 1000 the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 10·6 in Leith and 14·9 in Dundee to 20·5 in Edinburgh and 21·4 in Glasgow. The 606 deaths in these towns included 36 which were referred to whooping-cough, 19 to diarrhœa, 10 to measles, five to diphtheria, three to scarlet fever, two to "fever," and one to small-pox. In all 76 deaths resulted from these principal zymotic diseases, against 63 and 85 in the two preceding weeks. These 76 deaths were equal to an annual rate of 2·5 per 1000, which was 0·5 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of whooping-cough, which had been 22 and 30 in the two preceding weeks, further rose last week to 36, of which 28 occurred in Glasgow and six in Aberdeen. The deaths from diarrhœa, which had been nine and 15 in the two preceding weeks, further rose to 19 last week, and included nine in Glasgow, three in Edinburgh, three in Dundee, and three in Aberdeen. The fatal cases of measles, which had been 15, 16, and 19 in the three preceding weeks, declined again last week to 10, of which six were registered in Glasgow, two in Edinburgh, and two in Leith. The deaths from diphtheria, which had risen from three to seven in the five preceding weeks, declined again to five last week and included two in Glasgow. The fatal cases of scarlet fever, which had been seven in each of the two preceding weeks, declined last week to three, of which two occurred in Glasgow, where the death from small-pox was also recorded. The deaths referred to diseases of the respiratory organs in these towns, which had declined from 145 to 84 in the five preceding weeks, rose again last week to 94, and exceeded by 14 the number in the corresponding period of last year. The causes of 28, or nearly 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 29·7, 26·3, and 23·0 per 1000 in the three preceding weeks, rose again to 25·2 during the week ending May 26th. During the past four weeks the death-rate in the city has averaged 26·1 per 1000, the rates during the same period being 17·0 in London and 19·5 in Edinburgh. The 169 deaths registered in Dublin during the week under notice exceeded by 15 the number in the preceding week, and included five which were referred to the principal zymotic diseases, against five and nine in the two preceding weeks; of these, three resulted from whooping-cough, two from "fever," and not one either from small-pox, measles, scarlet fever, diphtheria, or diarrhœa. These five deaths were equal to an annual rate of 0·7 per 1000, the zymotic death-rate during the same period being 1·8 in London and 1·2 in Edinburgh. The fatal cases of whooping-cough, which had been four, one, and one in the three preceding weeks, rose again last week to three. The deaths from "fever," which had been six, one, and three in the three preceding weeks, declined again to two last week. The 169 deaths in Dublin last week included 31 of infants under one year of age and 39 of persons aged upwards of 60 years; the deaths of infants exceeded the number recorded in the preceding week, while those of elderly persons showed a decline. Four inquest cases and one death from violence were registered; and 61, or more than a third, of the deaths occurred in public institutions. The causes of 6, or nearly 4 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff Surgeon W. H. Norman to the *Cormorant* for Gibraltar Hospital. Surgeon N. L. Richards to the *Cormorant* for Gibraltar Hospital, Dockyard, and Naval Extension Works.

ROYAL ARMY MEDICAL CORPS.

Surgeon-Lieutenant Colonel Henry Wright, 1st Volunteer Battalion the Lincolnshire Regiment, is granted the temporary rank of Major whilst serving in South Africa. Lieutenant-Colonel McAdam, r.p., is ordered to Dublin for duty and Captain C. K. Morgan is to proceed from Satara to Poona for duty at the Station Hospital. Lieutenant Colonel W. F. Battledge, r.p., is appointed Sanitary Officer at Aldershot. Surgeon-Major A. G. Grant, I.M.S., r.p., assumes temporary medical charge of troops, Station Hospital, &c., Aberdeen.

VOLUNTEER CORPS.

Rifle: The under-mentioned officers are borne as supernumerary whilst serving with the Royal Army Medical Corps in South Africa:—4th Volunteer Battalion the Queen's (Royal West Surrey Regiment): Surgeon-Captain E. J. G. Berkeley. 3rd (The Blythswood) Volunteer Battalion the Highland Light Infantry: Surgeon-Captain R. Pollok. [illegible] Hampshire (Southern Division, Royal [illegible] Masters to be Surgeon-[illegible] Battalion the Prince Albert's (Somersetshire Light Infantry): Surgeon-Lieutenant James Gordon Bain to be Surgeon-Lieutenant. 4th Volunteer Battalion (the Cheshire Regiment): Surgeon-Lieutenant R. C. McCarthy to be Surgeon-Captain. 4th Volunteer Battalion the Cameronians (Scottish Rifles): John Scutter McKendrick to be Surgeon-Lieutenant.

VOLUNTEER MEDICAL STAFF CORPS.

The Manchester Companies: Arthur Thomas Lakin to be Surgeon-Lieutenant.

VOLUNTEER INFANTRY BRIGADE.

Cheshire: Surgeon-Captain H. W. King, 2nd Volunteer Battalion the Cheshire Regiment, to be Brigade-Surgeon-Lieutenant-Colonel on appointment as Senior Medical Officer to the Brigade, vice Brigade-Surgeon-Lieutenant-Colonel A. Hamilton, who resigns the appointment.

Memorandum.—In consequence of the division of the 1st Worcestershire and Warwickshire Volunteer Artillery into two corps the following appointments are made:—1st Worcestershire Volunteer Artillery: Surgeon-Lieutenant A. C. Oldham. 1st Warwickshire Volunteer Artillery: Surgeon-Lieutenant S. P. Johnson.

MILITIA MEDICAL STAFF CORPS.

Surgeon-Lieutenant A. E. Madge resigns his commission.

VOLUNTEER OFFICERS' DECORATION.

The Queen has conferred the Volunteer Officers' Decoration upon the undermentioned officers:—*North-Eastern District: Rifle:* 2nd Volunteer Battalion, the Prince of Wales's Own (West Yorkshire Regiment) Surgeon-Lieutenant-Colonel Samuel Johnston. 1st Volunteer Battalion, the Leicestershire Regiment: Surgeon-Lieutenant-Colonel Robert Bradshaw Smith. *Scottish District: Rifle:* 4th (Donside Highland) Volunteer Battalion, the Gordon Highlanders: Surgeon-Captain John Osbert Wilson. 7th (Clackmannan and Kinross) Volunteer Battalion, Princess Louise's (Argyll and Sutherland Highlanders): Surgeon-Major Duncan William Currie.

TRANSVAAL WAR NOTES.

Captain Lawson, R.A.M.C., left South Africa invalided in the *Canada* on May 17th.

Dr. William Davies, son of Mr. Ebenezer Davies, medical officer of health of Swansea, who was imprisoned owing to his supposed connexion with the Jameson raid and who was one of the survivors of the siege of Ladysmith, was also one of those to enter Mafeking on May 18th. He was attached to the Imperial Light Horse and took charge of the medical stores accompanying the relief column.

The War Office has decided to build a number of wooden huts near the site of the proposed new infantry barracks at Pembroke Dock for the accommodation of 140 convalescent soldiers returning from South Africa.

Lieutenant-General Sir W. Butler, K.C.B., commanding the Western District, visited the military hospital at Stoke last week to see the convalescent patients who had recently landed from the *Braemar Castle*. At the conclusion of the visit General Butler expressed himself as highly gratified at the general appearance of the hospital and the care and attention bestowed by the staff upon the patients.

By the request of the principal medical officer at Bloemfontein the Langman Hospital of 100 beds has been converted into one of 150, the necessary equipment for which has been provided by Mr. Langman and despatched to South Africa. The medical staff has been increased by the appointment of Mr. W. W. Woolliscroft, late house surgeon to Charing-cross Hospital.

Major S. R. Wills, R.A.M.C., Captain W. D. Erskine, R.A.M.C., and Lieutenant Morris, R.A.M.C., are returning home invalided from South Africa in the *Simla* which left Cape Town on May 21st.

TRANSVAAL WAR CASUALTIES.

The following deaths are reported:—Royal Army Medical Corps: Lieutenant E. L. Munn, enteric fever, Boshof, May 23rd; Major Perry Marsh, enteric fever, Deelfontein, May 22nd.

Mr. F. R. Eames, a dresser attached to the Welsh Hospital, has died from dysentery at Bloemfontein on May 27th.

DEATHS IN THE SERVICES.

Lieutenant-Colonel Aylmer Ellis Hayes, D.S.O., A.M.S., late of the Royal Army Medical Corps. He was appointed surgeon in 1877 and retired with the rank of lieutenant-colonel in 1897. He served with distinction in the operations near Suakin in 1888, including the engagement at Gemarzah, and mentioned in despatches (medal with clasp, third class of the Medjidie, and Khedive's star). He also took part in the operations on the Soudan frontier, 1889 (mentioned in despatches, D.S.O. and clasp).

Brigade-Surgeon-Lieutenant-Colonel William Center, I.M.S., retired, at Ealing, on May 16th. He joined the Indian Medical Department in 1865, and from 1871 served in the Punjab as chemical examiner and professor in the Lahore Medical School. He also at one time was statistical officer in the sanitary department of the Government of India, and subsequently was appointed civil surgeon at Lahore and superintendent of the lunatic asylum.

Correspondence.

"Audi alteram partem."

"THE TENURE OF OFFICE OF MEDICAL OFFICERS OF HEALTH."

To the Editors of THE LANCET.

SIRS,—After the annotation under the above heading in THE LANCET of May 12th, p. 1375, some of your readers were scarcely prepared for the leading article on the same subject in THE LANCET of May 19th, p. 1454. Whoever the writer of this ungenerous article may be he is evidently not in sympathy with a very large number of his provincial brethren in the disabilities under which they labour by virtue of the precarious nature of their appointments as medical officers of health. He sees "in the proposal a serious obstacle to the development of whole-time appointments carrying salaries commensurate with the dignity of the office of a specially qualified medical officer of health." Now, the Local Government Board have had a quarter of a century in which to develop whole-time appointments. Are they at all likely during the next 25 years to persuade local authorities to pay salaries commensurate with the dignity of the office? Are not the salaries attaching to whole-time appointments rather rapidly falling, too? In the meantime who are to do the sanitary work in the provinces? Who are doing the work now, and who have done the work in the past? It has been done, it is being done in the present, and it will be done in the future, to the great benefit of the community, by half-time men. These half-time men are not a class of mere officials any more than are Poor-law medical officers, but, for the most part, they are earnest, hardworking, conscientious practitioners of medicine, men of ability, often of social standing—some are magistrates—who are able to exert their influence as citizens and among their patients in favour of sanitary reform. Why should not these men receive the same protection as Poor-law medical officers have? Why should not they be appointed during good behaviour as are the clerks of their authorities who are also engaged in private practice? Is the profession of medicine less honourable than that of law? In what possible manner can such protection prove a serious obstacle to the development of whole-time appointments? Will these men do their work less efficiently because they know they will not be dismissed at the end of the term of their appointment because they have done their duty? Does experience teach that medical officers of health who receive "the paltry salary of some £10 to £50 yearly" are insecure in their office? On the contrary, they already possess security of tenure if they are sufficiently subservient, and if they are not efficient are they likely to become less efficient because they cannot be dismissed without the consent of the Local Government Board, who possibly have not sanctioned their appointments because they have not been asked to contribute to their salaries? But is it a disadvantage to the community that a medical officer of health receiving a salary, say, of £50 yearly is encouraged to do his duty by the knowledge that he cannot be arbitrarily dismissed from his post?

The medical officer of health who requires security of tenure of office is the man who is appointed with the consent of the Local Government Board, who pay a moiety of his salary, and who can be dismissed without their consent—a man whose tenure of office becomes insecure only when he carries out his duties earnestly in the manner which the law prescribes and who advises his authority that it is their duty to spend money in providing water-supplies and sewerage in obedience to the law which they are appointed to administer. And until the Local Government Board take upon themselves the task of coercing sanitary authorities to do their duty they must consent to the enabling the present-day medical officer of health to do his duty without fear or favour if the sanitary interests of the provincial community are to be adequately safeguarded. And the present-day

medical officer of health is a half-time man to the extent of 90 per cent. of the whole number.

In conclusion, permit me to say that many old subscribers to THE LANCET must have read with pain and regret a *doctrinaire* article in which the interests of a large body of honourable members of the medical profession who are doing a great and beneficent public work and who are daily suffering disability and loss of dignity such as no other body of men in the profession suffer, are ignored. The conditions under which they carry on this work is a public scandal which has existed far too long, and, with all courtesy and deference to you, Sirs, I am very much mistaken if the indications are not that the great bulk of the medical profession have definitely made up their minds that it shall cease. I am, Sirs, your obedient servant,

Carisbrooke, Isle of Wight, May 22nd, 1900. J. GROVES, M.D.

THE INFLUENCE OF DUST AND FLIES IN THE CONTAMINATION OF FOOD AND THE DISSEMINATION OF DISEASE.

To the Editors of THE LANCET.

SIRS,—I have read with much interest the Milroy lectures on Summer Diarrhœa by Dr. Waldo and consider that his evidence is as complete as the statistician or medical officer of health can make it, but there is one point concerning the means by which food becomes contaminated to which he barely refers, and to which I, as a practitioner, am inclined to give a very high degree of importance. The point to which I refer is the agency of flies in the direct conveyance of bacteria from filth to food.

In making this remark I wish it to be understood that I do not desire to question in the least degree the immense importance of bacteria-laden dust, especially that derived from horse-dung and other forms of excreta with which the atmosphere of towns is at all times polluted, but I would like to point out that such dust is present at all times of the year when the streets and roads are dry enough to allow it to exist in the form of dust. Contamination of food by means of dust is, therefore, possible at all seasons. Of course, during hot weather the bacteria grow much more rapidly in food, milk, &c., than in colder weather, and are, therefore, more likely to be present in large numbers at the time when the food is ingested. The relative resistance of the gastro-intestinal canal to the action of such organisms or their products, and the question as to whether and to what extent climatic conditions affect such resistance we must leave out of account, as we are arguing now on matters outside the human body. The excellent Table IX.[1] would be still more instructive if it contained the following details, which, however, could only be learned by notification followed by domiciliary visits, or special report on each case drawn up by the practitioner in attendance upon it, on a form supplied for the purpose: (1) number of cases in which food was habitually kept in the living room; (2) number of cases in which the said room was also used for sleeping; (3) number of cases occurring in rooms the windows of which were habitually kept closed; (4) number of cases in which flies were noted to be numerous in the room or rooms at the time of the occurrence of the case; (5) number of cases occurring (*a*) in basement, (*b*) on ground floor, (*c*) first floor, (*d*) second floor, &c., respectively, and whether front or back rooms and how used.

As a general practitioner of over 11 years' standing I have seen a good many cases of summer diarrhœa and have no doubt of its being due to bacterial contamination from alvine evacuations, whether equine, human, or other. I am inclined to think that human excreta have more to do with it than is recognised, the only question is the method of transference. My own experience, which has, of course, formed my own opinion, although it is not very extensive and has not been systematically recorded, is as follows: that the cases occur for the most part amongst the poor and in the following circumstances—(1) in small, ill-ventilated rooms, especially at the back of the house and in the basement; (2) in rooms the windows of which are habitually kept closed and to which the air and dust of the streets have less access than to most others; (3) in rooms used as kitchen, living room, and often as sleeping-room, the atmosphere of such a room being usually close and often foetid, the temperature very high, and frequently almost uniform day and night, forming, in fact, an incubator at very nearly the optimum temperature for the cultivation of pathogenic bacteria. Such rooms are, in my experience, always swarming with flies in summer, and I have even occasionally seen them containing fairly large numbers of active flies in winter, owing to the high and uniform temperature at which they are kept. According to Dr. Waldo's showing the incidence of diarrhœa is not greatest in the large streets and thoroughfares which are most dung-laden, but in by-streets and courts.

Now if the disease were due mainly to direct contamination by dust one would expect to find it most in the larger streets where such dust as there is consists chiefly of horse-dung and is kept constantly stirred up. The windows of the houses in such streets are, moreover frequently wide open during hot weather. The dust has, therefore, free access to basements, kitchens, larders, &c. The bactericidal action of air, light, sunshine, &c., on town dust must, as Dr. Waldo says, be considerable, but cannot be completely antiseptic. I think that bacteria are more likely to be conveyed in an active and virulent state by flies which settle at one moment on fresh dung and at the next on milk, meat, butter, sugar, jam, or fruit than by dust which must, if emanating from dung, have been some hours exposed to wind, &c., to have become desiccated and pulverised and to have reached its destination on the food, to say nothing of the strong sunshine to which it is likely to have been subjected at the time of year we are considering in the process of desiccation.

These remarks are based solely on observation and that of no vast number of cases, as I have not practised extensively among the poor upon whom the greatest incidence of infantile diarrhœa falls. Nevertheless, wherever I have [illegible] invariable has been the presence and persistent incidence of ness of the common fly. Granting that the dung of our streets supplies the materies morbi, may not the fly play as important a part as the wind-current in depositing it in an active state on our food? This is, of course, capable of investigation by exposing for a given length of time in a room in which a case of summer diarrhœa has occurred cultivation plates—(*a*) protected from flies but not from dust; (*b*) exposed to flies, incubating both and examining the resulting colonies.

I am, Sirs, yours faithfully,

WM. SALISBURY-SHARPE, M.R.C.S. Eng., L.R.C.P. Lond.

Cleveland terrace, Hyde Park, W., May 26th, 1900.

"THE CONFERENCE ON MEDICAL ORGANISATION AT MANCHESTER."

To the Editors of THE LANCET.

SIRS,—The honorary secretary of the above Conference, Dr. Samuel Crawshaw, accuses me of "destructive criticism" in regard to his meeting. This is, indeed, a surprise and a revelation. For more than five years I have travelled on your behalf and in all directions to investigate the economic grievances of the medical profession and the result has been to point out the absolute necessity of organising medical unions or guilds. Surely all sincere workers in this cause must feel that friendly criticism is far more useful than mere complimentary notices. It is further insinuated that while I pursued the easy course of finding fault I failed in the more difficult task of indicating a remedy. Yet I suggested the fixing of a definite system [illegible] of a pledge of rep[illegible] ; [illegible] cussions of the and th[illegible] grievances, and, course [illegible] above all, the methods and means for bringing men into union. Had this been done more fully then, indeed, the conference would have been something "very different" from "anything previously attempted." I fancied, and still believe, that this is what Dr. Crawshaw and all genuine reformers desire; and I beg him and them to rest assured that far from entertaining any hostile motive my criticisms are solely inspired by the desire of helping forward the cause.

There was, however, one objection which I raised against the Conference; but this I mentioned some considerable time before it was held and not afterwards. Seeing that as yet there are not many genuine medical unions in Great Britain, that their funds are limited, and that not many of the

[1] THE LANCET, May 12th, 1900, p. 1327.

members can afford to leave their practices for any length of time, I thought that the holding of two congresses within a few months of each other might tend to weaken both these assemblies. Nevertheless, and though this still seems to me a serious consideration, I did not press the matter further, but accepted the explanation given. I was told that it would be very much better for the International Congress of Medical Ethics or Deontology that a Conference should first be held at Manchester, that the delegates whom the Manchester Conference would not fail to elect would be able to attend the Paris Congress in a more representative capacity; for, instead of speaking in the name of their individual societies they would speak on behalf of all those who had met at Manchester. This seemed to me a good and weighty reason and I can assure the delegates of the Manchester Conference that they will be very heartily welcomed by the delegates of medical unions of France and other nationalities who will meet in Paris on July 23rd next. Unfortunately, I am not yet acquainted with the names of these delegates, and I would urge that they should communicate at once with the secretary of the British Section of the International Congress on Medical Ethics.

I am, Sirs, yours faithfully,

May 29th, 1900. YOUR SPECIAL COMMISSIONER.

"DEATHS UNDER CHLOROFORM."

To the Editors of THE LANCET.

SIRS,—The medical profession will thank Captain Clayton Lane, I.M.S., for his outspoken letter. I have now before me the twenty-eighth newspaper report of inquests in England upon persons killed by anæsthetics since Jan. 1st, 1900. The following is the last (*Bristol Times and Mirror*, May 24th):—

HIGHBRIDGE.

DEATH UNDER CHLOROFORM.—A young married woman named Mulford, the wife of a local tradesman, went under chloroform yesterday in order to have some teeth extracted and succumbed to the effects of the drug. The sad occurrence has created a painful sensation in the town.

Not infrequently such reports as this are all that emerges when someone has been killed by an anæsthetic. This is not for the public good. It is not helpful to science. It does not prevent future deaths. Yet some 80 per cent. of these persons are killed before the operation commences—one of this month's cases in one and a half minutes.

If a captain lose his ship, or an officer lose a piece of artillery, he is court-martialled as a matter of course. The burden of justification is cast entirely upon the officer in charge of national property, even in cases where such officer may have nobly done his duty and be obviously entitled to general sympathy. I submit, Sirs, as an ethical principle, that the like burden of justification lies still more cogently upon one who has killed his patient by an anæsthetic. I submit also that no one is justified in giving an anæsthetic in so slovenly a fashion that he cannot afterwards write out an intelligent report of the case. The public and the profession are entitled to a clear and explicit statement of the following facts:—1. The anæsthetic adopted; the amount used; the inhaler employed; the method of administration; and the time-history of the administration, showing the time from the commencement of the administration to the supervention of danger or death. 2. A report on the patient, the results of any examination that may have been made, and whether albuminuria or glycosuria existed. The disease or injury for which the anæsthetic was administered and the operation intended. How far the operation had proceeded at the moment when danger or death supervened. 3. The measures used for resuscitation, how soon instituted, their results. 4 The facts disclosed by a necropsy, if made. 5. The cause to which death was assigned.

I am, Sirs, yours faithfully,

Manchester square, W., May 23th, 1900. JAMES EDMUNDS.

THE RÔLE OF EDUCATION IN THE PREVENTION OF TUBERCULOSIS.

To the Editors of THE LANCET.

SIRS,—Education is the motto of the associations formed in this country to prevent the spread of tuberculosis. The Devon and Cornwall Association's committee forwarded in May, 1899, and in May, 1900, letters to county councils and boards of education advocating instruction in "health laws or maxims" to scholars in elementary schools. It believes good may ensue by an appeal to the open mind of youth rather than the prejudices of age. In "Moral Instruction to Children" Mr. Adler recommends lessons on duty to one's self, to womankind, and to society, which include personal and public hygiene. It is more than probable that a higher standard of morality would result from improved health. Instruction seems necessary to counterbalance the effects of modern artificial conditions of life seen in tuberculosis.

The National Association for the Prevention of Consumption is shortly considering with branch delegates and others how pressure may be brought to bear on the education authorities to include such instruction in the New Education Code. Locally it is believed it may be taught under "composition," "writing" (copybook headings), or "domestic science." Further, it is possible that education authorities may be actually shown, perhaps, some practical illustrations of defective hygienic arrangements with results.

I am, Sirs, yours faithfully,

F. BUSHNELL,
Honorary Secretary of the Devon and Cornwall Branch.

Plymouth.

TREATMENT OF CHRONIC ECZEMA.

To the Editors of THE LANCET.

SIRS,—I beg to forward you particulars of a case of chronic eczema which was cured by an abscess. The patient was a man, aged 31 years, who for eight years had a patch of chronic eczema as big as a crown-piece situated in the popliteal region over the biceps femoris tendon. He had tried various treatments from time to time, including arsenic, dieting, and total abstinence from alcoholic stimulant. He had also tried "complete" rest and change of air, but treatment seemed to be of no avail. The patch slowly increased in size and the skin became cracked and fissured.

One day he scratched it and it became infected with pyogenic organisms. An acute abscess formed accompanied with a good deal of cellulitis and lymphangitis. The abscess was opened and the patient was well in a week. This happened a month ago and the patch of eczema has entirely disappeared. I attribute the cure to the increased vascularity of the surrounding area produced by the inflammation. (This, of course, will not apply to the cicatrix.) I venture to suggest that counter-irritation of the skin by increasing the vascular supply might prove a beneficial method of treatment. I should be glad if some of your readers having experience of similar conditions would kindly give me the benefit of their opinion.

I am, Sirs, yours faithfully,

PERCY AUGUSTUS LONGHURST, M.R.C.S. Eng., L.R.C.P. Lond.

Old Burlington-street, May 14th, 1900.

*** A probable explanation of the above interesting clinical observation is that the chronic eczema was microbic in origin and that the microbe was destroyed by the toxins of the pyogenic cocci. It is being gradually recognised that many conditions grouped under the wide term eczema are due to the presence of micro-organisms.—ED. L.

SAVE ME FROM MY FRIENDS.

To the Editors of THE LANCET.

SIRS,—My attention has been called to various paragraphs which have appeared in the lay press with reference to the case of a private patient of mine. Will you allow me to say that they have been inserted without my knowledge or consent and that they have caused me much annoyance.

I am, Sirs, yours faithfully,

G. ANDERSON CRITCHLTT.

Harley-street, Cavendish-square, W., May 30th, 1900.

MYLES *v.* FITZGIBBON.

To the Editors of THE LANCET.

SIRS,—In consequence of Mr. Myles's refusal to allow me to embody in my letter of apology, dated the 24th inst. and published in the Dublin press of this date, my explanation as to how I fell into the serious mistake as to a matter of

fact appearing in the circulars addressed by me to the Fellows of the Royal College of Surgeons in Ireland, it becomes necessary for me now to publish my explanation through the medium of the press. The mistake referred to arose from the publication of Mr. Myles's acceptance of the offer of the freedom of the city of Limerick having appeared in the *Evening Telegraph* immediately in succession to the report of the meeting of the United Irish League and being assumed by me to have been part of the proceedings at that meeting. I was not aware of my mistake until I read in the Dublin evening papers of May 23rd the report of the motion for an injunction in which paragraphs from an affidavit made by Mr. Myles were quoted. As soon as I became aware of the error into which I had fallen I tendered through my solicitors to the legal adviser of Mr. Myles a complete apology.

I am, Sirs, yours faithfully,

HENRY FITZGIBBON, M.D.

43, Merrion-square, Dublin, May 25th, 1900.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Small-pox at Stalybridge.

THE unfortunate importation of small-pox into Stalybridge was under discussion at the Cheshire County Council meeting held on May 15th. The patient was a man who had been put-

[illegible]

and Manchester, reaching Stalybridge on April 20th. He was seen by a medical man and removed to the Hyde Small-pox Hospital, where he died next morning. Everything possible was done locally to prevent the disease from spreading, but up to May 15th there had been two more cases at Stalybridge, and several cases have occurred since. Seven cases have been removed for hospital treatment. Four cases were sent away on May 24th, three of them from one house. Two were removed during the week from Ashton-under-Lyne to the Oldham Hospital. Mr. F. J. Roberts-Dudley of Stalybridge has issued an infectious disease proclamation, and no doubt all efforts will be made to limit the epidemic. It appears also that three men who travelled with the deceased from London contracted small-pox, and as they lived respectively at Bolton, Oldham, and Carlisle, the area of possible infection is tolerably wide. In a letter to the medical officer of the county from the medical officer of health at Stalybridge the latter gentleman says that he could not make out why the man was not stopped at Queenborough or in London. No doubt many other people will feel the same difficulty and probably a good deal of indignation at the evident carelessness that sometimes obtains at our ports with respect to the entry of infectious diseases. It was moved and carried in the county council—

[illegible]

In Stalybridge just now "revaccination is common."

Sale of Drink to Children.

A meeting was held in the Manchester Town-hall on May 22nd in support of Mr. Souttar's Bill for preventing the sale of drink to children. The Rev. Canon Kelly submitted for adoption a draft form of memorial in behalf of the Bill to the local Members of Parliament and a petition to Parliament to the effect that the Bill might become law during the present session without amendment, which was carried. It seemed to him that "it was more dangerous for one who was between the ages of 13 and 16 to enter a public-house than it was for a child of tender years." The licensed victuallers of course oppose this Bill for various reasons, but one point they wish to make against it is that it is more dangerous to the morals for a young person 18 years of age to hear the conversation of the public-house than for one of 16 years, so that, presumably, they would, out of regard for the morals of the community, allow visits to the public-house to buy drink by the youngest children who could carry a jug or a bottle, but forbid it at a later age. It has not, however, been stated at what age after early childhood the licensed victuallers consider that the morals of the young will be improved by visits to the village public-house or the ginshop. The Manchester Corporation has passed a strong resolution in favour of the Bill.

Chorlton Board of Guardians.

Mr. Jenner-Fust, Local Government Board Inspector, distributed praise and blame at the meeting of the Chorlton Board of Guardians on May 25th. He began with the former and congratulated the board on the excellent arrangements at the cottage homes at Styal, and paid the superintendent a high compliment on the way in which the children were cared for. He then referred to the workhouse infirmary at Withington and made various criticisms. It appears that there is some want of classification, for he said it was desirable that some alteration should take place in the system which at present grouped in the same rooms children suffering from whooping-cough, ringworm, and women suffering from a variety of complaints. He drew attention to the fact that there were only straw beds in the infirmary. "Although straw was an excellent thing he thought that an improvement would be effected by the introduction of horse-hair beds." He did not like the corduroy suits for the inmates and said that they were not generally worn in workhouses nowadays. So fashions change. As to the imbeciles they did not know yet what was to be done, but having regard to the overcrowding that at present existed in the infirmary and the continuous increase of the population, "they ought not to hesitate in proceeding with schemes for increasing the accommodation." There is already a scheme for enlarging the cottage homes recently built which it was thought at the time were on a sufficiently large scale, but Mr. Jenner-Fust considered that they would be quite justified in building a new nurses' home, a new laundry for the infirmary, and in entirely separating the infirmary from the rest of the workhouse. Mr. Mainwaring, the chairman, said that they would all rejoice in being able to remove the imbeciles from the workhouse and that they were in hopes, although at present the difficulties seemed insurmountable, that the two unions of Manchester and Chorlton would be combined. It is considered by the board that the former does not bear its fair share of taxation for the relief of the poor and that this very great work would be facilitated by the two unions becoming one.

May 29th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Public Health of Dublin.

THE report of the committee appointed at the instance of the Lord Lieutenant to inquire into the public health of Dublin was issued on May 17th and contained little that was novel or unexpected. The tenements house evil occupies the foremost place as the prime cause of the abnormal death-rate of Dublin, and the noxious features of these dwellings are described in vigorous language. It is satisfactory to note that the committee do not see their way to blame the soil on which the city is built for the prevalence of enteric fever. There is every reason to think it a preventable disease, but the committee are of opinion that the causes of its prevalence in Dublin are not yet thoroughly understood. The important statement appears that "the hospital accommodation for infectious cases in Dublin is larger in proportion to the population than is the case in any English city." In reference to the notification of infectious diseases it was the general opinion of all the witnesses who were examined that this measure should be made compulsory in the districts surrounding Dublin. The committee concur in this opinion and they point out that "such notification is already compulsory throughout Great Britain as it ought to be throughout Ireland." Among the recommendations made by the committee the most novel and debateable was to the effect "that the duties of medical officers of health should no longer be discharged by the 16 dispensary medical officers, and that in future there should be discharged by an assistant medical officer of health who should receive an adequate salary and who should give his whole time to the duties of his office." The Dublin *Daily Express*, in commenting on the report, states that it proves that the sanitary authorities have failed to discharge some of the most pressing and important of the duties which devolve on those who are supposed to safeguard health in a

community. In connexion with the same subject a recent article from THE LANCET was quoted with an account of a wake held in the neighbourhood of Fitzwilliam-place, a wealthy and fashionable street of Dublin. The editor of the *Daily Express* goes on to say that this, if true, shows a clear case of neglect on the part of the sanitary authorities, for, as THE LANCET points out, there are laws which sanction the application of the necessary sanitary measures.

Royal College of Surgeons in Ireland: Election of President.

The unpleasant contention with reference to the coming election at the Royal College of Surgeons in Ireland raised by a circular letter from Mr. Henry Fitzgibbon to the Fellows of the College on May 21st, in which he offered himself as a candidate for the Presidency in opposition to Mr. Myles, has been brought to a satisfactory conclusion. An injunction to restrain Mr. Fitzgibbon from publishing his circular was at once obtained by Mr. Myles. On May 24th, however, a full and ample apology was written by Mr. Henry Fitzgibbon and forwarded to all the electors. He at the same time formally withdrew his candidature for the Presidency of the College. By a circular letter dated May 25th he concluded the correspondence, and in referring to his retirement from the contest informed the Fellows that he had fallen into a serious error as to a matter of fact, the mistake having arisen from misconstruction of a report which appeared in an evening paper with regard to Mr. Myles. The latter is now unopposed and will be duly elected President of the College on June 4th.

Notification of Infectious Diseases in Dublin.

A printed circular dealing with the notification of infectious diseases in Dublin was issued by the corporation on May 25th and sent to all the medical men in practice in the city. It specifies the diseases which must be notified, including cerebro-spinal meningitis, which has been added to the list—but only for the next four months. As to phthisis, attention is called to the fact that although it is not included in the list it is desirable to disinfect the rooms in which persons affected by this disease have resided; moreover, the circular points out that notification (which will be regarded as confidential) with a view to disinfection will be gladly received and acted upon. The attention of the Public Health Committee having been called to the fact that some medical men refrain systematically from notifying cases of infectious disease, the committee have resolved to prosecute any medical man who neglects to discharge this duty in compliance with the law of the land. The Registrar-General for Ireland has recently added a new tabular feature to his reports relating to the number of cases of infectious disease notified to the Public Health Committee and the corporation and has stated that it is his intention to furnish this information for each week in future.

Death of Dr. Edward Johnston Quinan of Dublin.

Dr. E. J. Quinan, a physician well known and highly esteemed in Dublin for many years, died on May 26th at his residence in Harcourt-street, aged 86 years. He was an M.D. of King's College, Aberdeen, a Fellow of the Royal College of Surgeons in Ireland, and formerly one of the Court of Examiners there. Dr. Quinan filled the office of honorary secretary to the Irish Medical Association for 40 years and received an address and a presentation piece of plate in recognition of his long and distinguished services to the Poor-law medical officers of Ireland.

The Poor-law Medical Officers of Ireland Vacation Leave.

The disappointment caused among the Poor-law medical officers of Ireland by the recent decision of the Queen's Bench Division, which declared that the Local Government Board had no power to insist on the maximum four weeks' vacation, has been turned into joy by the statement of Mr. Gerald Balfour, contained in his speech in the House of Commons on May 24th. The Chief Secretary for Ireland said: "It appeared that one of the general rules which was passed for dispensary districts was that the medical officers should be allowed four weeks' vacation. The County-court Judges ruled that the Board's action was correct and legal, but the Supreme Court, to which the case was carried, declared that the Board under its rule had no power to insist upon this four weeks' maximum in every case. This, however, would be met by the issue of a new rule, and it would be altered in due course."

The Outbreak of Typhoid Fever in Belfast.

From the report of the medical superintendent officer of health I learn that the total death rate for the week ended May 19th has been 22 2 per 1000 and for the principal zymotic diseases 2 7. There were 58 cases of typhoid fever notified during the past week, which is a further increase in the weekly number of cases notified. It is stated by a correspondent in a Belfast paper that although the Water Commissioners got a Bill passed 12 months ago enabling them to purchase or deal with the farms lying within the catchment areas of their reservoirs at Carrickfergus and Stoneyford, on the ground that the proximity of these inhabited farmsteads to the reservoirs was a source of danger by polluting the water, no steps have been taken to acquire these farms. If the farms are a source of danger they should be dealt with at once; if not, the owners should be put out of suspense as to whether they are to be dispossessed or not.

Queen's College (Belfast) Athletic Sports.

The annual sports in connexion with the Queen's College Athletic Club took place in the grounds of the North of Ireland Cricket Club on May 26th and were largely attended and in every respect were a great success.

The Samaritan Hospital, Belfast.

A fête and fancy fair on behalf of this hospital will be held in the grounds of Norwood Tower, Belfast, in June.

May 30th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

A Temperance Manifesto by the Academy of Medicine.

IN my letter which appeared in THE LANCET of May 19th (p. 1472) I mentioned the circular of General Gallifet, the Minister of War, which forbade the sale of alcoholic liquors in canteens and other places of military resort. Immediately upon the issue of this circular the Academy of Medicine sent its congratulations to the Minister. In an address voted upon the motion of M. Bergeron and M. Laborde the Academy recalls the fact that in its capacity of guardian of those principles of hygiene which dominate the public health it cannot remain indifferent to any prohibitive measures which commence to put into practice those indispensable rules which it has never ceased to advise as warring against the progress of alcoholism. Further, the Academy considers that this beginning should be at once followed by a complementary measure—namely, the forbidding of alcohol in other State departments. Finally, the Academy hopes that the Government will be induced to pass laws calculated to prevent the ever-increasing ravages of alcohol in civil life. The Academy has in view the seafaring population, the mercantile marine no less than the navy, and especially the fishing classes amongst whom alcohol has brought about terrible results. So bad are its effects among the peoples of Brittany and Normandy, who were formerly so wonderfully healthy, that it is considered that unless prompt action is taken the race will shortly disappear. Among the Icelandic and Newfoundland fishing fleets alcohol in the form of a particularly vile brandy is the most essential part of the fisherman's food-stuff. Even in the navy there is a daily distribution of *tafia*, the dose of which is doubled in bad weather or in times of extra work. The Academy is to be warmly congratulated upon its action, for the work to be done is still very great.

The Surgical Treatment of Facial Neuralgia.

M. Chipault, who has made a specialty of the surgery of the nervous system, read some most interesting observations before the Academy of Medicine at the meeting held on May 15th. The surgical treatment of rebellious forms of neuralgia has hitherto given very unsatisfactory results. Peripheral resections of the trigeminal nerve are not dangerous, but give relief lasting only a few months. Resection of the Gasserian ganglion gives better results, but is a dangerous operation, for the mortality rate is not less than 25 per cent. On the other hand the pathology of facial neuralgia which so often arises as an accompaniment of a condition of arterial sclerosis would lead one to imagine that it is a condition of vaso-motor origin. Anyway, many of

the symptoms which accompany it are of vaso-motor origin and go to prove that there exists some common [illegible] omething which [illegible] onditions it is a [illegible] of the superior cervical ganglion of the sympathetic, a ganglion which furnishes vaso-motor filaments, not only to the branches of the trigeminal, but also to the Gasserian ganglion and its central roots. M. Jaboulay had a successful case under this treatment. After consultation with M. Abadie, M. Chipault decided to perform the operation upon a man, aged 60 years, who for 38 years had suffered from a very persistent and acute form of neuralgia which increased in severity as time went on. The pain was especially marked in the region supplied by the superior maxillary nerve. After everything had been tried without success, more particularly opium and sulphate of quinine, the patient underwent the above-mentioned operation. Within 48 hours afterwards his pain had gone and he experienced nothing but a slight feeling of heat in the gum. This case bears out the correctness of the theory that facial neuralgia is due to some vaso-motor cause. M. Chipault remarked that this operation is neither dangerous nor disagreeable, a fact which he had demonstrated by having performed it in some 50 cases. Moreover, the scar is in the neck and not in the face and, therefore, hardly visible, and the patient is spared the subsequent annoying anæsthesia, which is so trying a feature of operations upon the trigeminal nerve.

Sanitary Measures against Plague.

Following on the excitement produced in France by the announcement that plague had appeared at Port Said the precautionary measures set on foot by the authorities have been doubled. Dr. Proust, Inspector-General of Public Health, and M. Catelan, director of the Health Department of Marseilles, have inspected the lazaretto at Frioul and have satisfied themselves that the establishment is in good working order. Stringent precautions have been set on foot to prevent the spread of plague from [illegible] the Government a telegram addressed to the Chamber of Commerce at Marseilles stating that a passenger who was shipped from Arabia as plague-stricken had been found to be simply suffering from intermittent fever and that quarantine restrictions were relaxed in the case. He was sent to Suez and he arrived there in perfect health. Dr. Flaissières, the Mayor of Marseilles, with a view to encouraging the destruction of rats by which plague is spread, has published a notice that a reward of five centimes per rat and two and a half centimes per mouse will be paid for every one of these animals handed over either living or dead.

Professional Secrecy and the Law.

The Criminal Division of the Court of Cassation has just given a decision declaring that a statement made in court which violates professional secrecy is not evidence. The matter arose out of evidence given by a midwife at the hearing of a criminal charge. She had been consulted by a girl whom on examination she had found to be pregnant and who was afterwards prosecuted for concealment of birth. The Public Prosecutor appealed against the judgment of the Correctional Court of Lure, which had acquitted the prisoner, and the Court of Besançon having considered the arguments of the defending counsel decided that the midwife's evidence was inadmissible and confirmed the judgment of the Correctional Court. The Public Prosecutor having appealed against this decision, the Criminal Division of the Court of Cassation on the case coming before it dismissed the appeal of the Public Prosecutor of Besançon and delivered a judgment which lays down that the duty of professional secrecy necessarily implies that those bound by it shall not, even when called upon to give evidence, reveal matters entrusted to them in the practice of their professions The Court further went on to state that the law cannot insist upon statements made in violation of professional secrecy being included in the evidence against an accused person, and it pointed out that the judgment of the Correctional Court acquitting the accused of the charge of concealment of birth was based on the fact that the testimony of the midwife at the hearing of the case (to the effect that she was consulted by the accused and had come to the conclusion that the accused had been six months pregnant) was evidence of a secret of which the midwife only became aware through the accused person consulting her in her professional capacity.

May 29th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Plague at Port Said.

IT was on the last day of April that two suspicious deaths occurred among some Greeks living in the European quarter of the town and it was soon proved by bacteriological examination that both of these deaths were from plague. Medical officers, trained disinfectors, and all the necessary equipment of a hospital were at once despatched from Cairo and Alexandria to Port Said, the Government issued the necessary regulations for times of epidemics, and war was formally declared against the bacillus. Steps were taken to try to find out whether there had not been earlier undiagnosed cases of the disease, and an analysis of the death certificates signed by European medical men practising in Port Said revealed the fact that during April three deaths had been certified as due to "influenza with phlegmons," and "cerebral influenza." Death had ensued in these three cases after a few days' illness, and from notes furnished by the courtesy of the practitioners it is now certain that all three were typical cases of plague of a virulent kind. The earliest case was that of a Greek who was taken ill on March 28th and died on April 7th with pneumonic symptoms and cervical buboes. Careful examination of all death returns shows that there is not, and has not been, any excessive mortality in the town, and therefore the disease has been discovered before it has had time to assume any dangerous proportions. Mr. Pinching, the Director-General of the Sanitary Department, reports that all his preparations are now completed. A hospital is ready for 50 patients, organized gangs have been formed for disinfecting, for whitewashing, and for the removal of rubbish, and the Government has voted a credit of £10,000 for the necessary expenses. But it will be necessary for all the consuls and the European residents to do their best to aid the sanitary officials in carrying out all necessary orders. The difficulty does not arise so much with the disposal of the sick or of the dead, but with the friends who have been in contact with the sick, and yet these, whatever their nationality, must for the public good be kept under medical supervision for a few days. Another trouble is that the foreign local press amuses itself, as it did last year in Alexandria, by denying the existence of plague and by deriding the efforts of the English sanitarians. It is unfortunate that the representatives of the foreign Powers here are not disposed to silence these writers who do a decided amount of harm among the lower and more ignorant classes where plague most easily finds its victims. One person has also been found dead at Alexandria—an Egyptian rag-picking woman. There is, as yet, no evidence of how the plague reached Port Said, but it is known that a large commerce in second-hand clothing is carried on between the crews of vessels passing through Port Said and the provision boats of the town. Close to the house in which three cases of plague have been found is a large store of this kind of cast-off clothing.

Hotels at Assouan.

Winter visitors at Assouan are now provided with a choice of three hotels, one of which is the old one in the town itself and has 110 bedrooms and is found chiefly useful for tourists who only want to stay for a few days and see the sights. The two new hotels belong to rival companies and therefore compete with each other to the great advantage of tourists wishing to spend a month or two on the spot. They have both been opened this year, they are both carefully chosen as regards site and sanitation, and they are both designed by English architects. The Berkefeld filter is used in all the hotels and the filtering candles are ordered to be boiled every three days. Bath-rooms, electric lighting, and a library are to be found in the two new hotels One of them, built on the site of the former English military hospital, has Tobin tube ventilators in every bedroom, fire-taps and plugs on every floor, and splendid views from a liberal allowance of balconies, and is far removed from all the bazaars and native parts of Assouan. This building discharges its drainage into cesspools in the

gardens, while the other hotel, overlooking lovely islands of rocks, employs earth-closets and a cemented cesspool for slop-water. An English church for 300 people has just been built and the town is rendered a little more gay by the presence of the 10th Soudanese regiment with its English officers.

Cairo, May 13th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Antitoxin and the Diphtheria Death-rate in New York

A STRIKING demonstration of the value of the antitoxin treatment of diphtheria has been officially given by the Health Department of this city. During 1899 there were in the entire city of Greater New York 11,550 cases of diphtheria with 1925 deaths, giving a mortality of 16 6 per cent. In the borough of Brooklyn the antitoxin treatment is not as popular as in the other boroughs and results show that in that borough in 2894 cases 744 deaths occurred, giving a death-rate of 25·7 per cent. In the borough of Manhattan, where antitoxin is being much more extensively used, out of 7612 cases only 960 proved fatal, giving a death-rate of 12 6 per cent., just 50 per cent. less than that of Brooklyn.

The Comparative Efficiency in Steam Disinfection of Flowing Steam and of Steam with a Vacuum.

Surgeon Carter, of the Marine Hospital Service, states that observations having shown that steam introduced into cylinders under pressure but without continuous outlet left "dead spaces" of less than 212° F. and penetrated pillows, mattresses, rolls of cotton quilts, &c., very slowly, the attempt was made at Gulf Quarantine to remedy this (slow penetration) by turning on a considerable head of steam and allowing it to escape freely, but little pressure in the chamber being aimed at. At first several (four) outlets were provided which were closed or opened at will so as to direct the steam to or from any part of the (rectangular) chamber. This was found to be unnecessary, as good results (as far as "dead spaces" were concerned) were obtained by letting the four run at such a degree of opening as to register 214° to 216° F. in the chamber—about one and a half to four pounds' pressure. Surgeon Carter further reports that he found that articles which had been penetrated slowly by still steam were penetrated rapidly by flowing steam. Of these test articles wads of cotton quilts were the most difficult to penetrate and feather pillows came next. Mattresses, such as were in use, were penetrated readily, and blankets under any condition of roll or wad very readily. Indeed, in the latter the electrical thermometer would ring (100° C.) almost as quickly as in the open. These observations were made with two electric thermometers, giving the time at which 100° C. was reached. The method by flowing steam is by far the more efficient—that is, it secures penetration more readily as compared with the vacuum method, provided articles be hung up or loosely packed, taking more time however, for pillows, quilts, &c. Where, however, it is desirable to lay things flat, which is necessary with the clothes of first-class passengers to prevent wrinkles, creases, &c., or where one must put a large amount of clothing in a chamber, the vacuum offers advantages which are very considerable. With a chamber of the same size the same amount of efficient work will be less injurious, as the goods will come out with the same folds as they had in the trunk.

The Number of Ruptured and Crippled Patients in New York

Dr. Taylor states that the hospital for the ruptured and crippled has treated since its organisation in 1863 more than 100,000 patients in its orthopædic department, and treats between 4000 and 5000 cases annually. The orthopædic hospital and dispensary treats over 1000 new cases annually. These two institutions have treated about 50,000 orthopædic cases in the last 10 years, and have now under treatment about 10,000 cases. There are besides large orthopædic clinics at the polyclinic, post-graduate, St. Luke's, and Roosevelt hospitals and the Vanderbilt and Bellevue clinics, and many cases are treated in the general hospitals and dispensaries. It is safe to say that not far from 15,000 cripples are being treated in the charitable institutions of the borough of Manhattan. One-third or more of them, say 5000, are of school age, and of these about three quarters come from the borough of Manhattan, or 3500. Some of these are not severely crippled and may attend the public schools; on the other hand, many who would be eligible for the cripple schools are not being treated in the clinics.

Deaths, Disabilities, and Liabilities Incidental to Occupation.

The Commissioner of the New York Bureau of Labour reports that there are probably not fewer than 40,000 injuries sustained annually by the people engaged in the manufacturing industries of this State. Many of these injuries are trivial, entailing little loss of time, but there could not have been fewer than 6000 injuries that entailed disablement for a period in excess of three months. The number of employés covered in this investigation was 452,425, scarcely half the number engaged in manufacturing industries in the State. The number of injuries reported exceeds the number regularly reported to the factory inspector, which has never reached 1800 per annum among 700,000 employés of inspected factories. The number of injuries is even now understated as many firms fail to report accidents. The ratio of injured to each 1000 employed was 16·11. The total number of working days lost by 1330 injured persons was 19,587, which is a per capita average of 15 days or slightly more than two weeks. The action of the State for the prevention of accidents is as follows: first, to require employers to erect and maintain safeguards about machinery at the direction of the factory inspector; secondly, to place upon the employer a financial responsibility to his employés, to be enforced through an action for damages by the injured person. The former policy has undoubtedly prevented many accidents and its results appear in the most favourable light in the reduction of the number of accidental injuries sustained by railway employés since the passage of the Federal law requiring the adoption of automatic couplers. The annual reports of the factory inspector of this State furnish ample testimony of the need as well as the benefits of such legislation, as does also the report of the inspector of boilers in the Department of Public Works.

Ingredients of Oleomargarine.

The effort to prevent the sale of oleomargarine for butter by legislation has thus far proved a failure. It is alleged that in the State of Pennsylvania alone 15,000,000 pounds of oleomargarine are annually sold for creamery butter. A Bill is now before Congress designed to supply new safeguards against this fraud upon the public and in order to obtain an authentic statement as to the ingredients of oleomargarine the Secretary of the Treasury was called upon to furnish the information. He reports that for the fiscal year ending June 30th, 1899, the following were the percentages which each ingredient bears to the whole material:—neutral lard, 34·27; oleo oil, 26 82; cottonseed oil, 4 77; sesame, 0·53; colouring matter, 0 16; sugar, 0 12; glycerine, 0 01; stearine, 0·007; glucose, 0 003; milk, 15 55; salt, 7 42; butter oil, 4·76; butter, 1 72; cream, 3 86. It has been believed that cottonseed oil constituted at least one half of the quantity of all the ingredients employed in the making of oleomargarine, but the report shows that only about 4 per cent. is actually used, while upwards of 34 per cent. of neutral lard enters into the composition.

Liability for the Infection of an Assistant.

A surgeon who was treating an infectious sore on a man was assisted by the patient's wife whom he assured that no risk of infection would be incurred. The wife is alleged to have become infected and she brought a suit against the surgeon. The Supreme Court of the State held that when the surgeon advised the wife he assumed the obligation to use due care in so doing; that the case was one of positive action not merely one of failure to act; that the fact that his duty as to her was merely to advise and not to administer treatment was immaterial; that the situation was such that she needed the advice of a physician and that the surgeon knew it; that he knew of her danger and negligently advised her as to it and that she was injured by following his advice; that if the contract to attend the plaintiff's husband were eliminated from the case the liability would be the same; and that the gratuitous character of the services rendered to the plaintiff would not excuse the defendant's failure to exercise such care as the circumstances demanded. It was urged that there would have been no danger but for pricks in the plaintiff's fingers of which the defendant was ignorant, but the court held that there was danger unless the plaintiff's hands were free from the slightest wounds, and it cannot

be said as a matter of law that a perfect physical condition is so common that the defendant could reasonably rely upon it in giving advice.

Boards of Health in Porto Rico.

The Porto Rico Department Commander has issued an order requiring the establishment of a Board of Health in every municipality of the island. Each board is to be constituted as follows: the alcalde, a municipal physician, the President of the School Board, and the President of the Board of Charities, all of whom must be residents of the municipality in which they serve. Each municipality must have at least one municipal physician; but if the population exceeds 10,000 there shall be not less than two physicians, and for every 6000 above this number there shall be an additional physician. These physicians must attend all calls made by the sick poor. On the creation of these Boards of Health the island will be supplied with a very complete sanitary government.

A Dinner to Dr. A. Jacobi.

A notable event in medical circles during the last week in New York was a dinner given to Dr. A. Jacobi on his seventieth birthday. Congratulations were received from the principal capitals of Europe as well as telegrams from prominent physicians in this country. For 40 years Dr. Jacobi has been a very active member of the medical profession of this city and country, and at the same time he has been a public-spirited citizen. While he was President of the Academy of Medicine he secured a large endowment for its library which has made it prospectively the most complete medical library in the world.

May 19th.

Obituary.

GEORGE BIRD, M.R.C.S. ENG., M.D. ST. ANDREWS.

DR. GEORGE BIRD, who died at his residence in Hampstead on May 4th, as we have already announced in our columns, was a very well-known man. He was born in 1817, being the son of James Bird, a man who took a high place among the poets of his own county of Suffolk and who could put forward claims to other than local fame. George Bird was the eldest of 16. When quite a lad he desired to study medicine and never repented his youthful bent, but always declared the medical life to be the best life a man could lead. After a period of apprenticeship to a country practitioner—a Dr Wilson, who had the honour of being summoned to attend King George IV. as a gout expert—George Bird went to London and studied at University College. In 1841 he took the diploma of M.R.C.S. Eng. and at once set up in private practice. In 1859 he took the degree of M.D. at St Andrews. In 1861 he removed to Welbeck-street, where he practised for 33 years. As a student he had a struggle with poverty and to make ends meet engaged in journalistic work. His eager literary sympathies, his sensitiveness to style and expression, were inherited endowments. He was consistently Liberal in politics. As a lad he wore yellow at a Suffolk election when there was scarcely another badge of the colour to keep him company. His pen was always employed in advocating advanced reforms. Throughout life he was a strenuous upholder of every cause that seemed to him to make for the good of the people, and even when he found himself in a minority—a position which, like most uncompromising pioneers, he often occupied—his advanced opinions were always treated respectfully by his opponents because he held them in such a genuine and spontaneous way. He never seemed to come into collision with the very opposite views of other people, for he respected all honest convictions; hence, in spite of his pronounced views, he made friends of all shades of opinion, and it was a noticeable fact that a great many of his patients were transmuted into friends. There was a mutual attraction between him and literary and artistic people. He keenly sympathised with the subtleties of the poetic and artistic temperament. He had read and travelled largely having been to Egypt no less than seven times, so that he had much to say on many subjects. One of the earliest of his distinguished patients was Leigh Hunt. He also attended Charles Dickens, Sir Edward Bulwer Lytton, Frank Stone (the father of the present Royal Academician), Sir Richard Burton and Lady Burton, R. H. Horne, Thomas Woolner, R.A., the sculptor and poet, Mrs Lynn Linton, the novelist, and a host of poets, writers, actors, and actresses of the present day. He had a faculty of inspiring hope; and patients, especially patients who thought themselves worse than they were, found reprieve in his voice and bright aspect. In 1895 he retired to Hampstead. He never ceased to be young-hearted and continued in sympathetic touch with all the great subjects of human interest until his death at the ripe age of 82 years. He had "the youth of old age" and not its decay. All his faculties were clear until the end.

THOMAS ALFRED PERRY MARSH, L.R.C.P. LOND., M.R.C.S. ENG.,

MAJOR, ROYAL ARMY MEDICAL CORPS.

MUCH sorrow is felt in Bristol and Newport (Mon.) at the death of Major Marsh who died from enteric fever at Doelfontein, South Africa, on May 22nd, in his forty-fifth year. The deceased, who was the youngest son of the late Captain H. G. Marsh, J.P., of Winterbourne, Gloucester, received his medical education at Bristol and University College Hospital, taking at the former school several prizes and scholarships in medicine and surgery. He obtained the qualifications of L.R.C.P. Lond. and M.R.C.S. Eng. in 1881 and 1880 respectively and in 1892 that of D.P.H. of the Royal Colleges of Physicians of London and Surgeons of England. Major Marsh had seen nearly 18 years' service in the army and previously to his illness was principal medical officer at De Aar. He saw active service in the Burmese Expedition of 1885 to 1887 when he was in medical charge of a battery of mountain artillery and was present in several engagements near Ningyan and Yemethen, and in the latter place during its investment in 1886. For this campaign Major Marsh received the medal with clasp. The deceased leaves two brothers, one of whom, Mr. O. E. Bulwer Marsh, M.R.C.S. Eng., L.R.C.P. Lond., J.P., is in practice in Newport, and the other, Mr. Earle Marsh, was recently high sheriff for Monmouthshire.

FRANCIS JOSEPH MATHEWS, L.R.C.P., L.R.C.S. IRELAND.

MUCH popular sympathy was manifested by all classes on the occasion of the death of Mr. Mathews of Cavan, which occurred on May 21st, after a very short illness. The deceased gentleman received his professional training in the schools of the Royal College of Surgeons in Ireland and acquitted himself so creditably as a student that he gained a medal in the class of Materia Medica and Therapeutics. In 1894 he was admitted a Licentiate of the Royal Colleges of Physicians and Surgeons in Ireland and eventually settled in Cavan, where he was appointed medical officer of the Stradone Dispensary District and medical attendant to the Royal Irish Constabulary. Of a fine presence and affable manners he endeared himself to a large circle of friends and acquaintances and won the confidence of all those with whom he had professional relations. The cause of his death was tetanus originating in a wound of the right leg sustained in a bicycle accident about May 10th. The funeral took place in Laragh graveyard on May 23rd, a requiem mass having been previously celebrated in Cavan Cathedral.

THE School Board for London have appointed Robert J. Collie, M.D. Aberd., medical superintendent of the Board's ambulance and home nursing classes. The number of pupils who received instruction in ambulance and home nursing last winter was close on 10,000. The Board have decided that all ambulance classes shall be taught by medical men as hitherto by the Board's teachers. The course consists of 12 lectures, and these will be given alternately by the medical man and the Board's teacher. The fee has been raised to a guinea per lecture. We understand that until recently the pupils were presented for examination by the St John Ambulance Association, but that the Board have now determined in future to grant their own certificates.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

THE Council continued to sit throughout Wednesday and Thursday, and the proceedings will be reported as usual in full in our columns next week.

On Wednesday a motion by Mr. Brown that the Registrar should send to every registered medical practitioner in the United Kingdom a copy of the Council's resolution of June 6th, 1899, with regard to medical aid associations was withdrawn, the intent being foreshadowed by Sir John Batty Tuke to introduce at a future session a stronger resolution. Mr. Brown's was a useful motion; but his object will have been served if the Council is led in the near future to make a clear pronouncement to the registered practitioners upon the subject.

On the same day, on the motion of Sir Dyce Duckworth, the General Medical Council received the recommendation of the Examination Committee expressing the opinion that another cycle of inspections of final examinations of the several universities and examining boards should be begun during the present year.

On the motion of Sir John Batty Tuke, seconded by Dr. MacAlister, a further report by the Education Committee on the question of raising the standard of the preliminary examination in general education was received and entered on the minutes. The report showed that a substantial advance on the present regulations could be made by insisting on improvements in the character and stringency of the junior examinations which could be directly influenced by the Council; and the same advance could be secured in the case of other examinations by requiring that candidates offering corresponding certificates should have obtained a higher standard than that of a simple pass.

The recommendation of the Education Committee fixing a limit of age below which an applicant shall not be allowed to register as medical or dental student was adopted by the General Medical Council who placed the age at 16 years; consequently, from and after Jan. 1st, 1902, no person will be registered as a medical or dental student who has not attained the age of 16 years.

The report of the Pharmacopœia Committee was received and adopted, the Council recording their cordial thanks to Dr. Leech, Mr. Bryant, Mr. Ekin, and Dr. Walter Hills for important contributions which they had secured to the Pharmacopœia library.

THURSDAY, MAY 24TH.

IN THE LANCET of May 26th we reported the proceedings of the first two days of the session of the Council and resume now with the third day. Sir WILLIAM TURNER, as usual, occupied the presidential chair.

Restoration to the Medical Register.

The PRESIDENT announced, after the Council had been sitting *in camerâ* for a time, that it had been resolved to restore to the Medical Register the name of George Ingersoll Carragh, who possesses the Licence of the Society of Apothecaries of London.

The Case of William Matthews Joyce.

The first business on the programme of the day was the consideration, adjourned from Dec. 1st, 1899, of the charges proved against William Matthews Joyce, registered as of 25, Cattell-road, Small Heath Birmingham, with the triple qualification of Scotland, 1889, who had been summoned to appear before the Council on the following charges: (*a*) that he was, on July 10th, 1899, at the Warwick Borough Sessions, convicted of being drunk and disorderly; and (*b*) that he was, on Nov. 13th, 1899, at the Warwick Court-house, convicted of misdemeanour—namely, of assaulting and beating Ellen Simpson. At the conclusion of the deliberations of the Council on this case, on motion made from the chair, it was resolved: "That the further consideration of the case of William Matthews Joyce be adjourned till the May session of the Council."

Mr. Joyce appeared in answer to his name.

The PRESIDENT, addressing him, said: You know, Mr. Joyce, the charge made against you at the previous session of the Council. Have you sent in any certificates?

Mr JOYCE: No; I have none.

The PRESIDENT: Have you anything to say?

Mr. JOYCE: Nothing; I stand here exactly as I stood before.

The PRESIDENT: Has your conduct since you were here last been what it should have been? Has your conduct been altogether correct?

Mr. JOYCE: With great respect I think that matter is for the Council.

The PRESIDENT: I ask you the question.

Mr. JOYCE: I have done nothing to bring me into court at all.

The PRESIDENT: Has your conduct since you were here last been the conduct which you as a member of the profession ought to exhibit?

Mr. JOYCE: Yes; it has been just as my father would recommend, and he was a medical man.

The Council then deliberated *in camerâ* on the case, and when Mr. Joyce was readmitted to the hall the PRESIDENT announced to him that the Council had directed the Registrar to erase his name from the Medical Register.

The Case of James Alexander Graydon.

The Council proceeded to the consideration of the case of James Alexander Graydon, of 21, South-grove, Bow-road, E., registered in Ireland Dec. 7th, 1872, as Lic. Fac. Phys. Surg., Glasgow, 1870, who had been summoned to appear before the Council in consequence of his conviction on March 5th, 1900, at the Thames police-court, for assaulting his wife and his sentence to pay a fine of 21*s*. or go to prison for seven days with hard labour.

Mr. FARRER, jun., read to the Council a certificate of the conviction and sentence. He also read a letter from Mr. Graydon, in which he said he was intoxicated when he struck his wife and was extremely sorry for his action, and he had been a total abstainer for 10 weeks and intended to continue one. Mr. Farrer also read a letter from the wife pleading for lenient treatment for her husband.

Mr. GRAYDON, in answer to the President, said he was extremely sorry for what he had done. He had taken the pledge and he meant to keep it.

After the Council had deliberated in private for a time

The PRESIDENT, addressing Mr. Graydon, said: The Council have given a careful consideration to your case. They are willing to give you an opportunity of redeeming yourself and they will require that you should appear here at the November session and the Council will expect you to produce evidence when you reappear that your conduct and character have been satisfactory in the interval between now and the November session. And in order to do that they will call upon you to produce written certificates from responsible persons. They would like that at least one of your certificates should be from a medical practitioner who knows you and the certificates must bear that your conduct and character have been entirely satisfactory during the interval between now and the month of November.

The Inspection of Documents.

The Council granted liberty to Mr. Horsley to inspect the accounts of the solicitor to the Council for 1899.

The Case of Dr. Robert Herbert Foot.

The Council next proceeded with the case of Robert Herbert Foot, of 6, Elliot-road, North Brixton, S.W., registered in Ireland Dec. 23rd, 1872, as Lic., Lic. Midwif., 1872, R. Coll. Surg. Irel.; M.B. 1872, M.D. 1874, Univ. Dubl.; who had been summoned to appear on conviction for misdemeanour committed in Clapham-road, Lambeth, on April 6th last, and for which he was sentenced to three months' imprisonment with hard labour.

Dr. Foot attended in answer to his summons, together

with his *counsel*, Mr. Eldon Bankes, and his solicitor, Mr. H. Walter Nelson, of the firm of Lowless and Co.

Mr. FARRER, jun., read the summons and the certificate of conviction and other documents in support of the charge.

Mr. ELDON BANKES then read the statutory declarations for the defence. He also handed in the depositions which had been taken at the police-court and then addressed the Council on behalf of Dr. Foot. He explained that Dr. Foot was convicted on a misapprehension due largely to his own fault in refusing, when accused and on trial, to communicate with his friends and to have professional legal assistance and medical evidence that would have shown, as counsel said he would do later, that his unfortunate client while suffering from illness of some years' existence had been the victim of a mistake. Counsel had not heard till now that Dr. Foot's friends in Ireland had petitioned the Home Secretary for a commutation of sentence on the ground that the alleged offence had been committed while he was temporarily insane.

Mr. R. PATRICK WALL, a neighbouring practitioner, said that what he had stated in regard to Dr. Foot's illness was true. He had known Dr. Foot for eight or nine years.

Dr. FOOT, who was called on his own behalf, was ques-
illness,
s being
as who

ss and Co., was called to prove the receipt from Mr. Cameron, solicitor, Dublin, who had acted for Dr Foot's friends, of a copy of the memorial forwarded to the Home Secretary.

After the Council had deliberated *in camerâ*

The PRESIDENT said: *Dr. Foot, the Council have very carefully considered all the circumstances connected with your case and they do not direct the Registrar to erase your name from the Register.*

During the consideration of this case ladies were asked to withdraw.

The Case of Armitage Forbes.

The next business was consideration of the case of Armitage Forbes of 28, Charlotte-street, Ashfield, Sydney, New South Wales, registered in Ireland, Feb. 12th, 1879, as Lic. R. Coll. Surg. Irel. 1878; Lic. R Coll. Phys. Edin. 1879; who had been summoned on the complaint of the Queensland Medical Board on the following charges formulated by the Council's solicitor:—

he was a party were in themselves of such a character that it was discreditable in a British registered medical practitioner to be connected with them.

3. The advertisements above
pamphlets, cards, and leaflets
Anglo-Australian Medical Insti
Brisbane, and in issues of news
Queensland named *The Queensla*
issues of other newspapers and in other publications in the said colony.

Mr. FARRER, jun., read the summons and the documents in support of the charges.

Mr. Forbes did not appear, but two letters from him were read to the Council. In the first of these he wrote that advertising was necessary in Sydney in order to assure the public that the institute with which he was connected was not carried on by quacks. Medical men practising in New South Wales advertised both in town and country and he wished to be informed as to what constituted a breach of professional etiquette. In the second letter he wrote that he was not aware till he had received information from the Registrar that what he had been doing would be regarded by the General Medical Council as infamous conduct in a professional respect. He could state positively that no kind of unorthodox or illegitimate practice took place in the institute, but he admitted that his name, which had never appeared publicly in any newspaper advertisement, was attached to various pamphlets issued by the institute. He regretted very much that he had incurred the displeasure of the Council and since getting notice from them the institute had been closed, directions had been given to discontinue all advertisements, and he had apologised to the Queensland Medical Board. He had done what he could to atone for his fault and he would not offend in future. He trusted the Council would not have recourse to such a serious measure as striking his name off the Register.

In answer to the PRESIDENT it was stated that no communication from the Queensland Medical Board confirming the statements in the second letter from Mr. Forbes had been received at the Council's offices.

The PRESIDENT said that perhaps the Queensland Medical Board had not had time to communicate with London and he questioned whether it would not be advisable to send a copy of Mr. Forbes's letter to Queensland and adjourn the case till the November session to get a reply corroborative or otherwise.

After some discussion

Mr. HORSLEY asked if it would not be fitting that the President should put the question to the Council. They were all agreed with him,

Dr. MCVAIL was not so sure about that. He contended that the Council should take action that day so as not to allow Mr. Forbes another six months in which he might further misconduct himself supposing he were guilty of the charges now brought against him

The PRESIDENT. He has admitted them.

Dr. MCVAIL Though a man admits a crime it does not *necessarily follow that he should not be punished for what* he has done.

The Council deliberated on the case in private. On the

that the Council
Medical Register
the name of Mr. Armitage Forbes.

The Case of Arthur Oglesby.

The Council proceeded to the consideration of the case of Mr. Arthur Oglesby in regard to which the following report was received from the Dental Committee:—

The complaint against Arthur Oglesby having been referred to the Dental Committee to ascertain the facts the Dental Committee beg to report as follows —

On Feb 27th, 1900, the following parties attended before the com-

and the advertisements referred to by him and
Oglesby to the Council. 3. The following documents: Letter of
plaint by Dr. Woods dated August 10th, 1899. Letter from the
Registrar of the General Medical Council to Arthur Oglesby dated
Sept. 12th, 1899. His reply of Sept. 13th, 1899. Further letters from
him to the Registrar of Dec. 2nd, 1899. The like of Jan. 19th, 1900
Paragraph from THE LANCET and specimens of advertisements referred
to by Arthur Oglesby. Letter to the General Registrar dated Jan. 24th,
1900, and the newspaper extract enclosed therewith

WM. TURNER, chairman.

The PRESIDENT pointed out that this report must be taken as conclusive with regard to the facts, and what the Council had now to determine was whether it would deal at once with the report or hear parties to the inquiry upon the report or any question arising upon it.

On a vote being taken it was decided by 13 to 2 to hear parties.

Mr. OGLESBY availed himself of the opportunity that this vote afforded him. He said that before September last he had no idea that he was doing wrong. Although he had advertised for years he did not advertise in a way that he at least thought was objectionable—that was to say, in the way of exhibiting appliances or show-cases, stating prices, or as having a secret process. And he wished to say that in England a man was generally cautioned before he was brought up before a tribunal like the General Medical Council, but he had never had the slightest caution or remonstrance before being called upon in November last to answer the charge. That did not seem a generous action

on the part of such a body as this. He did not think he had much to say about the report. With reference to that paragraph in it which stated [illegible] sought to attract practice by [illegible] ments of his name, address, [illegible] qualifications he wished to emphasise his statement that he had not exhibited any appliances or show-cases or anything of that sort. He wished also to say that when he got the notice from the General Medical Council he ceased to use the advertisements complained of and simply used a business card. If the committee must regard the card as objectionable every advertisement in the land was such, and if a person was not permitted to use such a card as his no man who was a dentist should be allowed to advertise in the future, so that dentists might know where they were. With regard to the next paragraph he had to say that he obtained the degree referred to there upon the production of proofs of his knowledge and skill. He had no wish to go against the General Medical Council in any way and he was prepared to submit to anything that they considered just.

The PRESIDENT: Did you not receive the Council's notice to dentists in regard to this matter?

Mr. OGLESBY: Not the slightest caution.

The PRESIDENT: Did you receive the notice from the Council relating to the issue of advertisements by dentists as objectionable?

Mr. OGLESBY: I did receive that notice and so soon as I received it my advertisements ceased.

Mr. TEALE: Did you discontinue all advertisements?

Mr. OGLESBY: Except the card.

Mr. TEALE: What ab [illegible] on the house, the whole end of [illegible]

Mr. OGLESBY: I neve[illegible] tinues. There is nothing objectionable on it—only my name and address.

Dr. GLOVER: Simply your name and address?

Mr. OGLESBY: I think that is all. It is three or four years since it was done, and if there is any more it can be only two or three words.

Dr. HERON WATSON: You say you are D.D.S. Did you pay for it?

Mr. OGLESBY: Yes, sir; every degree is paid for.

The PRESIDENT: Oh, no.

Dr. GLOVER: Were you examined for it?

Mr. OGLESBY: No, sir; I sent proofs of my skill and knowledge.

Sir DYCE DUCKWORTH: You have never been in the United States?

Mr. OGLESBY: No, sir.

Dr. LITTLE (looking at Mr. Oglesby): It seems an extraordinary thing to believe that he has been in practice since 1878—that is 22 years. May I ask what his age is?

Mr. OGLESBY: My age is 38 years.

The PRESIDENT: Then do we understand that you were in practice at 16?

Mr. OGLESBY: I was in practice when I was 12 years old.

Dr. MACALISTER: Independent practice?

Mr. OGLESBY: Oh, no.

Dr. WOODS, who was then asked if he had anything to say upon the Dental Commi[illegible] on which he would like [illegible] advertising. He agree[illegible] dentists should be clear. [illegible] by them was infamou[illegible] That Mr. Oglesby had been selected to answer to the General Medical Council was r[illegible] ntists had reached almost th[illegible] y any trade whatever and it [illegible] should be put a stop to. The only way in which this might be done was by presenting a concrete case and he hoped the Council would not allow any consideration to interfere with their pronouncement that advertising of an objectionable character was infamous conduct in a professional respect.

Dr. MCVAIL: Does Dr. Woods consider this man as only representative of a class or does he regard him——

The PRESIDENT: Order, order. That is not a matter that we can go into with Dr. Woods.

The Council then sat *in camerâ*. On parties being recalled

The PRESIDENT said: The Council, Mr. Oglesby, have given very great consideration to your case and they have come to the resolution that your name is to be removed from the Dentists Register.

The decision in this case, as Mr. Tomes stated, the first of its kind, is recorded officially in the following terms:—

(*a*) That the Council do proceed at once to pronounce its judgment on the case.

(*b*) That on the facts found in [illegible] Committee it has been proved that Arthur Ogle[illegible] conduct which is infamous or disgraceful conduc[illegible]ct.

(*c*) That Arthur Oglesby having been proved to have been guilty of infamous or disgraceful conduct in a professional respect the Council do direct the Registrar to erase from the Dentists Register the name of Arthur Oglesby.

The Council adjourned.

FRIDAY, MAY 25TH.

The Council met again to-day, Sir WILLIAM TURNER being in the chair.

The Case of Owen McBreen.

The Council proceeded to the consideration of the case of Owen McBreen of 59, Mesnes-street, Wigan, a dentist registered on Nov. 28th, 1878, as "in practice before July 22nd, 1878." The complaint against Owen McBreen having been referred to the Dental Committee to ascertain the facts, the Dental Committee reported as follows:—

On April 26th, 1900, [illegible]
Mr. Owen McBreen [illegible]
solicitor or witnesses [illegible]
were established by [illegible]

committed [illegible]
The evic[illegible] of the following:—
(i.) A lette[illegible] the Royal College of Surgeons of England to the Registrar of the General Medical Council, dated Jan. 17th, 1900. (ii.) A print of the advertisement referred to in such letter. (iii.) A letter from the Registrar of the Royal College of Surgeons in Ireland to the Registrar of the General Medical Council, dated Jan. 23 [illegible] on, Clerk of the Royal [illegible] r of the General Medi[illegible] ission of Mr. McBreen [illegible] d of.

Mr. MCBREEN [illegible]
blame for what [illegible]
magazine in wh[illegible]
he did so he accepted responsibility for himself, said he was sorry for the mistake, and undertook that it would not happen again.

Dr. GLOVER: What did you mean to imply by the letters R.D.S.E.?

Mr. MCBREEN: Registered dental surgeon.

Dr. GLOVER: Of what?

Mr. MCBREEN: Of England.

Dr. ATTHILL: Are [illegible] words "registered by Royal [illegible] erted in the advertisement by [illegible]

Mr. MCBREEN: I believe they were.

Dr. GLOVER: How did these words come to be in the advertisement?

Mr. MCBREEN: They cannot be found in any advertisement since. The printer may have seen them somewhere and put them in by mistake.

After the Council had deliberated *in camerâ*

The PRESIDENT, addressing [illegible] I [illegible] tell you that after very careful [illegible] found that the facts stated [illegible] Committee have been proved [illegible] guilty of conduct which is i[illegible] professional respect, and I have further to say to you that in consequence of this the Council have directed the Registrar to erase your name from the Dentists Register.

The Case of Charles Louis Lumley.

The Council then considered the case of Charles Louis Lumley of 1, Jermyn-street, St. James's, S.W., registered in England June 7th, 1882, as Lic., Lic. Midwif., 1881, R. Coll. Phys. Irel., who had been summoned to appear before the Council on the following charge as formulated by the Council's solicitor:—

That [illegible]
ing in [illegible]
medical [illegible]
as a fa[illegible]
during [illegible]
which a[illegible]
Balmer [illegible]

[illegible] Mr.
then read to the Council
Mr. Lumley, in the course
of wh[illegible]
school,
ceedin[illegible]
gave
Noven[illegible]

asked him if he would be good enough to put his name to the bill. He denied that he had written two letters to the husb[illegible]
remo[illegible]
then [illegible]
Mr. [illegible]
that this inquiry [illegible]
charge formulated against his client. He admitted at once that Mr. Lumley's conduct had been indiscreet. As to the

indeed, he was satisfied that the letters had never existed. The relation of doctor and patient never subsisted between Mr. Lumley and Mrs. Balmer. What the latter told the former was

refusing Mrs. Balmer's request that he should make out a bill for her he at last was prevailed upon; but no sooner had he made out the bill than he realised the mistake into which he had fallen. Next day he went to Mrs. Balmer and demanded the bill back or that it should be destroyed. Mrs. Balmer told him that she had not posted it, and after professing to look for it she said it could not be found. Later on she informed him that it had been found and duly destroyed, and it was a great surprise to Mr. Lumley to find the bill produced in court. It was untrue that Mr. Lumley (later) wrote to the husband asking payment of the bill. Counsel went on to argue that in this case the man as a

in giving judgment in a case he tried, laid it down that if it was shown that a medical man in the pursuit of his

infamous conduct in a professional respect. That gave a definition of infamous conduct in a professional respect. It laid it down that infamous conduct must be between a medical man and his patient or between a medical man and his professional brethren. He was not seeking to palliate the conduct of a man who told a lie or did a dishonourable action. Mr. Lumley admitted that when he gave the bill to Mrs. Balmer he did do a dishonourable action, but it was not done towards a patient, and if the Council believed what Mr. Lumley had said, was the truth they must find that what he had done was not infamous conduct in a professional respect. If a man did a dishonourable action or something else for which he could not be convicted in a public court consequences under the Medical Act could not follow. If Mr. Lumley was not speaking the truth when he denied asking payment of the bill from Mr. Balmer he was none the less outside the scope of Section 29 of the Act, for if he had committed a criminal offence the General Medical Council could intervene only on conviction for it.

Mr. LUMLEY was tendered as a witness on his own behalf and bore out his counsel's statement of the facts. He was asked if Mrs. Balmer ever was a patient of his, and he replied that she was not; he had never attended her professionally. He had tried to find her since the divorce proceedings, but he had never been able to discover any trace of her whatever. He never had written to Mr. Balmer. He knew there was a Mr. Balmer, but he never knew his wife never was alone with Mrs. Balmer and never had committed adultery with her. When he was confronted with the bill during the divorce proceedings he was astonished. His counsel in the case knew nothing about it, and until he (witness) was in the witness-box he had no other idea about

divorce case and the action taken by the General Medical Council, Mr. Lumley stated that his name had lapsed; it had been off the Register for two or three years because he was travelling about a good deal and could not send the Registrar a fixed address. The name had been put on the Register again in January of the present year.

By Dr. GLOVER: The bill given to Mrs. Balmer was made out by himself and was on the usual printed form.

By the PRESIDENT: So far as he could recollect the bill was made out to Mr. Balmer.

By Dr. LITTLE: The bill was filled in in the evening at Mrs. Balmer's house.

How did it happen that you had one of your account forms at her house?—She had previously asked me for the account. She never was in my house.

By Sir JOHN BATTY TUKE: Mr. Balmer was the first witness at the divorce trial.

In connexion with the letters you were said to have written him was there any corroborative evidence?—He never made any reference to the letters. They were put in by his solicitor.

Sir J. BATTY TUKE: Why was Mr. Balmer not recalled?

Mr. ROSKILL: It was a shame that he was not recalled.

Lumley's favour that he was not.
the bill, to Mrs. Balmer after he
her for about 11 days. He was
not to receive anything out of the money, and he had no idea what the woman would do with it if she got it. He got no money from her.

By Dr. GLOVER: She had previously asked for the bill on the evening she got it. He had gone and fetched the bill-head. It was done on the spur of the moment.

The PRESIDENT: Are we to understand that supposing Mr. Balmer had paid the £19 10s. it would have been paid to you?

Mr. LUMLEY: Oh dear, no.

The PRESIDENT: But the account was made out as money due to you; if Mr. Balmer had acknowledged the account would he not have paid you?

Mr. LUMLEY: I understand that he would have sent the money to her. He always, she said, sent the money to her.

The parties were then asked to withdraw. On their being recalled,

The PRESIDENT announced the decision of the Council.

Addr[illegible] it has given a
very [illegible] know; to your
case, [illegible] that they direct
the registrar to erase your name from the Register. That is the judgment.

Mr. LUMLEY: I regret it exceedingly. Would there be any chance of its being introduced again? It is taking away from a man his chances of earning his livelihood when he is getting up in years.

The PRESIDENT: That is a matter on which we cannot give an opinion now. If you apply to the registrar he will let you see the standing orders.

Mr. Lumley withdrew.

The Council dealt partly with the next case on the programme—that of Mr. Andrew Alexander—before rising for the day.

SATURDAY, MAY 26TH.

The Council resumed to-day, Sir WILLIAM TURNER, the President, being in the chair.

The Case of Andrew Alexander.

Consideration was given to the case of Mr. Andrew Alexander of Blaydon-on-Tyne, registered in Scotland, Sept 5th, 1885, as Lic. R. Coll. Phys. Edin., 1885; Lic. R. Coll. Surg. Edin., 1885; Lic. Fac. Surg. Glasg. 1885, who had been summoned to appear before the Council on the complaint of the Gateshead Medical Association on the following charge as formulated by the Council's solicitor:—

That, being a registered medical practitioner, he covered an unqualified person named Tait, whom he employed or purported to employ as an unqualified assistant, and whom he permitted and enabled to attend

on and administer medical relief to patients and carry on medical practice as if he were a duly qualified practitioner.

Dr. BATEMAN, as representing the Medical Defence Union and the Gateshead Medical Association, appeared in support of the complaint.

Mr. Alexander attended in answer to his summons, together with his counsel, Mr. Horridge, instructed by Messrs. Rowcliffes, Rawle and Co. (represented by Mr. Lean).

Mr. FARRER read the summons.

Dr. BATEMAN opened the case for the complainants. He stated that as soon as Mr. Alexander employed Tait steps were taken to warn him that he was not acting in conformity with the Council's prohibition of the employment of unqualified assistants. Tait wrote in reply that Mr. Alexander had decided to run the risk and that if he did so it was no concern of the giver of the warning. Mr. Alexander stated in a letter he wrote that when he entered into an agreement with Tait he made no inquiry into the latter's medical training because he saw that pupils were allowed, and it was as a pupil that he had Tait with him. Mr. Tait, Dr. Bateman observed, had not even entered upon studies in a hospital. Mr. Alexander had been brought into the district by the miners themselves in opposition to the resident medical men, and it was impossible to get any of the miners to appear against him.

Mr. ALFRED COX (Gateshead) was then called as a witness. He proved the truth of a statutory declaration made by him in March last. In this he stated that he was told that Mr Alexander had employed an unqualified assistant and as secretary of the Gateshead Medical Association he had made inquiries. He saw Tait at Mr. Alexander's business place. Tait was referred to by the door attendant as "doctor," and he admitted that he was not qualified, but said he hoped soon to go to college.

Questioned by Mr. HORRIDGE, Mr. Cox said that Mr. Galloway and Mr. Davis made the complaint They attended the miners before Mr. Alexander came to the district. He never saw Mr. Alexander.

No questions were put by members of the Council.

Mr. WILLIAM HENRY DAVIS (Gateshead) was next examined by Dr. BATEMAN. His evidence was to the effect that Tait was said to have attended families and prescribed for them, but there was great difficulty in getting evidence. Many of them did not know that Tait was unqualified.

Mr. HORRIDGE objected to the admission of the last statement unless it was to be confirmed by the oral testimony of witnesses.

Mr. DAVIS, in answer to further questions by Dr. BATEMAN, stated that the practice he held had been in the family for about 100 years. Before Mr. Alexander came there was considerable feeling in the district about the payments by the miners to the medical men. The latter desired that their fees should be raised, and so soon as they were raised advertisements had been issued for a medical man to attend the men employed at certain of the collieries. Asked if there was any difficulty in getting qualified assistants he replied that he had two qualified assistants.

Asked by Mr. HORRIDGE if there was in attendance anyone who could be cross-examined in corroboration of the statement that many did not know that Mr. Tait was unqualified, he replied that he did not know that a defence of such a kind was to be set up.

Mr. HORRIDGE said that it was not a defence but a charge against Mr. Alexander.

Mr. DAVIS admitted that when Mr. Alexander came into the district he interfered very much with Mr. Davis's practice. Asked if he had gone about the place saying that Mr. Alexander was a "blackleg" he replied that he did not say he was a "blackleg" in the ordinary meaning of the common term as used in the north of England. By "blackleg" he meant a man who undersold others for the benefit of himself. He did not know that pressure had been brought to bear on Mr. Thomson, the qualified assistant Mr. Alexander got soon after he entered the district, so as to make him leave Mr. Alexander.

Mr JOSEPH CHARLES DOVER, commercial traveller, Gateshead, was also examined. He said that acting on instructions he had gone to Mr. Alexander's business place and asked for the "doctor." He was shown into a room and saw a young man of 22 or 23 years of age. Witness asked him if he was Dr. Alexander and he replied, "No; I am his assistant." Witness consulted him as to pains in the back and liver, and the young man gave him medicine and charged him 2*s.* 6*d.* He got a certificate from him out of a book. This was signed "A. Alexander." He noticed that there was a similarly signed certificate underneath. The young man told witness to look in again and to ask for the assistant. At that time he had no pains in the back or liver. He had gone to Mr. Alexander's place with the intention of finding out whether this man Tait was in practice.

Mr. HORRIDGE did not cross-examine.

In answer to Dr. MACALISTER, the witness said that Tait did not tell him what he was suffering from.

Dr. BATEMAN put in the certificate given to Dover, which was signed "A. Alexander," and read: "This is to certify that J. C. Dover is under my care suffering —— and is unable to follow his employment." He also put in correspondence between Mr. Alexander and himself. Mr. Alexander's letter stated that Tait was his pupil and he allowed him to watch the development of disease and its treatment and try his own hand in the management of trifling ailments. He (Mr. Alexander) attended at the surgery where Tait was engaged every day except Sunday. He himself saw all fresh cases, and all cases of a serious nature. Dr. Bateman also put in a declaration made by Mr. Walter Galloway, L.R.C.P. & S. Edin, who was, he said, unable to attend.

This closed the case in support of the complaint.

Mr. HORRIDGE addressed the Council on behalf of Mr. Alexander. He said that directly the Council's resolution on the subject of unqualified assistants was shown to Mr. Alexander he had told the latter that he believed he had committed a breach of the regulations, but he wished to put before the Council the exact circumstances in which that had taken place. The engagement with Tait had not been made in any way in bad faith, and Mr. Alexander would undertake to at once send away the pupil whom he had kept on pending the present inquiry. The dispute between the miners and the medical men of the district had occurred last year. The fees were raised from sixpence a fortnight to ninepence, and as the miners thought they had been treated in an offhand manner they had come to Mr. Alexander and in many cases that gentleman was getting the 9*d.* Nobody except Mr. Galloway and Mr. Davis had complained. When Mr. Alexander entered upon the practice he got Mr. Thomson to assist him. This man was qualified and came for a month's trial at £200 per annum, but within the month he left for no reason at all. Mr. Alexander advertised for another assistant, but so strong was the opposition that he could not get a qualified man. The difficulty of getting qualified men became very great after the issue of the Council's resolution on the subject, but from September last the difficulty had been accentuated by the number of qualified men going to the war. Mr. Alexander had done his best to get a qualified man, and when he got hold of a cutting from a medical journal which he read as meaning that he could employ a pupil who was not at the same time a *bonâ fide* medical student he took Tait, and thought he was doing right so long as he, being himself a registered medical practitioner, supervised him. There had not been one bit of concealment from first to last as to what Tait's position was. In conclusion, counsel submitted that the case was one that should not be severely dealt with.

Mr. ALEXANDER was tendered as a witness on his own behalf. He stated that when he went to Gateshead in the beginning of 1899, a good deal of friction arose between him and the other medical men in the district. Mr. Thomson had left him in September and there was not the slightest reason for his going away. If he had stopped, the terms offered him would have made his position worth £250 a year. Witness had taken Tait in the circumstances and on the conditions which counsel had explained, and there was not a word of truth in the suggestion that Tait was held out to be qualified. He had frankly admitted publicly everywhere that Tait was unqualified, and he had never even suggested that he was a student. With regard to the certificate put in he found it necessary to keep a book of certificates signed.

Questioned by Dr. BATEMAN he admitted that he had been carrying on the practice with Tait as a pupil.

What did Tait pay for taking him as a pupil?—He paid nothing. I gave him board and lodgings and paid him for confinements 5*s.* each case.

The PRESIDENT: You have a written agreement with Mr. Tait. Is it here?

22 years
dwifery.
I saw 20
mself to
a regis-
mself as
a pupil of mine. It was after the engagement with me that he went to the Maternity.

Sir H. CAMERON: I think they must have misunderstood that he was a registered medical student or they would not have taken him. That is the rule.

Mr. ALEXANDER: I told Mr. Tait to say that he was a
he could get a good deal of
not keep him.
By the President: ... k no written credentials with him.

By Mr. HORSLEY: He had obtained Mr. Tait through a gentleman who sometimes acted as his locum-tenent, and who hearing of his difficulty had suggested that he should employ Mr. Tait, his (the locum-tenent's) brother-in-law.

Replying to further questions witness said that he did not say that Tait had seen 22 cases of labour in the Glasgow
the
his
rint
which the
ike a cut-
tisement,
py of the
T or the
faction, and they have ...
the further consideration ...
adjourned until the next ...
cation of that is this, that you will have to appear here next November and give satisfactory evidence to the Council that you have ceased to employ an unqualified assistant and that your conduct and character between this day and the day when you re-appear have been to the entire satisfaction of the Council.

Proceedings in Camera.

The remainder of the sitting was spent *in camerâ* dealing with reports from the Penal Cases Committee and the Special Finance Committee.

MONDAY, MAY 28TH.

The Council resumed work to-day, Sir WILLIAM TURNER being again in the chair.

The Prevention of Personation.

The first business was the adjourned consideration of the report by the Committee on the Prevention of Personation.

The Council having gone into committee of the whole Council,

Mr. HORSLEY, seconded by Dr. BRUCE, moved the adoption of the first recommendation of the committee which was in the following terms, viz:—

That in all cases where application is made for registration on the Students Register or Medical or Dental Registers under exceptional circumstances the facts of the case shall be furnished in the form of a statutory declaration.

Sir DYCE DUCKWORTH said that this recommendation applied to students and he should like to know whether the hundreds of students who asked to be antedated would require to make a statutory declaration.

Dr. REID said that this appeared to him to be a very cumbrous arrangement and he thought the Council should not adopt it.

The REGISTRAR (Mr. ALLEN) said that if students were brought within the arrangement it would apply to a very large number of cases, and a very heavy responsibility would rest upon the registrars in determining what were exceptional circumstances.

Mr. TOMES said that exceptional cases would be cases which did not follow the usual office routine and such cases he understood were not very numerous.

The PRESIDENT took exception to the proposal to extend the arrangement to students. He thought that the Students Register was already sufficiently protected by the Students Registration Committee who satisfied themselves of the *bona fides* of the certificates. The applications to be antedated came for the most part from students who had received their preliminary training and passed their preliminary examinations abroad and he was afraid it would give them a somewhat painful impression if they were called upon to go before a commissioner for oaths and make a statutory declaration before commencing their professional studies in this country.

Mr. HORSLEY said that all the committee wished to do was to strengthen the hands of the Students Registration Committee.

Sir DYCE DUCKWORTH moved that the words "Students Register or" be deleted from the recommendation, and this was seconded by Dr. REID.

The Council by a large majority decided to strike out these words and the recommendation thus amended was passed.

Mr. HORSLEY moved the second recommendation which was in these
With the vi
forms of appli
applicant and
shall furnish in addition a statutory declaration of the facts of his case as well as a certificate of identity.

Mr. HORSLEY explained that the only alteration proposed in the present state of affairs was that every applicant should be called upon to fill up the application form in his own handwriting.

The PRESIDENT suggested that the recommendation should be divided into two parts.

Mr. HORSLEY agreed to the limitation of his motion to the words, "With the view to identification of applicants for registration all forms of application shall be filled up in the handwriting of the applicant." The three registrars had, he said, issued a note on the proposals of the committee, and he should like to know from Mr. Allen whether he still objected to employing handwriting as a means of identification.

The REGISTRAR (Mr. ALLEN) said that the comparison of handwritings was very useful indeed as corroborative testimony but he failed to see how it could be used as the foundation of a system of registration. The great difficulty was that the Council had not one office but three offices and there was a great dea
Scotch students
1899 there were
obtained their
ultimately regist
be no means of
with the handwriting of the ...
Medical Register.

Mr. HORSLEY said he did not understand what the Registrar meant by a foundation of the system of registration. At present the office had no means of identification and he thought the office should be grateful to the committee for the suggestion which they now made. The suggestion meant no trouble for the office; the only trouble was put upon the person seeking registration. The committee could not understand why there should be any hostility on the part of the registrar, and especially when they found that the Scotch registrar had been carrying out this very process all his life.

The REGISTRAR (Mr ALLEN) disclaimed anything like a feeling to hostility to the proposals of the committee. On the contrary, he should heartily rejoice to receive any scheme which would render personation less possible. His objection to the scheme proposed by the committee was that it seemed to him to be unworkable. The Act said that if a man presented his diploma he was entitled to be registered, and it would be a serious thing to place upon the registrar the responsibility of refusing or deferring registration because he had a doubt in his mind as to the identification of the handwriting.

Mr BROWN said that if these recommendations were passed the whole system of registration would have to be modified and regulations could be made by which the registrar would be relieved of this responsibility that he dreaded. It seemed to him that the present system opened the door to personation. He thought that if students

registered in Scotland as students and took their course of education in that country and afterwards applied for registration in England as practitioners they should be sent back to Scotland for the purpose of this latter registration.

The PRESIDENT: You have no power to do such a thing.

Mr. BROWN: We have power to make regulations.

The PRESIDENT: The Act says that a person is entitled to be registered on producing his diploma or diplomas to the registrar of the Branch [illegible] Scotland, or Ireland. If he goes to [illegible] the registrar of that Branch Council must register him.

Mr. BROWN: Surely that does not demolish the necessity for making regulations as to registration. Let sufficient time be given for the registrars to communicate in order to verify the documents.

The PRESIDENT: The Act does not allow for that and you must proceed by the Act.

Dr. MCVAIL said he was clearly of opinion that the applicant should make the application in his own handwriting.

Mr. HORSLEY thought th[illegible] to make regulations so long as [illegible]

The PRESIDENT said ther[illegible] stood that various of the examining bodies were in the habit of sending to the registrar lists which contain the names and addresses of the persons who had passed a given examination and he should like to know what the procedure was with regard to these lists.

The REGISTRAR (Mr. ALLEN) said that these lists were without [illegible] the candidates who had passed. Yet it [illegible] the Registrar to register these names without any other application in relation thereto. He did not, however, remember a single case in which a man had been registered in this way.

Sir JOHN BATTY TUKE submitted that the recommenda[illegible] the Act of Parliament [illegible] of the Act. [illegible] section, which bore out what Mr. Allen had said. [illegible] out that it was purely permissive. [illegible] that there seemed to him to be a doubt whether it would be lawful for the registrar to interpose this new condition as to the handwriting and suggested that the Council or the committee should take the opinion of the [illegible]

Mr. HORSLEY [illegible] was any difference of opinion as to th[illegible] the Act it would be well to have expert advice.

As the outcome of some further discussion it was decided to refer the report back to the committee for further consideration with power to take legal opinion with regard to the legal questions raised in their report and its recommendations.

The Council then resumed and adopted the decisions of the committee of the whole Council. The whole subject therefore remains in abeyance.

Foreign Practitioners in Italy.

The Council proceeded to the consideration of communications, &c., from the Privy Council in regard to the practice of medicine in Italy by foreigners and the application of Part II. of the Medical Act of 1886 to Italy. The communications and documents read were as follows:—

Privy Council Office, London, S.W.,
April 6th, 1900.

SIR,—Referring to the letter from this office of the 29th instant I am directed by the Lord President [illegible] o be laid before the General Medica[illegible] of a translation of the Draft Law, re[illegible] the position of foreign doctors in Italy.

I am, Sir, your obedient servant,
J. H. HARRISON.

The Registrar of the General Medical Council.

[*Copy. Translation.*]

DRAFT LAW.

SOLE ARTICLE.

For the last paragraph of Article 23 of the Law on Public Health of December 22, 1888, No. 5849, is substituted the following:—

"From the present prohibition are excluded foreign doctors and surgeons expressly called in for special cases, and in the exclusive [illegible] n or family, and those who, holding the [illegible] or school of medicine abroad, practise [illegible] gners only, in all cases, however, with [illegible] r belong to States which concede the [illegible] talian doctors and surgeons."

[illegible] S.W.,

SIR,—I am directed by the Lord [illegible] transmit to you the accompanying copy of a despatch from Her Majesty's Ambassador at Rome, and of its enclosure, on the subject of medical reciprocity with Italy; and I am to request that in laying these documents before the General Medical Council you will inform that body that Her Majesty's Government will, at the proper time, recommend Her Majesty to apply Part II. of the Medical Act to Italy.

[illegible] of a [illegible] e is enclosed [illegible]

I [illegible]

[illegible] Gen[illegible] A. FITZROY.

(a) DESPATCH FROM HER MAJESTY'S AMBASSADOR AT ROME.

[illegible] of [illegible] men resident in Italy to look after their interests; and I have now the honour to enclose a copy of a [illegible] y consider [illegible] easonable, [illegible] II. of the [illegible] been con- [illegible] e basis of [illegible] this letter to the [illegible] nether he would be prepared, when the occasion arises, to act upon the recommendation thus made and admit Italian doctors in Great Britain to reciprocity. If this were done the position of British medical men in this country would be secure so far as the new Italian law is concerned.

I have, &c.,
(Signed) CURRIE.

The Marquess of Salisbury, K.G., &c., &c., &c.

(b) STATEMENT BY A DEPUTATION OF MEDICAL PRACTITIONERS AT ROME TO HER MAJESTY'S AMBASSADOR.

Rome, April 12th, 1900.

MY LORD,—When we, [illegible] medical men practising in [illegible] you communicated to us that, in the opinion of the President of the Privy Cou[illegible] for the application of Part II. o[illegible] As this [illegible] of Her Majesty, Italy [illegible] Italy under the [illegible] desire to [illegible] onsider it a [illegible] whose interests [illegible] y at any future [illegible] ernment refuse [illegible] Italian law can [illegible] the Italians we [illegible] procity granted [illegible] granting us our [illegible] xcellency that [illegible] with regard to [illegible] ly, it would be [illegible] the draft Bill [illegible] Parliament has passed into law.

We remain, &c.,
(Signed) T. EDMONSTON CHARLES.
JOHN J. EYRE.
G. SANDISON BROCK.

His Excellency Lord Currie, &c., &c., &c.

(c) DRAFT OF A PROPOSED ORDER IN COUNCIL.

At the Court at
The day of
Present.

Whereas by th[illegible] (amongst other things) [illegible] time by Order in Council declare [illegible] t shall be deemed, on and after a [illegible] ply to any foreign country which, [illegible] the medical practitioners [illegible] Council has been made in respect of any foreign country the said second part of the said Act shall not be deemed to apply to any such [illegible] r Majesty's opinion, [illegible] ited Kingdom such [illegible] eems just.

[illegible] in the year of [illegible]
Part of the Medical Ac[illegible]

The PRESIDENT said that in the remar[illegible] he made at the opening of the session he called attention to the question of reciprocity of medical practice between Italy and the United Kingdom and he practically gave an epitome of what had just been read. The Council now had all the facts before them and it rested with the members to say whether they wished to express an opinion. It seemed to him that the question of issuing an Order in Council lay entirely with the Privy Council, and according to the terms of the Act the Council had really nothing to do with the matter.

What they had to do with was what would arise at a future stage supposing an Ord then have to be dete registered furnished a of the requisite knowle of medicine, surgery, and midwifery, and whether the applicants were of good character and were by law entitled to practise in the foreign country whose degrees they possess.

On the motion of Dr. MACALISTER, seconded by Mr. BRYANT, the communications and documents were entered on the minutes.

Mr. HORSLEY said that the Privy Council were propose e privileges of practice in this hile Italians were only offering he privilege of practising among t seemed so inequitable that it over without some representa-

had been advised last yea to restrict the practice of of the Act of 1886; in other words, any person coming to this country would be entitled to practise among all classes of the community, whereas our countrymen in Italy would not be allowed to practise except amongst foreigners. The General Medical Council had never voted in favour t in question, resident of the nequity of the t. his motion in

General Medical

the matter.

The PRESIDENT: That is so.

Dr. MCVAIL thought that then they should not offer any. The documents sent to them were put before them simply as an intimation and warning that when Part II. of the Act of 1886 was put in operation the General Medical Council qualifi- for the Privy at this stage.

Dr. MCVAIL: Quite so.

Mr. HORSLEY submitted the following as the motion he proposed:—

that the t present tween the h of Her

Majesty's Ami

Sir JOHN BATTY TUKE seconded this motion. He considered the matter the most important and serious question in connexion with medical registration that had ever come before the Council. It was not for to-day or to-morrow but for all time. No such action as that proposed on the part of the Government could ever be rescinded, and the possible consequence was that they would have a large number of foreign practitioners coming into Great Britain and Ireland over whom they had no possible control. He did not agree with his colleague who cried out "No, no." He claimed as much right to anticipate as that member did, and he supported his contention on this ground—Italy was a poor country, England was a rich one; as soon as the Italian knew that he could come to this country and have the full privilege of practising here they might look for a large influx of Italian practitioners over whom not see that injustice don of having a brought abou titioners in It particularly as he understood that it was quite easy for a British practitioner in Italy to obtain from licensing bodies in Italy the qualification that would enable him to practise freely in that country. He hoped with Mr. Horsley that if the Act were applied its application would not be made retrospective.

Chamber had been dissolved and it was possible that there might be a new Ministry. Nobody, of course, knew what that Ministry would do, if appointed, but the thing eing and very likely it would did not think the Privy Council om the General Medical Council

Mr BROWN did not see how it would be out of order to state their opinion to the Privy Council. He hoped the General Medical Council would agree to represent that they should give to foreigner protested against the ir a d he was sorry that Dr. McVail had his opinion on this occasion. They all knew how vigorous he was not long ago in protesting that such a measure as the Privy Council now contemplated taking would open up the medical practice of this country, not only to Italians, but to practitioners from all parts of the continent of Europe and of America also.

Dr. PETTIGREW, in supporting the motion, said that he quite felt the force of what Sir John Batty Tuke had said, that they should not upset the arrangements of this country for the sake of a small number of their brethren practising in a foreign land, but if, they could arrange for mutual privileges he thought that would be a very good thing.

VAIL hoped it would be remembered that at former they had had which amounted General Medical Council o they had sent certain replies The Privy Council did not need to ask their advice, for Section 17 of the Act of 1886 provided for the passing of an Order in Council. Now that the Privy Council announced a decision were they to go over the whole ground again and endeavour in some way to fight the Privy Council? If the General Medical Council thought that the Privy Council were taking a step that they should not take the only thing they could do was to petition Parliament. He entirely assented to the words of the motion, but he thought that the Council should not take any steps in the matter at all.

Dr. MACALISTER agreed very strongly with Dr. McVail that they should not go again to the Privy Council in regard to this matter. If they did go he believed that they would only get a snub, which they would rather deserve than otherwise. The mot not only the Council

Mr. TEALL said he the Council's position by making any representation they would weaken their position for making representation at some future time.

Sir CHRISTOPHER NIXON thought that this was a case in which the Council might have to appeal to Parliament in protection of the rights which Parliament had conferred upon it in the matter of the education of practitioners in this country.

Dr. GLOVER agreed with Sir John Batty Tuke that this question was one of the most important that had ever come before the Council. He did not rise to offer opposition to the motion—he was going to support it, but he was also going to propose an addition to it The last course which had been recommended to the Council was that they should appeal to Parliament against the Privy Council. He had a very high opinion about the General Medical Council—the most interesting body in the profession—but when they asked him to be a party to set up the General Medical Council against the Privy Council and appeal to Parliament he hesitated to adopt such an audacious line of attack. But had they come to the point when that was necessary? Were they to assume that the Privy Council were not as anxious as the General Medical Council to secure reciprocity of practice He did not think so. He thought that the Privy Council were on the side of the General Medical Council and the side of the profession and he proposed to add to the motion these words:—

The Council would urge upon Her Majesty's Government to use their influence with the Italian Government in promoting legislation on this subject to make reciprocity complete in Italian law as well as English law.

Were they to sit still and let the legislation in contemplation be completed? If this legislation passed they would never have another opportunity to speak on the subject. This was the time when the principle of their procedure ought to be stated, the time for them to make any suggestion which they might have to make on the subject, and he thought that they would be perfectly within their rights and would also commend themselves to all reasonable men if they said that while they acquiesced in the step that was going to be taken let them still see that the proposed legislation was complete. That, he thought, would be perfectly reasonable, and if they voted as they felt he did not think that they would get a snub from the Privy Council if they said that they did.

After some remarks by Sir WILLIAM GAIRDNER,

Sir DYCE DUCKWORTH thought that it was not only British practitioners who were involved, but thousands of their fellow countrymen and country-women who resorted to Italy and would not consult Italian practitioners but wanted to be attended by English medical men. He thought that the Council should take care to see that as far as possible they should be able to obtain such attendance.

The PRESIDENT called upon Mr. Horsley to reply on the debate.

Dr. MCVAIL said he wished to make a proposal before this subject was concluded. He moved as an amendment:—

That as the Privy Council has not asked for the opinion of the Medical Council on the draft of the proposed Order in Council the Medical Council do not deem it expedient to offer any opinion.

Dr. HERON WATSON seconded.

Mr. HORSLEY asked the Council not to accept this amendment. He contended that this was the first time that the General Medical Council had had the opportunity to make up their mind on the great subject now before them. Was it quite certain that the Privy Council did not want to hear anything from the General Medical Council? He maintained that their letter was more than an intimation: it was also an invitation to the General Medical Council to consider their communications and, of course, express an opinion on them.

Dr. MACALISTER intended to support the amendment. He thought it suggested the wiser course.

Dr. LITTLE urged that if the General Medical Council did not take action now they would not be heard at all.

Sir JOHN BATTY TUKE regretted that Dr. McVail had put his amendment forward, for it was playing into the hands of the section of the Council who desired to carry this scheme through in spite of all and every consideration of policy and justice. If the amendment were carried their mouths would be shut and great injury would be done to the profession. He had listened to hear reasons in favour of the amendment; he had heard none. Nothing had been put forward except this, that it was in the interest of some hundreds of people in Italy. The wants of these could be easily supplied if the 35 British practitioners in that country would go and take the last qualifying examination in some Italian university. That was a certain, easy scheme, much easier than the upsetting of the whole arrangements of this country.

The Council divided. They rejected the amendment by 15 votes to 7, five members declining to vote and three being absent. The motion was then carried by 15 votes to 10, two members declining to vote.

Dr. GLOVER'S proposed addition was then put in the following form:—

That the Council would urge Her Majesty's Government to use its influence with the Italian Government in promoting legislation on this subject so as to secure for British practitioners full privileges of practice in Italy such as would be conceded by the law of this country to Italian practitioners.

Having rejected this proposal by 14 votes to 6 the Council adjourned.

TUESDAY, MAY 29TH.

The Council resumed to day, Sir WILLIAM TURNER presiding.

Proceedings in Camerâ.

The PRESIDENT said that he had an important communication to make to the Council, but it was necessary that it should be made in private and consequently he moved that the Council go into *camerâ* for this purpose.

The Council sat *in camerâ* for two hours.

Financial Aid to the Irish Branch Council.

The PRESIDENT, when the public were admitted, announced that the following resolution had been come to by the Council, viz.:—

That having regard to the duties performed by the Irish Branch Council and to the funds at its disposal it is necessary for the purpose of the due execution of the Medical Acts that the General Council should, as part of its expenses, contribute to the income of the Irish Branch Council the sum of £500 in aid of the expenses of the Branch Council for the year 1900.

The Length of the Session.

Mr. TEALE asked the President what likelihood there was of the work of the session being brought to a termination within a reasonable time.

The PRESIDENT said he wished he were in a position to give a definite answer to this question. He had hoped that they might finish to-morrow, but he quite recognised that the important communication which he had had to make to the Council to-day—which was quite unexpected and was not contemplated in the framing of the Council's programme of business—had rightly taken up a considerable part of to-day's time. He hoped, however, that the Council would make up its mind to finish on Thursday.

The Memorandum on Reciprocity.

Mr. BRYANT, seconded by Sir DYCE DUCKWORTH, moved:

That the memorandum upon reciprocity of medical practice in relation with foreign countries as revised by the Executive Committee be received and entered as an appendix to the minutes and be approved for issue as one of the Council's publications.

The memorandum contains a statement prepared on August 10th, 1899, by Mr. Muir Mackenzie on the instructions of the Council and adopted by the Council on Dec. 2nd, 1899, as expressing the present state of the law of this country in regard to reciprocit[illegible]

Mr. TOMES suggested that [illegible] to Italy should be made in t[illegible] finally approved. In some respects the statement of circumstances was not quite up to date, and while nothing could be described as absolutely incorrect there were passages calculated to convey a wrong impression.

The PRESIDENT said that if Mr. Tomes had any corrections to suggest he might lay them before the Executive Committee and they would be attended to, and other members might, perhaps, adopt the same course and thus simplify matters.

Mr. HORSLEY said there was a fundamental correction which he thought was necessary. This was in effect a legal document and he thought the Executive Committee had made a mistake in having it translated into a foreign language. He was strongly of opinion that the memorandum should be issued without the French translation and he moved as an amendment that it be omitted.

Dr. MCVAIL, in seconding this amendment, said it was impossible for anyone to be quite certain that he had translated accurately a legal document of this character.

Dr. MACALISTER said that the suggestion that there should be a French translation was approved by the Council as a body. As the object of the memorandum was to provide in convenient form an answer to the inquiries frequently received from foreign countries as to the state of our law he thought it most desirable that it should be translated into the language of diplomacy. He might explain that the translation had been revised by a French notary as well as by Mr. Muir Mackenzie.

Mr. HORSLEY said that the Executive Committee had not been instructed by the Council to have a translation prepared.

The PRESIDENT said that the impression made upon his mind by the conversation which took place on this question in December was that the feeling of the Council was that the statement should be translated and he was responsible for moving in the matter in the Executive Committee.

Dr. PAYNE thought that the translation should be retained as likely to contribute to the usefulness of the statement.

The amendment received the support of only two members, Mr. Horsley and Dr. McVail, and the motion of Mr. Bryant being put to the Council was carried.

The PRESIDENT said he thought that it ought to be stated that the revision of the memorandum as to the law in foreign countries had been carried out after communication with the Foreign Office.

The Dental Board of Victoria

Mr. BRYANT brought up a report from the Dental Education and Examination Committee on an application from the Dental Board of Victoria. The application was for the

they could, not advise the Council to accede to the application.

On the motion of Mr. BRYANT, seconded by Mr. TOMES, it was agreed :—

[illegible] the Dental [illegible] the Dentists [illegible]

The Royal College of Dental Surgeons, Ontario.

Mr. BRYANT brought up the following report on an application from the Royal College of Dental Surgeons, Ontario, viz :—

The proposition of the Royal College of Dental Surgeons, Ontario—contained in a letter referred to the committee by the Executive [illegible]

Although the matter is one which, perhaps, falls within the dis- [illegible] fessional examinations are of an appropriate nature and are sufficiently [illegible] s of special [illegible] boards—e.g., [illegible] alone be required.

Your committee recognises the desirability of acceding if possible to a reasonable proposition from one of our colonies.

On the motion of Mr. BRYANT, seconded by Mr. TOMES, the Council resolved to forward a copy of the report of the committee to the dental licensing bodies for their information.

Dentists Act for Western Australia.

Mr. BRYANT reported that the committee had received pleased to say that the Act seemed to be quite satisfactory.

The Case of Mr. E. L. Oldfield.

The Council dealt with an application from Mr. Edwin Lenthall Oldfield for registration as a colonial dentist under Sections 8 and 10 of the Dentists Act of 1878. Applicant's letter stated that he was of British parentage and was born in Hobart Town, Tasmania. Since October, 1879, when his apprenticeship with a dental practitioner in the city of Melbourne, Victoria, Australia, terminated, he had continuously practised as a dentist in or near Melbourne, and at the date of his application, April 10th, 1900, was still in practice. When the Victorian Dentists Act, 1887, came into operation he was duly registered as a dentist and received a certificate which entitled him to practise as a dental practitioner in the colony of Victoria. With a view [illegible] the colony he founded the [illegible] of Victoria in 1895. This [illegible] was as far as possible carried on in the same educational system as the Dental Hospital of London, Leicester-square. This was the first institution of its kind in the colony and it had been incorporated by the Victorian Government under the Charities Act, 1890. He had been for three years a member of, and an examiner on, the Dental Board and students who had passed the examination held by the board had been admitted by the General Medical Council to the Dentists Register. He had been for three years honorary dentist to the Melbourne Hospital, which was attended by the medical students at Melbourne University. As a practising dentist he had always endeavoured to carry on his business in a professional manner and he had never advertised. His reasons for desiring to be registered were that he should be able to proceed to the L.D.S. Ireland *sine curriculo*, which it was his intention to do. Students articled to him would (other requirements being fulfilled) then have the advantage of such articles on proceeding to England to complete their dental education. He did not desire to be registered for the purposes of practice but for the sake of the advantage that such registration would give him in his endeavours to improve dental education in the colony, upon which work he had been engaged since and prior to the Colonial Act of 1887.

Mr. TOMES said that Mr. Oldfield's application had been made before the Dental Education and Examination Committee came to the conclusion not to recognise the diplomas of the Dental Board of Victoria. But Mr. Oldfield came before the Council as a gentleman who had deserved very well of his profession. Mr. Oldfield had done a very great deal for the advancement of dental surgery in the colony in which he lived, and the falling off in the standard of the education given under the Victorian Dental Board which had recently taken place was not due to him. It had taken place since he left on a visit to this country, and when he (Mr. Tomes) saw Mr. Oldfield lately he had promised that he would use his best efforts to bring the Victorian dental curriculum up to the [illegible] one wo[illegible]

Mr. [illegible] matters that the Council had [illegible] was deemed advisable that th[illegible] case should be in private. Str[illegible] Three-quarters of an h[illegible]

The PRESIDENT said [illegible] has been instructed to [illegible] Oldfield in the Colonial List of the Dentists Register.

Medical Aid Associations.

The next business was the reception of a report from the Medical Aid Associations Committee respecting references made to it by the Executive Committee on Nov. 27th, 1899, as to communications in regard to medical contracts received by the Executive Committee on Feb. 26th, 1900, and directed to be transmitted to the General Council.

Dr. GLOVER read the report, which was as follows :—

The Medical Aids Committee met on Tuesday, Dec. 5th, and considered several communications referred to them by the Executive Committee at its meeting on Nov. 27th on the subject of medical contracts in which the question of canvassing arises. These communications were, respectively, from Messrs. Graham and Shepherd, joint secretaries of the County of Durham Medical Union; from L. Cooke, Esq., honorary secretary of the Wigan and District Medical Guild, Wigan; and from the Ashton-under-Lyne Medical Society. The

Medical Aids Committee suggest that these gentlemen should be informed that in any given case where the Medical Council is desired to take action facts and evidence of the implication of the particular registered practitioner complained of will have to be furnished by the complainants (in a statement attested by affidavit).—J. G. GLOVER, Chairman, Dec. 5th, 1899.

On the motion of Dr. GLOVER, seconded by Dr. BRUCE, the report was received, entered on the minutes, and approved.

Dr. GLOVER next read the following as an interim report which the same committee desired to present to the Council:—

On Tuesday, May 22nd, the Medical Aid [illegible] the General Medical Council held a conferei [illegible] committee of the Council of the British M [illegible] board for the promotion of a [illegible] al profession and the friendly [illegible] and the following gentlemen [illegible] of the British Medical Association: Dr. F. M. Pope, Leicester, Mr. C. H. W. Parkinson, Wimborne, Dr. Dawson Williams; and Mr. Andrew Clark.

After a full discussion of the many points of difficulty in establishing a *Conciliation Board*, the deputation from the *British Medical Association* Council expressed themselves as having got much light on the [illegible] the result of [illegible] ing meeting [illegible] to report its [illegible] eral Medical Council. J. G. GLOVER, Chairman.

On the motion of Dr. GLOVER, seconded by Dr. BRUCE, this report was received and entered on the minutes.

The Council adjourned.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At the Congregation on May 24th the following were admitted to medical degrees:—

Degree of Doctor of Medicine.—C. P. White, Sidney.

Degree of Bachelor of Medicine.—W. M. Fletcher, H. M. Harwood, W. H. Maxwell, and D. P. Watson, Trinity, N. G. Bennett, St. John's; B. J. Collingwood and J. C. A. Rigby, Caius, and A. Killick, Downing.

Degree of Bachelor of Surgery.—O. F. F. Grünbaum, W. Norbury, and G. R. Slade, Trinity; J. C. Matthews, St. John's; A. E. Bodington, B. J. Collingwood, J. C. A. Rigby, and A. Whitmore, Caius; and A. Killick, Downing.

Mr. F. G. Parsons, F.R.C.S.Eng., has been appointed an additional examiner for the Second M.B. examination this term.

ROYAL COLLEGE OF SURGEONS IN IRELAND: FELLOWSHIP EXAMINATION.—The following candidates having passed the necessary examination have been admitted Fellows of the College:—

Mr. J. H. Conway, Mr. F. C. Crawley, Miss S. Gray, Mr. K. L. G. Gunn, Mr. S. H. Law, Mr. M. J. Madden, Mr. J. F. Mannix, Mr. L. R. More O'Ferrall, Mr. M. O'Sullivan, and Mr. W. G. T. Posnett.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Wilhelm Zinn, son of the well-known alienist Dr. August Zinn, has been given charge of the Internal Department of the Bethany Hospital.—*Cracow:* Dr. Ignaz Lemberger has been recognised as *privat docent* of the Pharmacognosis and Microscopy of Food Stuffs.—*Rome:* It having been proposed to establish a clinical professorship of Urinary Diseases, Professor Posner of Berlin has been asked if he would accept it. This, however, he is unwilling to do.

DR. J. L. JONES was at the last meeting of the Melton Mowbray Board of Guardians appointed medical officer and public vaccinator for the parish of Wymondham.

THE NEW INFIRMARY, HIGHGATE-HILL.—The formal opening by the Duke and Duchess of York of this new parochial infirmary, erected at a cost of £200,000, has been fixed for July 16th.

MUNIFICENT GIFT.—Mr. William W. Astor of Cliveden has contributed unconditionally a donation of £10,000 to the Maidenhead Cottage Hospital on his son attaining his majority, and at a meeting of the Hospital Committee on May 25th the institution was declared free to all patients.

APPRECIATION OF MEDICAL SERVICES.—On May 25th the Sanitary Committee of the Hull Corporation awarded a gift of £105 and an increase of salary of £100 per annum to Mr. John W. Mason, M.B., D.P.H. Aberd., the city medical officer of health, for services which he rendered the city during the recent epidemic of small-pox. Gifts at the same time were awarded to every member of the staff employed at the small-pox hospitals varying from one to 50 guineas.

Parliamentary Intelligence.

HOUSE OF COMMONS.

THURSDAY, MAY 24TH.

The Medical Allowance of Volunteer Adjutants.

LIEUTENANT-COLONEL PRYCE-JONES asked the Under Secretary of State for War if he would explain how the medical allowance of 2*d.* each per week to an adjutant of auxiliary forces for himself, wife, and servant was arrived at, seeing that an ordinary medical practitioner would charge about 10*s.* per visit; and, seeing that an allowance of 1*s.* per diem had been found insufficient for providing himself with a servant, and having regard to the fact that the present rate of wages for a groom was about 3*s.* per diem, whether he would consider the advisability of increasing the allowance.—Mr. WYNDHAM replied. These allowances are given in aid of the expenses of medical attendance and of finding civilian servants. The State does not in either case undertake to indemnify the officer for the full expenditure.

Boric Preservatives in Cream.

[illegible] the Local Government Board [illegible] mittee of his department was [illegible] ric acid as a preservative in [illegible] frequently prosecuted for its [illegible] l committee had reported he [illegible] horities to stop such prosecutions.—Mr. CHAPLIN replied that he was aware that there had been prosecutions of this kind, though his attention had not been drawn to the particular cases referred to by his hon. friend. The Local Government Board had no power to restrain local authorities in the exercise of their powers under the Sale of Food and Drugs Acts, and it did not appear to him that they could intervene in the manner suggested in the question.

Famine and Cholera in India.

Lord GEORGE HAMILTON, replying to a question on this subject, said. There is as yet no material change in the famine situation. Showers have done good in some pa [illegible] due. For the past few months [illegible] iving [illegible] ed in [illegible] this week's telegram the total numbers [illegible] figures would have been higher but for [illegible] which has attacked some of the relief camps in Bombay and in Rajputana, and caused the workers to be dispersed. As yet, however, I have received no detailed reports on this subject. I propose to lay on the table papers showing the spread of the famine during the past six months and the steps taken to relieve distress caused thereby.

[illegible]

When the [illegible] ly on the vote for the salaries and expenses of the Local Government Board in Ireland, Mr. JOHN DILLON argued that the Board had endeavoured to over-ride the local authorities, and stated by way of illustration that they had issued a ukase to the Ballymena Board of Guardians directing them to allow their medical officers a month's holiday and to pay a substitute, but the Ballymena Board of Guardians appealed against the order, and the Chief Baron decided that it should be quashed, as the Local Government Board had exceeded their powers in the matter.—Mr. GERALD BALFOUR, [illegible] down by the Local [illegible] should be allowed a [illegible] that the guardians [illegible] employed such reas [illegible] Government Board should approve or direct. He remembered perfectly well stating across the floor of the House last year that the Local Go [illegible] nd and that the [illegible] h something lik [illegible] Board, to the extent of the deci [illegible] mistake, but he did not understand that th [illegible] it the Board had no power to enact a rule [illegible] nt that such a rule would not be a proper on [illegible] r came down to this, that the Local Government Board did not draft a rule in such a way as to give them the full power they desired to have. The best way to cure any mistake that might have been made would be to alter the rule and no doubt that would be done in due course.

FRIDAY, MAY 25TH.

Mr. STEADMAN asked [illegible] of Trade whether there was any legislativ [illegible] of, and supply by the London gas companies of, [illegible] whether he was aware that in 1893 a departmental [illegible] by the Board of Trade recommended that the admixture of water-gas with ordinary coal gas should be limited to 12 per cent. and that by a Parliamentary return in the same year it was shown that some of the London companies were even then using considerably over double that proportion, and whether, in view of the fact that there was reason to believe the amount had since been largely increased and that wat [illegible] coal gas and could not [illegible] he advisability of takin [illegible] had long been urged by [illegible] ie means acquaint the pu [illegible] ed with a poisonous article in the name of ordinary gas, so that due care might be taken in its general use.—Mr. RITCHIE replied. The hon. Member must not assume that I admit to the full the accuracy of all the statements contained in the question, some of which might be made the

MONDAY, MAY 22TH.

Proposed Vaccination Return.

exertions of the
a considerable lo
than in any pr

famine broke out he had the satisfaction of having to apply to it machinery which two years before had stood a great stress. But in

to these Native States as well as large sums of money. The

BOOKS, ETC., RECEIVED.

APPLETON, D., AND CO., New York.
Transactions of the Twenty-first Annual Meeting of the American Laryngological Association, held in May, 1899. 1900.

BAILLIERE, J. B., ET FILS, Paris.
Traité de Médecine et de Thérapeutique. Par P. Brouardel et A. Gilbert. Tome septième. 1900.
Maladies de l'Estomac. Par H. Frenkel. Préface par J. Teissier. 1900.

TENDALL, AND COX, King William-street, Strand, London.
Monograph Series. Nos. 2 and 3. The Bacteriology of Every-day Practice. By J. O. Symes, M.D. Lond., D.P.H. Appendicitis, by A. H. Tubby, M.S. Lond., F.R.C.S. Eng. 1900. Price 2s. 6d. net each.

Bearbeitet

AND SONS, Edinburgh and London.
—Medical Student. A novel. By Graham Travers
Md, M.D.). Fifteenth edition. 1900. Price 2s. 6d.

ET C. NAUD, Paris.
Par P. Bountet. 1900.

CHURCHILL, J. & A., Great Marlborough-street, London.
Wallace,
y Peter
F.C.S.
Part 2.
1900. Price 13s.

LAY, W. F., Teviot-place, Edinburgh.
Manual of Midwifery. By W. R. Fothergill, M.A., B.Sc., M.D. Second edition. Illustrated. 1900. Price 7s. net.

CKWORTH & CO., Henrietta-street, Covent-garden, London.
Agricultural Botany, Theoretical and Practical. By J. Percival, M.A. Cantab., F.L.S. 1900. Price 7s. 6d. net.

IVINGSTONE, E. & S., Edinburgh.
The Conservative Treatment of Tubercular Joint-Diseases and Cold-Abscess as carried out by Professor J. von Mikulicz, L.L. Edin. By Dr. A. Henle. Translated by C. W. Cathcart, F.R.C.S. 1900.

NGMANS, GREEN, AND CO., Paternoster-row, London.
A Manual of Surgical Treatment. By W. W. Cheyne, M.B., F.R.C.S., and F. F. Burghard, M.D. Lond., F.R.C.S. In six parts. Part 3. 1900. Price 12s.

ACMILLAN AND CO., London.
Diseases of the Genito-Urinary System: a Thorough Treatise on Urinary and Sexual Surgery. By E. Fuller, M.D. 1900. Price 21s. net.
The Medical Diseases of Childhood. By N. Oppenheim, M.D. Illustrated. 1900. Price 21s. net.

DENBOURG, R., Munchen.
Taschenbuch der Mikroskopischen Technik. Von Dr. A. Böhm und Dr. A. Oppel. 1900.

Bland, M.D.,
Illustrated.

Reports from the Laboratory of the Royal College of Physicians, Edinburgh. Edited by John B. Tuke, M.D., and D. N. Paton, M.D. Vol. viii. 1900.

HUMAN AND CO., Shaftesbury-avenue, London.
The International Text-book of Surgery. Edited by A. P. Gould, M.S., F.R.C.S., and J. C. Warren, M.D., LL.D. Vols. I. and II.
A. C. Cushny,
Edited by
for two vols.,
or single vol. 17s. net.
Formulary for the Treatment of Diseases of Children.

SAN
York City. Vol. xix. 1900. Price 30s.

SPRINGER, J., Berlin.
Mikroskopie und Chemie am Krankenbette. Von Dr. Hermann Lenhartz. 1900.

STATE HOSPITALS PRESS, Utica, N.Y.
The Archives of Neurology and Psychopathology. Vol. ii. Nos. 3 and 4. 1900.

UNWIN, T. FISHER, Paternoster-square, London.
The Century Invalid Cookery Book. By Mary A. Boland. Edited by Mrs. Humphry. Price 1s.

Magazines, &c., for June: Strand Magazine, Boy's Own Paper (with Summer Number), Girl's Own Paper (with Summer Number), Leisure Hour, Sunday at Home, Ludgate Magazine, Westminster Review, Contemporary Review, Friendly Greetings, Myra's Journal, Pall Mall Magazine, Windsor Magazine, English Illustrated Magazine, Knowledge, Humanitarian, Wide World Magazine, New Century Review, North American Review, Cornhill Magazine.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ANDERTON, W.B., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed Resident Assistant Medical Officer for the Crumpsall Workhouse, Township of Manchester, vice A. T. Sissons.

BEGGS, J. E., M.D. Camb., D.P.H., has been appointed Medical Officer for the Grove Hospital, Metropolitan Asylum District.

BENNETT, W. F. COCKAYNE, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., L.S.A. Lond., has been appointed House-Surgeon to the Staffordshire General Infirmary, vice F. W. Bonis, resigned.

BROWN, R. B., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer of Health for the Howdenshire Sanitary District.

BROWNE, B. S., L.R.C.P., L.R.C.S. Edin., has been re-appointed Medical Officer of Health by the Alcester District Council.

COOPER, W. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of the Abbey Homes, Kendal Union.

CURTISS, W. S., M.R.C.S., L.R.C.P., has been appointed Resident Medical Officer to the Ida Hospital, Leeds.

DICKINSON, THOMAS VINCENT, M.D., M.R.C.P., has been appointed Honorary Assistant Physician to the Italian Hospital, Queen-square, London, W.C.

DUNLOP.—J. G., M.B., C.M. Glasg., has been appointed Medical Officer for the Lincoln Workhouse.

EVANS, T. J., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Third Sanitary District of the Llandovery Union.

FAIRFAX, E. W., M.B., Ch.M. Sydney, has been appointed Clinical Assistant to the Chelsea Hospital for Women, Fulham-road, London, S.W.

FORSTER, FREDERICK C., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Resident Medical Officer to the Royal United Hospital, Bath.

FORSTER, R., L.S.A., has been appointed House Physician to the General Infirmary at Leeds.

GORDON, J. J., L.R.C.P., L.R.C.S. Edin., M.R.C.S., has been appointed Medical Officer for the Sidney-road Homes, Hackney Union.

GRIFFITH, A., M.D. Lond., has been re-appointed Medical Officer for Hove and Superintendent of the Sanatorium.

HILDYARD, R. LOXHAM, M.R.C.S., L.S.A., has been re-appointed Medical Officer for the 2A and 2B Districts of the Langport (Somerset) Board of Guardians.

JONES, C. W., M.B., C.M. Edin., has been appointed Medical Officer of Health by the Hale Urban District Council.

JONES, F. S., M.B., B.S. Durh., F.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Prittlewell Sanitary District of the Rochford Union.

LUCKHOFF, J., M.B. Edin., has been appointed House Physician to the General Infirmary at Leeds.

MACKAY, J. D., M.B., C.M. Edin., has been re-appointed Medical Officer of Health by the Knaresborough District Council.

MAIDLOW, W. H., M.D., B.S., F.R.C.S., has been appointed Medical Officer of Health for the Ilminster (Somerset) Urban District.

MESSITER, A. F., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Epworth Sanitary District of the Thorne Union, vice H. W. Pullan, resigned.

MITCHELL, A. M., M.D. Camb., D.P.H., has been appointed Medical Officer of Health for the Borough of Guildford, vice J. Morton.

MORRISON, W. H., M.B., Ch.B. Vict., has been appointed House Surgeon to the General Infirmary at Leeds.

MORTON, S. ERNEST, M.R.C.S., L.R.C.P., has been appointed Assistant Honorary Medical Officer to the Children's Hospital, Sheffield.

MUNDEN, CHARLES, M.R.C.S., L.S.A., has been re-appointed Medical Officer for the Third (C) District by the Langport (Somerset) Board of Guardians.

MURRAY, ALLEN, has been appointed a Public Analyst under the Food and Drugs Act for Cardigan.

PURSLOW, C. E., M.D., M.R.C.P. Lond., has been appointed Ingleby Examiner in the University of Birmingham.

RODDIS, T. D. E., M.B., C.M. Edin., has been appointed Medical Officer for the Snettisham Sanitary District of the Docking Union, vice J. W. Hopkins, resigned.

SADLER, BERNARD F., L.D.S. R.C.S. Eng., has been appointed Dental Surgeon to the Burton-on-Trent Infirmary.

SHEEN, A. W., M.D. Lond., F.R.C.S. Eng., has been appointed Honorary Surgeon to the Cardiff Infirmary.

SNAPE, LLOYD, has been appointed a Public Analyst under the Food and Drugs Act for Cardigan.

STEWART, A. H., M.B., C.M. Glasg., has been appointed Medical Officer for the Eighth Sanitary District of the North Bierley Union.

TELLING, W. MAXWELL, M.B., B.S. Lond., has been appointed Resident Medical Officer to the General Infirmary at Leeds.

THORNTON, R. G. C., M.B., B.Ch. Irel., has been appointed Medical Officer for the Second Sanitary District of the Wellington (Salop) Union.

Vacancies.

For further Information regarding each vacancy reference should made to the advertisement (see Index).

ANCOATS HOSPITAL, Manchester.—Resident Junior House Surgeon. Salary £50, with board and washing.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL, Woodchurch-road, Birkenhead.—House Surgeon for twelve months. Salary £100 per annum, with board, residence, and laundry.

BOOTLE HOSPITAL, Liverpool.—Junior Resident Medical Officer. Salary £80.

BOROUGH HOSPITAL. House Surgeon. Salary £75 a year.

BRISTOL ROYAL HOSP. WOMEN.—House Surgeon. Salary £120 per annum, with rooms and attendance (not board).

CARDIFF INFIRMARY.—Assistant House Physician for six months. Salary at the rate of £50 per annum, with board, washing, and apartments.

CARLISLE: arried. Salary House Surgeo board). Apply to the Hon. Sec., 23, Lowther-street, Carlisle.

CARMARTHEN UNION.—Medical Officer and Public Vaccinator, to reside at Conwil, for the Conwil (a Welsh) District. Salary £60, with certain extra medical fees. Applications to the Clerk, 7, Hall-street, Carmarthen.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Pathologist. Tenable, subject to annual re-appointment, for not more than three years. Also Clinical Assistant. Tenable for three months on payment of 8 guineas.

CORPORATION OF BIRMINGHAM—CITY HOSPITAL, Lodge-road.—Assistant Medical Officer. Salary £120 per annum, with board, residence, &c.

CORPORATION OF MANCHESTER.—MONSALL FEVER HOSPITAL.—Third Medical Assistant for one year. Salary £100, with board and lodgings. Applications to the Chairman of the Sanitary Committee, Public Health Office, Town Hall, Manchester.

COUNTY ASYLUM, Gloucester.—Locum Tenens for about three months. Salary £3 3s. per week, and all found but liquors.

CRAIGLEITH POORHOUSE AND HOSPITAL, Edinburgh.—Medical Officer, resident. Salary £100 per annum, with board and apartments. Apply to the Clerk, Parish Council Chambers, Castle-terrace, Edinburgh.

CUMBERLAND AND WESTMORLAND ASYLUM, Garlands, Carlisle.—Locum Tenens. Terms 3 guineas per week, with board and residence.

DENBIGHSHIRE INFIRMARY, Denbigh.—House Surgeon for 12 months. Salary £80, with board, residence, and washing.

DEVONSHIRE HOSPITAL, Buxton, Derbyshire.—House Surgeon and Assistant House Surgeon for twelve months. Salary of House Surgeon £100 per annum. Assistant House Surgeon £50, with furnished apartments, board, and washing in both cases.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY, Dumfries.—House Surgeon. Salary £50 per annum, with board and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, Bloomsbury, London.—House Surgeon for six months, unmarried. Salary £20, with board and residence in the hospital. Also House Physician for six months, unmarried. Salary £20, with board and residence in the hospital.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary £85.

LINCOLN COUNTY HOSPITAL, Lincoln.—Assistant House Surgeon for six months. Honorarium for that period £25, with board, residence, and washing.

LIVERPOOL STANLEY HOSPITAL.—Junior House Surgeon. Salary £70, with board, lodging, and washing.

LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY, Loughborough.—Resident House Surgeon. Salary £100 per annum, with furnished rooms, attendance, and board.

MEDICAL MISSION HOSPITAL (SETTLEMENT OF WOMEN WORKERS), Canning Town.—Female Resident Medical Officer. Salary £100, with board and furnished apartments. Apply to the Hon. Secretary, Miss C. Spicer, Montclair, Woodford Green, Essex.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Junior Medical Officer for six months. Salary at the rate of £60 per annum, with board, attendance, and washing.

NEW HOSPITAL FOR WOMEN, 144, Euston-road, London.—Fully qualified Medical Woman as Resident Obstetric Assistant, to take charge of the Maternity Department.

NORFOLK AND NORWICH HOSPITAL, Norwich.—Assistant House Surgeon for six months. Honorarium £20, and board, lodging, and washing.

NORTHAMPTON GENERAL INFIRMARY.—House Surgeon, unmarried. Salary £125 per annum, with furnished apartments, board, attendance, and washing. Also Assistant to the House Surgeon for six months. Board, lodging, and washing provided, and an honorarium of £25 given.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, London.—House Surgeon for six months. Salary at the rate of £80 per annum, with board, residence, and laundry. Also House Physician for six months. Salary at the rate of £80 per annum, with board, residence, and laundry. Apply to the Secretary, City Office, 27, Clement's-lane, Lombard-street, E.C.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £140 per annum, all found except board.

OLDHAM INFIRMARY.—Senior House Surgeon. Salary £85 per annum, with board, washing, and residence.

PARISH OF FULHAM.—Second Assistant Medical Officer at the Infirmary, Fulham Palace-road, W., for six months. Salary at the rate of £60 per annum, with board, furnished apartments, and washing.

PONTEFRACT GENERAL DISPENSARY AND INFIRMARY.—Resident Medical Officer. Salary £150 per annum, with furnished rooms, fire, lights, and attendance.

QUEEN'S HOSPITAL, Birmingham.—House Physician and House Surgeon for twelve months. Salary £50 per annum, with board, lodging, and washing.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House Surgeon. Salary £60 a year, with board, lodging, and washing.

ROYAL BERKS HOSPITAL, Reading.—House Surgeon. Salary £60 per annum, with board, lodging, and washing. Also Assistant House Surgeon. Salary £50 per annum, with board, lodging, and washing. Both appointments for one year.

ROYAL DEVON AND EXETER HOSPITAL, Exeter.—Junior Assistant House Surgeon for six months. Salary at the rate of £80 per annum, with board, lodging, and washing.

ROYAL HALIFAX INFIRMARY.—Third House Surgeon, unmarried. Salary £50 per annum, with residence, board, and washing.

SALOP INFIRMARY, Shrewsbury.—Assistant House Surgeon for six months. Salary at the rate of £40 per annum, with board and washing

SCARBOROUGH HOSPITAL AND DISPENSARY.—Junior House Surgeon for six months. Salary at the rate of £50 per annum, with residence, board, and washing.

SEAMEN'S HOSPITAL SOCIETY, Greenwich, S.E.—Honorary Anæsthetist for twelve months.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon for six months. Honorarium at the rate of £50 per annum, with residence, board, and washing.

Salary £20 per annum,

se-street, Stepney, E.—
ary £120, with furnished

Office for the
ol. Salary £100
&c. Subject to
lerk, Brougham-

WEST HAM HOSPITAL, Stratford, E.—Junior House Surgeon for one

leductions. Applications to the
Woolwich

Births, Marriages, and Deaths.

BIRTHS.

BENNETT.—O
of Colin
EDKINS.—On
hill road,

H
ing
e of
G
of

WALKER.—On May 26th, at The Towers, Wakefield, the wife of Frederick Walker, L.R.C.P. Lond., M.R.C.S., of a daughter.

WEEKES.—On May 25th, at Mansion House, Old Brompton, Chatham, the wife of H. Holman Weekes, M.D., M.R.C.S., L.R.C.P. Lond., of a son

MARRIAGES.

BOND—LAURIE.—On May 12th, at Holy Trinity Church, Worcester Charles Hubert Bond, M.D., D.Sc., the Heath Asylum, Baldwyn's-park, Bexley, to Janet Constance, the only daughter of Fred R

DE

GOODSON—WATKINS.—On the 16th inst., at the parish church of St. Pancras, London, by the Rev. W. Mirrielees, William Henry Goodson, M.R.C.S. Eng., L.R.C.P. Lond., of Buxton Villas, Leytonstone-road, Stratford, Essex, to Alice Mary, youngest daughter of the late John Watkins, of Hainsker, Chichester, Sussex.

HUNT—STRANACK.—On May 10th, at Saint Paul's Church, Matheran, Bombay, Edward Lewis Hunt, M.R.C.S., L.R.C.P., of Dorset square, London, to Daisy Beryl May, daughter of F. D. Stranack, of Bombay.

DEATHS.

ham Gimson
nts' Church,

ch. Martin

erbury, New
R.C.P. Edin.,

ateen, S.E.

SHIRTLIFF.—On May 25th, at Newlands, Ryde, Isle of Wight, Edward Matthew Shirtliff, M.D., aged 65 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE DEGRADATION OF CONSULTATION.

THE following two advertisements occur next to each other in the columns of a Birmingham paper, and the juxtaposition seems to us to warrant our describing the Consultative Medical and Surgical Institution of Birmingham as calculated to bring medical consulting into disrepute —

POLYPATHIC MEDICAL INSTITUTE, 109, HAGLEY ROAD, EDGBASTON, BIRMINGHAM.

All Chronic Diseases treated on improved and progressive principles This, together with our perfect system of diagnosis, makes a complete and successful treatment

INSTITUTES IN ALL CIVILISED COUNTRIES.

Where more capital is invested a larger staff employed, more patients treated, more cures made than by any other known system, and where in the scientific examination and cure of all long-standing diseases and deformities their system has, so far, no equal.

FREE TESTS WITH THE POLYPATHS is offered from May 1st to July 1st, and all who call during these months and took for treatment will receive CONSULTATION, ADVICE, EXAMINATION, and ABSOLUTE TREATMENT OF ALL CURABLE DISEASES FREE OF ALL EXPENSE. Medicine only to be paid for. Hours of Attendance—10 a.m. to 1, 2 p.m. to 4, Evenings, 7 to 9

The POLYPATHIC COURSE OF LECTURES EVERY THURSDAY, at MASONIC HALL. Afternoons at 3 o'clock (Ladies only), Evenings (Men only), 8 p.m.

To all Lectures in our Educational Work Admission is FREE. All Seats are Free. No collection.

THE CONSULTATIVE MEDICAL AND SURGICAL INSTITUTION, BIRMINGHAM.

OBJECTS

To LESSEN the STRAIN UPON HOSPITAL CHARITY by PROVIDING, on terms within and under conditions suitable to their pecuniary means and position, MEDICAL and SURGICAL AID to those who would otherwise seek it gratuitously, or be unduly taxed by paying the usual consultation fees

COMMITTEE.

Arthur Chamberlain, J.P. (Chairman), Messrs John Bedford, Alderman Cook, J.P., George Cowley, H. A. Garner, George Hookham, J.P., J. S. Nettlefold, J.P., W. T. Sneed ey, and J. L. Tough

Consulting Rooms Cornwall Buildings, Newhall Street.

HOURS OF ATTENDANCE.

10 a.m. to 12 noon, 1 p.m. to 4 p.m., 6 p.m. to 8 p.m. Saturdays, 10 a.m. to 12 noon, and 1 p.m. to 4 p.m. only Sundays No attendance

CONSULTING FEE, Half a guinea

THIS INSTITUTION WILL BE OPEN TO THOSE IN NEED OF MEDICAL ADVICE TO-DAY (MONDAY) THE 21st INSTANT.

When the Birmingham Consultative Medical and Surgical Institution was started it was proposed, if we remember right, to pay two "consultants" £500 per annum and place the rest of their earnings, estimated at £3000 per annum, to the credit of the institute. Such a project for exploiting the earnings of medical men could only be regarded by us with the disfavour with which we regard the action of most medical aid associations. Nor are the medical profession the only persons wronged under the scheme The public are led to believe that a surgeon or a physician becomes a "consultant" by simply calling himself so We do not imply for a moment that the medical officer to the institution is other than an entirely capable man and a man of large experience; but the possession of these qualities does not at once constitute him a consulting physician and surgeon, or excuse the institution for selling his services to the public in such a capacity.

A HERBALIST FINED.

OUR readers will remember that in THE LANCET of Jan. 27th we published a letter from a correspondent who had been called in too late to see a patient whom he found dead. The patient had been attended by a man named Purdue, *who gave the letters M.C.S.H.* after his name An inquest was held upon the case and the jury returned a verdict of "Death from natural causes" At the beginning of February it came to the knowledge of the medical officer of health of Limehouse that Purdue had been attending sundry cases of diphtheria Purdue had sent in the usual notification form to that effect. The Limehouse District Board came to the conclusion that something must be done and after some time it was found that the only body which could take any proceedings was the Society of Apothecaries and accordingly the [illegible] thought fit

the Bow County Court on May 23rd, before Judge French and a jury, in which the Society of Apothecaries sought to recover from Mr. Purdue the penalty of £20 which he had incurred by practising and prescribing as a qualified medical man. Mr. Lane appeared as counsel for the plaintiffs and Mr. Young was counsel for the defendant.

Mr. Lane, having explained the legal position of the Society of Apothecaries, went on to say that he did not disguise from the jury the fact that the Society for which he appeared considered the present case a most grave and serious one and one in which it was their [illegible] proceedings. Purdue appeared to prac[illegible] He had a shop in Limehouse, but he had no qualification of any kind. In February last a man named [illegible] ne of them ill [illegible] and asked for [illegible] Now, if the defendant had simply supplied that wine nothing more would have been heard of the matter. But the defendant asked Jeffery what was the matter with the child, and Jeffery told him the symptoms as far as he knew, whereupon the defendant said, "I will come round and see it." He went round and examined the child, and finding the throat sore he syringed it, adding, "I have got some medicine at my shop which will do your child good." He subsequently attended the child, declared it to be suffering from diphtheria, and supplied it with medicine, for which he received fees.

Mr. Jeffery deposed to having gone to Purdue's shop. If he had known that the defendant wa [illegible] proper medical man when he [illegible] from diphtheria. The defendant told him that he would have to report the case to the sanitary authorities.

Mr. Daniel Lewis Thomas, medical officer of health of the Limehouse District, deposed that on Feb. 5th last he received notice from the sanitary clerk of the fact that there were some cases of diphtheria at Jeffery's house. The notice came on [illegible] was usual for these notices to be sent in [illegible] they came across infectious cases. One [illegible] query as to whether the case notified [illegible] notifier's private practice, and this was filled up by the defendant with the words, "private practice." He signed himself "J. C. Purdue, Fellow of the Council of Safe Medicine, London." He went to Jeffery's house and found four children suffering from diphtheria. They were all in one room and the mother was also there. Diphtheria took three days to appear fully, and the proper treatment was to administer antitoxin on the first or second day.

John Charles Purdue was then called. He said that he lived at Galt-street, Limehouse, where he had carried on business for three years as a herbalist. He had also prescribed as a herbalist in the City of London. He had been a herbalist for 20 years altogether. On a Saturday night in February, at about 12 o'clock, Jeffery came to him and said that his child was very bad. It seemed to have an obstruction in the throat and he was frightened it would choke. He offered then to go with him and see the child. Nothing was said about medicine at that time. He saw the child and syringed the throat. Next morning, between nine and ten o'clock, Jeffery again came to his shop and said that the child was still very bad, and he went again with him to see the child. He told Jeffery that his child was suffering from diphtheria.

The Judge: But why didn't you tell the people on the Saturday night to call in a doctor?

Witness. Because I knew that nobody could improve on my treatment.

The Judge. Have you passed any examination connected with your practice?

Witness. I had to be examined before I got my diploma from the Council of Safe Medicine.

The Judge: That is, your Herbalists' Institute.

Witness: Yes; it was registered by the Board of Trade in 1893.

The Judge: Registered in the same way as any limited liability company is registered.

Mr. Lane pointed out that the labels on defendant's bottles contained the inscription, "J. C. Purdue, F.C.S.M., London."

The Judge: The defendant admits that he acted as a doctor and that he did not attempt to call in anyone. What else can be said?

Mr. Young said he proposed to address the jury on the question of law. By an Act of Parliament of Henry VIII., 34, 35, a herbalist was entitled to practise so long as he did not infringe the rights of apothecaries by dealing with cases which were not covered by the Act.

The Judge Is diphtheria covered by the Herbalists Act?

Mr. Young maintained that it was, inasmuch as one of the cases which herbalists were allowed to deal with under the Act was "sores." One of the symptoms of diphtheria was sore-throat and hence that would come under the definition of sores. He submitted that the defendant had not infringed the Apothecaries Act in any way.

The jury discussed together for some time without arriving at a decision

The Judge reminded them that no personal consideration as to whether or not the defendant had acted wisely or humanely must influence their verdict. The simple question for them to decide was whether the defendant attended as an apothecary.

The jury thereupon returned a unanimous verdict for the plaintiff.

Judgment was thereupon given for the Apothecaries Society, with costs.

This case is eminently satisfactory as far as it goes, but the whole system of unqualified practice in these islands is very far from satisfactory. Granted that unqualified practice or the sale of quack remedies will never be made illegal, we cannot see why vendors of quack remedies or advertising quacks should not be made to pay a far more expensive licence for their trade [illegible] stamp. No one may sell tobacco without a [illegible] does not imply any guarantee as to th [illegible] article sold. If persons of the Purdue type had to pay £300 a year for a licence or the proprietors of Bodger's Blue Boluses had to pay the same for the right to sell their stuff the deceitful trade would soon be a thing of the past. [illegible] is useless, and, despite t [illegible] fancy, taken to mean th [illegible]

DRUG-HABITS.

To [illegible]

SIRS,—I would like [illegible] profession to what is surely an evil—viz., t [illegible] victims of drug habits in emergency cases. Whenever one of these unfortunates finds himself in an accident ward or a police-station his customary drug is immediately stopped. This is inflicting unnecessary torture and agony. With the chronic alcoholic it is bar [illegible] and cocaine *habitué* it is [illegible] rol of the nerve centres is [illegible] from 10 or more grain [illegible] a position [illegible] btain [illegible] tuned in th [illegible] tres [illegible] years inhib [illegible] stin [illegible] suddenly withdraw this inhibition, &c., is to let nerve storms rampant and to throw the whole working harmony of the organs out of tune, producing intense suffering and agony, as once described to me as "living hell." The victim either becomes insane, collapses, or sinks into extreme neurasthenia. Now, the proper and humane treatment is to give the drug in gradually diminishing doses, and not to totally withdraw it. There is too much prejudice among the profession and the moral is too often enforced at the expense of the victim. In such cases as these drug *habitués*, who are as helpless as babes in the grip of the tyrant, the medical man should think of the suffering and perhaps death that may follow sudden withdrawal.

I am, Sirs, yours faithfully,

ARTHUR A. COTTEW, L.R.C.S. Irel., L.R.C.P. Edin., &c.

Portslade, Sussex, May 27th, 1900.

WANTED—A HOME.

To the Editors of THE LANCET.

SIRS,—Can your readers tell me of any home where an officer's wife (who is very badly off) can be surgically treated for uterine disease free of cost?

I am, Sirs, yours faithfully,

May 25th, 1900. PAT.

TWO QUERIES.

To the Editors of THE LANCET.

SIRS,—I shall feel obliged if any of your readers can inform me where I may obtain the following:—1. Albert Smith's "Physiology of the London Medical Student." 2. Report of the Royal Commission on the Utility of Experiments on Animals, 1876.

I am, Sirs, yours faithfully,

May, 1900. MIZPAH.

* 1. Albert Smith's "Physiology of the London Medical Student" was originally published in *Punch* and was afterwards, we fancy, issued as a small book. Our correspondent might apply at *Punch* office or write to a second-hand bookseller. 2. Messrs. Eyre and Spottiswoode could doubtless supply the report if there are any copies left in stock.—ED. L.

THE SEWERAGE OF RYE.

To the Editors of THE LANCET.

SIRS,—On the east side of Rye harbour, Sussex, hundreds of tons of fish are caught every summer and sent to London. The fish are caught in stake nets and are taken out at low water. The longest of these nets goes seawards about a mile. The ground on which these fish are caught is a flat sand and the tide ebbs about a mile. The shore is converted into the famous Rye golf links and is also a favourite place for bathing for children and people who cannot swim. A long stone pier runs out on the east side of the harbour, but it is not high enough and the tide runs over it as well as past it. The set of the ebb stream is to the east, with great force, against and over the wall. The fact that most of the refuse is carried on to the Camber sands is proved by the number of dogs and cats, buoys that have got adrift, &c., that are often strewn along this shore. It is proposed to turn the sewage of Rye harbour into the sea. If so it will mean serious danger to London and other places. Owing to the tons of fish sent away Rye harbour needs a good water-supply. In the tideway on this coast the change of the direction of the stream does not take place at high and low water, as it does in most places, but at half flood and half ebb. The consequence is that no sewage can be carried away. The first three hours of the flood is to the east and the rest to the west, so the sewage would only be washed about, dry on the burning flat sands, and dust, &c., would be blown ashore, and over the fish in the nets. Mr. Moss Flowers, C.E., says the drainage of Rye harbour is a very simple matter. Well, it is easy enough to turn sewage into the water, but not to get rid of it. I believe if Mr. Moss Flowers had stood on the shore three miles west of Rye harbour that he would have formed an opposite opinion. The

Dungeness stretches out
true tides. It is about
but lots of things out of
coast. Surely, it is folly
to turn sewage right on to a fishing and bathing ground.

I am, Sirs, yours faithfully,

May 29th, 1900. VIATOR.

PS.—The people who understand these things are fishermen, not engineers. Turning sewage into the sea is an abomination on this coast.

"APOMORPHINE AS A HYPNOTIC."

SIRS,—Mr.
of May 19th,
phine in ce
that emesis
attention to
poisoning (either injected or taken by the mouth). I think this fact cannot be too widely known in view of cases of poisoning complicated with previous injection of alcohol.

I am, Sirs, yours faithfully,

Cheltenham, May 26th, 1900. C. E. ABBOTT, M.R.C.S. Eng.

During the week marked copies of the following newspapers have been received: *Leicester Daily Post, Lancashire Daily Post, Clifton Chronicle, Daily Mail (London), Westminster Gazette, Gainsborough Leader, Sun (London),*

Celt (Cavan), Madras Times, Walsall Advertiser, Weekly Free Press and Aberdeen Herald, Tunbridge Wells Standard, Nuneaton Observer, Highland News (Inverness).

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 31st, 1900.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind.	Rain fall.	Solar Radia in Vacuo	Maximum Temp Shade	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
May 25	29.95	N.W.	0.05	110	64	47	50	54	Cloudy
" 26	30.20	NNE	...	100	64	48	47	49	Overcast
" 27	30.23	S.W.	...	115	74	47	55	60	Fine
" 28	30.20	S.W.	...	115	71	55	55	58	Overcast
" 29	30.29	N.W.	...	114	70	52	52	59	Fine
" 30	30.30	N.	...	107	66	49	49	53	Overcast
" 31	30.25	N.E.	...	83	58	49	49	53	Overcast

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (4th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (5th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), West-

(2 P.M.), Re
(3 P.M.), St.
St. George's
pædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (3 P.M.), Cancer (2 P.M.)

TH

FRIDAY (8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's

SA

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Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

WEDNESDAY (6th).—OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimens will be shown. Paper:—Mr. A. Doran (President): A Case of Extra-uterine Gestation in which Fatal Death occurred at the Eighth Month after Spurious Labour, Abdominal Section two months later.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

TUESDAY (5th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. W. Ewart: Consultation.

AND POLYCLINIC
linical Lecture.
4.30 P.M. Mr.
hildren. (Post-

THE CHEST
of the Circula-

AND POLYCLINIC
Pinch: Class.
Mr. J. Hutchin-

London Hospital,
to Eye:
Medical Case.

AND POLYCLINIC
sultation. (Bar.)

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Two Clinical Lectures

ON

PRIMARY SYPHILITIC CHANCRES.

Delivered at the London Hospital on Feb. 16th and March 2nd, 1900,

BY JONATHAN HUTCHINSON, JUN.,
F.R.C.S ENG., &c.,
SURGEON TO THE LONDON HOSPITAL, ETC.

LECTURE II.[1]

Delivered on March 2nd, 1900.

GENTLEMEN,—With regard to the bubo that accompanies primary syphilitic chancres, in the last lecture we noted that out of 125 cases of which I had careful records it was not absent in a single one, and that in only two out of the 125 cases had it the unusual characters of suppuration or of inflammation. The characters of the bubo are really in many cases of greater diagnostic value than are those of the actual sore. It has been said that sometimes the bubo is absent, and some French observers have estimated that in about three per cent. the glands are not appreciably enl
The
ver
acc
is,
seaso
personally adduce in favour of a belief that sometimes the nearest
syphiliti
large h
lymphe
examined during the four weeks
had been noticed, and no enlargement whatever of the inguinal glands could be detected during the whole of this time. He was not at all a stout subject. I regret
and therefore
I mention it merely
the belief that
the bubo is sometimes entirely
syphilitic chancres. On the
asserted that sometimes there
out any primary sore, the so-cal
I believe in, though it is exce
there is a fallacy, with regar
the primary sores are very easi
a primary syphilitic chancre, as a rule, will persist (unless diagnosed and properly treated) for weeks and even months, there are some primary syphilitic sores which are quite insignificant and which very soon spontaneously heal leaving no trace behind. As will be readily understood, in women it is often difficult to find the primary sore. One often comes across cases of secondary syphilis in women in whom no history of a sore or evidence of a bubo can be found. Some of these cases are accounted for by the chancre being on the cervix uteri, in which case the bubo will be within the abdomen. The vaginal wall is not a common site for chancres, but the cervix uteri is more often affected and I
the typical syphilitic bubo,
glands—sometimes only the
innermost of them, sometimes the more central ones, occa-
sionally the highest glands of the vertical femoral set—are enlarged. Some of the lymphatics of the penis and scrotum can occasionally be dissected out into the upper glands of
forming what has been observed
situated on the opposite side
sore being on the right side of
be on the left side owing to the crossing of the lymphatics. As you know, the inguinal glands may be swollen first on one side and then after a time those of the opposite side become also affected. Enlargement of the inguinal glands may develop during the secondary stage as part of the general adenopathy. For instance, you may see a case of chancre of the lip in which the inguinal glands are enlarged, due to general infection through the blood-stream.

A few words as to what may be termed the giant bubo; and the following case may be quoted since it illustrates many points of interest in connexion with syphilis. A young man, aged twenty-two years, florid and healthy-looking, with a good family history (though phthisical tendencies were not excluded from it), contracted a chancre on his lower lip in October, 1894. He went to a medical man, but it was not until January, 1895—that is to say, four full months afterwards—that the syphilitic nature of the sore was recognised and the proper treatment instituted. There were then large buboes of both sides of the neck. He took mercury for only three months, and then irregularly, so that one would say that the treatment was very imperfect. He came to me in November, 1895—that is to say, over a year since the contraction of the syphilis. The site of the chancre was then conspicuous, and he still had a huge bubo on each side of
threatened to
of tuberculous
re syphilitic I
and made him
rub in oleate of mercury ointment. After a time both tonsils became ulcerated and had to be cauterised with nitrate of silver, sulphate of copper, &c., but the bubo did not disappear. He was markedly anæmic from the first, and though he had no cough and no signs of mischief
thinking that it might
syphilitic patient. Iron
ry, and at length, after
or nearly two years after
subsided without breaking
down at all. I must admit that at one time I was inclined to advise him to have them excised, believing that they were in part tuberculous. But they all went down, so one may be certain that it was a case (and a very unusual one) of syphilitic adenopathy. In September, 1896, at the end of two years after infection, and after nine months of steady treatment by mercury, he came again with painful synovitis of the knees. This subsided under iodide of potassium and mercury and cod-liver oil, leaving no trace behind. In March, 1897, at the end of two and a half years after infection, he was florid and healthy again, and there was no trace of enlargement of the glands. He still showed an interesting symptom, that of recurrent induration at the site of the chancre in the lower lip, which soon yielded to
This illustrates, first, the danger of overlooking a
chancre—for it was four months before the right
was made; secondly, the difficulty in getting the
such a neglected
buboes, their slow
but complete yielding to treatment, the occurrence of relapsing induration at the site of the sore; and, finally, the coincidence in the same subject of symmetrical syphilitic joint-disease and syphilitic disease of the lymphatic glands.

Although syphilitic joint disease and syphilitic gland disease are both rare—I am not thinking of primary buboes, but tertiary syphilitic gland disease—there is a strong tendency for both to occur in the same individual. Now is not this of extreme interest in comparing syphilis with tubercle? In tubercle disease of lymphatic glands and disease of joints are two of the main symptoms, and it is so with syphilis. If you look up the literature you will find many cases recorded in which a patient who has had tertiary syphilitic gland disease subsequently has syphilitic arthritis, or *vice versa*. The case which I have just narrated raises the question, which is discussed from time to time, Is syphilis which is contracted from congenital chancres more severe than that which is contracted from the ordinary primary chancres on the genitals? The answer is a very simple one. The reason why these cases often seem to be more severe than those following genital chancres is simply that the nature of the sore is overlooked. They are exceptional cases in this, that for perhaps two, four, or six months the nature of such a sore is not diagnosed, the patient, therefore, has no treatment, the virus gets a thorough hold on the system (if I may use the term) and one knows that in these cases of severe primary and secondary syphilis with much delayed treatment you will have more difficulty in overcoming the virus, and the later symptoms will probably be severe.

[1] Lecture I. was published in THE LANCET of June 2nd, 1900, p. 1570.

black-wash are excellent applications for venereal sores. [illegible] soft chancres I believe [illegible] carbolic acid, with which [illegible] as there is not much pain [illegible] up rapidly. The treatme[illegible] cases I believe it prevents the [illegible] If, and as soon as, your diag[illegible] one of primary syphilis, giv[illegible] which will cause the induration to melt away so rapidly as the internal use of m[illegible] [illegible]cision in doubtful cases I could [illegible] excision has proved quite useless, although it has been done [illegible] few days of contagion.

A word, in conclusion [illegible] of primary sores. Be [illegible] statements. They often [illegible] primary sores, and, of [illegible] have elapsed they forget all [illegible] You will learn to distrust the statements of patients as to the [illegible] occurrence of venereal sores in the dim and distant [illegible] Some [illegible] the patient [illegible] certai[illegible] could have been [illegible] vener[illegible] suspicion." If a man [illegible] that he is above susp[illegible] You probably know Sir Peter Teazle's [illegible] in general; if you do not know it I will not spoil your pleasure in looking it up.

Two Clinical Lectures

ON

THE USE OF MASSAGE IN RECENT FRACTURES AND OTHER COMMON INJURIES.

Delivered at St. George's Hospital on Jan. 30th and Feb. 27th, 1900,

BY WILLIAM H. BENNETT, F.R.C.S. ENG.,

SURGEON TO ST. GEORGE'S HOSPITAL; MEMBER OF THE COURT OF EXAMINERS, ROYAL COLLEGE OF SURGEONS OF ENGLAND, ETC.

LECTURE II.[1]

Delivered on Feb. 27th.

GENTLEMEN,—In my previous lecture the expiration of the time at my disposal compelled me to omit any mention of two varieties of fractures of considerable importance from the point of view of the treatment by immediate massage—viz., fracture of the patella and of the olecranon. Until recently, as you know, the classical method of treating these fractures was by long confinement in splints or fixed apparatus (the period in the case of fracture of the patella extending sometimes to as much as a year or even more) with the object of obtaining as firm a union between the fragments as possible. Under such circumstances it cannot be considered remarkable that in many cases the difficulty in obtaining free movement at the knee at the end of the splinting period was extreme and that in some cases, indeed, the pain and distress entailed in the necessary treatment were more than the patients could endure. Those of you who have had no experience of the old treatment will get a good idea of the difficulties connected with obtaining subsequent free movement by reading the account which John Hunter gives of his own case. So great, indeed, was the pain sometimes under these circumstances that a certain number of people who had sustained a fracture of the knee-cap rather than bear the pain entailed in getting free movement preferred to remain with the limb more or less stiff. Speaking generally, the stiffness that follows on a fracture of the patella treated upon the old lines depends largely on the fixation of the upper fragment to the anterior aspect of the femur at the time when attempts at movement are commenced—not, of course, by bony ankylosis, but by adhesions which, forming around the margin of the knee-cap, so tighten the soft parts about it that it is sealed to the surface of the femur. In attempting to get movement in [illegible] when treated, as I have said, in the olden way, no [illegible] result could be obtained until the adhesions were [illegible] difficult and painful process which was [illegible]y merely because the parts had been confined so long in splints [illegible] the [illegible] par[illegible] fre[illegible] stretching of the uniting medium. The [illegible] the patella remained, in fact, at first [illegible] and before the exercises had resulted in the breaking-down of the adhesions any [illegible] the expense of the stretching o[illegible] in [illegible] even in such cases so [illegible] ultimately became freely [illegible] the femur a fairly good limb resulted in the [illegible] the absence [illegible] employed the [illegible] upon two points: (1) the amount of laceration of the lateral expansions about the knee at the time of the injury (the [illegible]pansions are ruptured the more strength is [illegible]nt after the fracture); and (2) the amount [illegible] retained by the upper fragment of the patella. If the fragment does not contract inveterate adhesions and finally becomes freely moveable upon the femur a more or less useful limb follows, the strength of the limb, as a rule, then being in inverse ratio to the length of the uniting medium. If, on the other hand, fixation of this upper fragment occurs, then the interference with the mobility and strength of the joint is so great that the patient is greatly crippled.

The first object, then, in a case of a fracture of the patella, whether wiring has been practised or not, is to prevent by constant manipulation any chance of adhesion of the upper fragment to the femur—a treatment which excludes any form of splint which makes the patella inaccessible. This necessity for securing free mobility of the patella is not confined to cases of fracture, but if a rapid and perfect result is to be obtained it should be used in all cases of inflammation of the knee-joint, traumatic or otherwise, liable to be followed by stiffness. This is a point to which reference will again be made.

As I have already said, this method of treatment makes the use of fixed immoveable apparatus impossible, such, for example, as plaster-of-Paris, silicate of potash, and the like. I may at once state that I have no doubt that the sooner these stiff immoveable appliances become obsolete the better it will be in all cases of damage of joints and in the neighbourhood of joints. The stiffness and pain which so often followed in fracture of the patella when treated upon the old lines were much more frequently due to the treatment than to the injury. The best results which follow fracture of the patella when not subjected to the wiring treatment will be obtained by immediate smooth massage and patellar manipulation, followed in a fortnight or earlier by gentle passive movement of the knee. By such means in the majority of instances a useful limb may be expected in three months, all splints being discarded at the end of the first month. It is remarkable how little, if any, stretching of the union occurs in cases treated in this way *when care is taken from the outset to secure free movement of the patella upon the femur.*

The same observations apply with equal weight in the case of fracture of the olecranon. You will find upon examination that in the majority of cases of fracture of the olecranon treated by long-continued immobility in splints the detached fragment of the olecranon is practically fixed to the humerus. I do not mean that it is always fixed by bony ankylosis, but it is connected to the humerus by such strong adhesions that it is very difficult to move it at all. Further, you will find that the utility of the limb in such cases is in direct proportion to the mobility of the detached fragment upon the humerus—in fact, the utility of the limb depends more upon this factor than upon the apparent strength of the union. When the fragment is fixed it will be found upon commencing to bend the joint that movement is obtained not by the gliding downwards of the upper fragment upon the humerus, as should be the case, but by a stretching of the union, the fragment remaining fixed; and in such cases, although flexion may be obtained to a great degree, and sometimes completely, extension power is almost, if not entirely, wanting. So much is this the case sometimes in exaggerated cases that although the patient may be able to semiflex the arm or, perhaps, to flex it completely, if the limb is raised above the shoulder or by the side of the head

[1] Lecture I. was published in THE LANCET of June 2nd, 1900, p. 1569.

the forearm falls down almost as in a paralysed limb, in consequence of the triceps having lost its power from the fixation of the detached olecranon to the lower end [illegible] humerus. If in the treatment of such a case trou[illegible] taken [illegible] detac[illegible] little g[illegible] is prevented and the patient probably recovers with a limb which is practically almost as useful as if there had been no fracture at all—the utility of [illegible] the patella, when the union [illegible] or, indeed, more upon the detached fragment than upon [illegible] uniting medium [illegible] in mind in the la and fracture of under all circum- the patella or of the olecranon becoming adherent to the sub jacent bone. Such adhesion may be prevented by massage and lateral manipulation combined with gentle flexion and extension, during w[illegible] made to move as much as [illegible] of the limb—i.e., with the [illegible]—the lateral movement being the most readily managed and resulting in the least disturbance of the parts generally. 2. All manipulation and passive movement should be preceded by smooth rubbing of the muscles. By this treatment you will in the majority of cases provide the patient with a limb which is useful to an extraordinary degree [illegible] om muscular attachments and expansions. Hence provided you do not adopt this pla[illegible] fixation of a joint after the reduction of a dislocation generally only, because occasiona[illegible] s the muscles to waste, which is tantamount to methods will leave a sound and good limb, but many of the cases so treated are very imperfect both in movement and in power. When the fracture of an olecranon is treated by wiring, screws, or pegs the same cardinal points must be borne in mind. Massage and passive movement cannot be practised too soon nor can the patient be encouraged too soon to use gentle voluntary movement at the elbow-joint.

I may perhaps be allowed a moment's digression here to explain, in order to avoid any misunderstanding, that the remarks which I have just made must not be held to imply that I have any wish to substitute in a general way treatment by massage and manipulation for the operative measures now so commonly employed in fractures of the olecranon and patella. I am second to none in my estimation of the value of these measures; but there must always remain a number of cases which, for reasons which it would be foreign to my present purpose to discuss, are not suitable for operation—some in themselves, some because the patient does not desire operation, and some in consequence of the circumstances in which the practitioner finds himself being not such as to justify his undertaking operative measures. In such cases intelligent massage and manipulation will produce a better result than any other plan, and in many instances will restore the limb to a degree of usefulness which cannot even be excelled by operative treatment.

IMMEDIATE MASSAGE AND MANIPULATION IN DISLOCATIONS.

For the better understanding of the remarks which follow it is necessary to insist upon the following elementary points. If a dislocation be complete in the ordinary acceptation of the term the capsule of the joint must, as a matter of course, be torn, the rent in the capsule being of large or of small extent. The obstacles to the reduction of a dislocation depend comparatively little, as a rule, upon the situation or character of the laceration in the capsule; occasionally only do some of the difficulties met with in attempts at reduction lie with this structure. The real difficulty is for the most part due to muscular contraction—a fact which is amply proved by the manner in which most difficult dislocations will often reduce themselves as soon as the patient is fully anæsthetised. The longer a dislocation remains unreduced the more marked does this contraction of the muscles become and the more difficult is it to remove the bone from its abnormal site. Supposing that a dislocation remains unreduced for five, or six, or eight weeks in a case such as that of the shoulder, physiological shortening [illegible] in consequence a reduct[illegible] means may become prac[illegible] e facts not because I suppose you [illegible] m, but because I wish to emphasise as strongly as possible the importance of muscular [illegible] principal obstacles to re[illegible] [illegible] ally secondary to the con- [illegible] r a most important point to bear in mind that under ordinary circumstances after the reduction of a dislocation the retention of the replaced bone [illegible] ormal site depends not so much upon the state of the [illegible], which in reality has little to do with the matter, as he muscles, aided in certain cases by atmospheric e. In fact, the question of the healing of the rent in the capsule is of small importance compared with that affecting muscle-waste. The capsule will heal equally well whether the joint be kept fixed in splints or whether it be subjected to passive movement from the first. The muscles about the joint, especially those supplied by the same nerves, waste rapidly if the joint be kept fixed for over so short a time and if the fixation be persisted in for long periods this wasting may proceed so far as to be incurable. On the other hand, if massage and passive movement be at once commenced then wasting can be entirely prevented. If the muscles are allowed to waste to any great extent, as you can easily see for yourselves by watching an ordinary case, the whole joint becomes loose and flabby. There is no such thing as a primary tonic condition of the capsule of the joint; the capsule of the joint is a passive structure and has no contractile vitality of any sort beyond that which it [illegible] bringing about the precise conditions leading to recurrent dislocation if attempts to o[illegible]

The effect of even temporat[illegible] duction of adhesions which [illegible] often for long periods, I need hardly, I suppose, impress upon you—although I fancy that if you were to examine a large number of patients who have had dislocations, say of the shoulder-joint, at a long period after the injury, you would perhaps be surprised to find that the percentage of cases in which some stiffness still persists from this cause is considerable. In the practice of the older school of surgeons prolonged fixation of a joint after dislocation was almost universal, the main object being to allow of a firm and rapid union of the rent in the capsule. So much was thought of the value of the healed capsule in retaining the parts in position that the disadvantages of adhesions and muscle-waste were held to be of no account compared with the vital importance of the completely restored capsule. I strongly recommend you to reverse these conditions by concentrating your attention upon measures for the avoidance of adhesions and muscle-waste. Ignore the torn capsule; the rent will heal soundly in spite of any manipulations or [illegible] may be subjected to in treatment. Ingenious [illegible] ct [illegible] a [illegible] he [illegible] en [illegible] te, that looseness of the capsule is secondary to [illegible] which is the real thing to be combated. The only avail- [illegible] avoided in able method by w[illegible] he shoulder, these cases of di[illegible] after the is by massage, [illegible] ing only for reduction of the [illegible] the first two days, after which passive movement follows the massage. *This passive movement may be very free in all directions save that which is in the direction of the muscles which tend to waste. For example, in the case of the shoulder, abduction of the arm from the trunk should not be practised for a week or 10 days after the injury, because the strong action of the adductors, unopposed for the time being by the weakened deltoid, tends to displace the head of the humerus inwards.* For the same reason in the first week no voluntary movements should be allowed, all movements being *passive*. Treated on these lines any dislocation of a major joint—e.g. shoulder or hip—may be cured in from [illegible] ons and with no stiffness [illegible] dislocation will be found [illegible] scle-waste. The cardinal to be [illegible] treatment is in the direction of rectifying [illegible] methodical [illegible] he direction

The beneficial effect of massage in dislocations is not limited to the treatment after reduction; it is sometimes of great use as an aid to reduction. The following case will serve as an illustration of this point. A highly sensitive and nervous lady, considerably beyond middle age, dislocated her shoulder in a fall which followed a slip on some parquet flooring. There was extreme pain and the muscular spasm was intense, the least attempt to move the parts eliciting loud cries of pain from the patient. Whilst waiting for the arrival of an anæsthetist, as the muscular spasm was so great, I gently massaged the region of the shoulder, upon which the pain seemed soon to be modified and by degrees disappeared. In the course of the rubbing I noticed that the muscles became less hard, and especially I observed that the *hollow tension* of the deltoid was succeeded by a feeling of softness. Seizing the favourable moment I passed my right hand into the axilla and with a sudden outward jerk reduced the dislocation easily (the displacement was sub-glenoid); in fact, had an anæsthetic been administered reduction could not have been more easily effected. In two other cases of dislocation of the shoulder of a similar kind, one being sub-coracoid, the other sub-glenoid, I have in the same way effected reduction with remarkable ease. Cases like these show further the point I have already insisted upon—viz., the importance of concentrating your mind upon the condition of the muscles in cases of dislocation.

Before leaving the subject of dislocations allow me again to refer to the question of muscle-waste in these cases because I do not think in some instances it is sufficiently understood. In the case of the fleshy joints—e g., the shoulder and hip—muscle-waste, unless the massage treatment is adopted, is too obvious to require comment. Wasting in the same manner occurs uniformly in all dislocations, although I hardly think that this is recognised by some people. The wasting, for instance, of the quadriceps in certain conditions of the knee is of common knowledge, but I venture to think that the wasting of the muscles controlling the ilio-tibial band is but little realised. Again, it would at first sight seem almost impossible that any wasting of muscles should follow upon dislocations of distal joints like the phalanges of the finger which are quite remote from muscular bellies, yet in these it will be found if examination be made that there is universally some wasting of the forearm, and further that the permanent sense of weakening which is complained of by some of the patients who have suffered from these injuries can only be rectified by voluntary exercises or by thorough massage of the forearm muscles. The bearing of these points upon the scientific treatment of these injuries is too obvious to require explanation, but it is, I am sure, of much more importance than is commonly thought. It would, of course, be interesting to describe *seriatim* and in detail the management of the various dislocations throughout the body by immediate massage and passive movement, but time will hardly allow of this. I hope, however, that what I have been able to say will be sufficient to indicate the general principles upon which the treatment should be conducted. Its modification to the requirements of the different joints is merely a matter for the exercise of ordinary intelligence.

IMMEDIATE MASSAGE IN SPRAINS, WRENCHES, AND BRUISES.

As in the case with dislocation, as I have endeavoured to explain, the objects to be attained in the treatment of sprains, wrenches, and bruises are the restoration to the normal state by the rapid removal of effused products, the prevention of adhesions, and the avoidance of muscle-waste. Any treatment which fails to obtain these ends is defective. Further, it is, I am sure, undeniable that the only plan of treatment which will attain the desired end with certainty and in a reasonable time is that by immediate massage and very early passive movement—a plan which is, if intelligently used, applicable universally, with the exception, perhaps, of a few special cases.

First, with regard to sprains. For our present purpose by a sprain is meant an injury to a joint, a muscle, or other soft parts by a wrench, a bend, or a twist. There is always some laceration of the tissues but there is no open wound. In the case of a joint the injury always involves some tearing of the fibres of the capsule, synovial apparatus, or cartilage. There is pain of variable degrees and there may or may not be effusion into the joint. Generally, if the sprain is of any severity there is effusion into the joint, if the effusion follows immediately upon the injury it is blood, if it follows a day or two subsequently it is due to synovitis. I must again crave your indulgence for emphasising such elementary points. The occurrence of this laceration in cases of sprain—which means, of course, a subcutaneous wound—led to the faulty practice of former times, which is even now, I fear, far too prevalent, of placing parts so injured for a long period in splints. This is the best possible method for facilitating the formation of adhesions and the perpetuation of muscle-waste, the main object of this mistaken treatment being to allow of the rapid healing of the wounded tissues—a point of comparatively small importance.

In order to make clear the plan of treatment which I use and which I strongly advise you to adopt in these injuries let us take the case of a man who has sprained his knee. At the time of his coming under observation—say a few hours after the injury—the joint is painful, swollen from effusion (probably for the most part blood), and any attempt at movement of the joint is resisted. The first indication is the removal of the effusion. With this object the patient is, if possible, sent to bed and the limb is placed upon a light back-splint—a ham-splint being the most convenient—applied so that free access is left to the joint. Gentle smooth massage over the swollen joint is commenced at once. (In very severe cases this is sometimes resented at first by the patient, whose resentment, however, soon subsides when he realises the soothing effect which the gentle rubbing produces.) In the intervals of the rubbing fomentations of lead and opium may be laid upon the joint; the opium soothes somewhat and the lead hardens the skin a little, which is useful in the subsequent management. From the first gentle passive movement of the patella is used, for the reasons which I have already sufficiently indicated. As soon as the effusion has distinctly commenced to subside, as is shown by the decrease in the tension of the joint, gentle passive movement (flexion and extension) is commenced, and if upon the commencement of the passive movement no increase of effusion occurs the splint is put aside altogether. When the patient comes under treatment immediately after the injury the splint can generally be dispensed with on the third day. With the discarding of the splint gentle massage of the thigh and leg is added to the rubbing of the joint itself, the passive movement and the massage becoming more and more thorough as the effusion subsides. A compress of the kind mentioned may be used in the intervals if it is comfortable to the patient. Treated in this simple way there are few cases of severe sprain of the knee in which the patient may not be getting about comfortably in a fortnight, at the end of which time another fortnight of methodical exercises, either in a gymnasium or by means of a "home" exerciser, will generally complete the cure. I have taken as an example a severe case requiring confinement to bed. The treatment of the milder forms is modified to the necessities of the case, the great points to be borne in mind being the necessity for avoidance of the use of splints after the effusion has commenced to subside, the immediate use of massage to the joint, and early passive movement. In all cases the early movements should be passive—the habit of sending the milder forms of sprains at once to the gymnasium is to be avoided. In no case of sprain should a cure be considered to have been obtained if any sign of wasting of muscle beyond that which comes from mere disuse remains. The longer the time which intervenes between the receipt of the injury and the commencement of the rational treatment the greater is the difficulty in rectifying the muscle-waste with its necessarily concurrent weakness, and in cases in which the parts have been long confined in splints a cure in the true sense is sometimes impossible.

The following points in the carrying out of passive movement in cases of sprain are of some moment. The first movements used should be those of the simplest kind; for example, flexion and extension in the hip or knee, antero-posterior movement in the shoulder, abduction and adduction should then follow, and finally rotation and circumduction in joints permitting of that movement. This sequence, however, is always interrupted for the following reason which is of paramount importance—*the last movement to be practised should be that which, so far as can be ascertained, was concerned in the production of the injury.* Let me make myself clear. Suppose for a moment that a severe sprain of the shoulder has been caused by a fall on the hand or elbow, the arm having been at the time widely abducted from the side—the damage will be probably about the inner aspect of the capsule or under the acromion.

n such a case passive abduction should be the last movement practised, as it would be the movement most likely to irritate the part immediately lacerated or bruised. Although it should be the last movement to be commenced it should not, however, be long deferred, seven days being probably the limit of time which can with safety be spared before its commencement. Again, in the sprain occurring in internal derangement of the knee-joint the injury is almost always caused by either internal or external rotation. In such a case, therefore, the last movement to be practised is rotation. Indeed, it is, speaking generally, better to avoid rotation altogether in that particular class of case.[2]

In sprains complicated by external wound it is clear that the plan which I have been advocating cannot immediately be adopted in its entirety, nor can massage be comfortably practised immediately over the damaged part when the skin is abraded or raw; but in such circumstances massage of neighbouring muscles and passive movement should always be practised, the peculiarities of each case dictating the modifications which are necessary in the application of the treatment.

I had intended giving some details of the treatment of simple bruises by this same plan of massage and movement, but the allotted time has been more than spent. All, therefore, that I can say is that in these cases the method of its application and the objects are the same as those already mentioned—viz., the rapid removal of effusion and the prevention of matting of the injured parts.

In conclusion, allow me to say that I have no desire that the treatment which I have been now advocating should be used to the exclusion of all [illegible] upon you the desirability of [illegible] incubus of the traditional re[illegible] the other kinds of injury of which I have been speaking by prolonged splinting, strappings, counter-irritants, &c., and, unless unavoidable circumstances prevent, to substitute a line of treatment which is, I am sure, rational and will in the end be found, by anyone who will take the trouble to acquire a personal experience of it, to produce results far superior to those obtainable by other plans.

THE PRIMARY DISORDERS OF GROWTH.

BY HASTINGS GILFORD, F.R.C.S. ENG.

THERE is a widespread belief that, apart from its antiquarian interest, medical history is of no practical use. Is not this largely because we do not apply the lessons which that history teaches to the circumstances of the present day? Neglect of the teaching of the past causes us to go astray in two opposite directions. On the one hand we are prone to treat the beliefs of our forefathers with more or less of contempt, while on the other hand we attach so much importance to them that we regard it as sacrilege to question their truth. Nothing, for example, can exceed our disdain of the practice which was in vogue during the early part of the century, yet much of our own practice is founded upon a groundwork which was laid down at the same period, and we are no more inclined to question its stability than we are to doubt the permanence of some stately cathedral.

Now, both these attitudes of mind are undoubtedly wrong. Both are due to a misapprehension of the principles which underlie all history. Perhaps the best corrective to that irreverence of mind which despises all that our forbears esteemed is the thought that this same history tells us beyond all denial that just as we look back upon the medical practitioners and the methods of 100 years ago so will our descendants of a century hence regard us and our methods. We are far too prone to view our work with a satisfaction and complacency which should go only with final achievement. We cannot realise that we are still running our race and are not even within sight of the goal.

We also have to lay it to heart that history teaches quite as emphatically that old established theories must be constantly tested in the light of more recent days. They are good maxims which assert that we should accept nothing which is based solely upon authority and which bid us to be sceptical even of that of which we are most sure. The fact is, that we of the present day suffer from our very nearness to the work of our time—we have not the immense advantage of being able to look upon its facts and circumstances from a distance. Our ideas suffer from a want of perspective, and we are therefore apt to attach far too much importance to certain particulars and far too little to others. There is no better example of this form of distortion and of its possible consequences than the absorbing attention which is now being given to the causes and pathology of one class of diseases and the almost equal neglect which is meted out to others. Much good work has been done of late in the investigation of the influence of certain fungi in the production of disease, but there are indications that we are already losing all sense of proportion and are attaching too much importance to these fungi in their relation to etiology and pathology, and that we think far too highly of the effect of their destruction in the eradication of disease. There was at one time a sanguine hope that a method had at last been found whereby the bacillus of phthisis could be killed in the body without the destruction of its host. It was thought that the discovery had actually been made and that it was "the greatest medical discovery of the century"; but we have every reason to be thankful that these expectations were disappointed, for it is difficult to conceive of anything that would have been more disastrous to human health and happiness. Nothing is more certain than that these fungi, bad as they may seem in the individual, are salutary, and that, on the larger stage of human affairs, they play their allotted part wisely and well. They are as essential to our welfare as are decay and death, wherever they are found. Now, in these days the direct treatment of the fungus of phthisis is no longer the chief object of the physician, but it plays a secondary part, subordinate to the far more important clinical measures of fresh air, sunshine, regulated exercise, and food. There can [illegible] some method be found of safel[illegible] fungus of phthisis, or of cholera, [illegible] should be inclined to rest content [illegible] favour its growth would go on unheeded. We should in each case cast out one devil and leave a state of affairs which would favour the entrance of seven other devils far worse than the first. Yet there is still the same eager pursuit of the germs of disease and the same elusive hope that we shall gain by their destruction. It would be absurd to deny that good arises from this pursuit, but, unfortunately, there is evil as well; and not the least is the comparative neglect of the study of other diseases and their origins, some of which are more important and more worthy of investigation. Hence it has come to pass that while on the one hand we are rapidly gaining acquaintance with the appearance and habits of the parasites of phthisis, enteric fever, cholera, the plague, and other bacterial diseases, we know almost nothing of the factors which are responsible for the appearance of a large number of other disorders. Some of these, such as myxœdema, osteitis deformans, and acromegaly, have not long been brought to light, while others, and among them cirrhosis of the liver, ichthyosis, and primary Bright's disease, are comparatively old. With few exceptions they are regarded as diseases which have been well discussed by great authorities who are still living or are but recently dead, and it is commonly supposed that there is not much more to be learned about them. But it is contended that our knowledge of these diseases is by no means exhausted; moreover it is believed that their study will throw light on the causes and nature of innocent tumours and cancers and on the conditions which underlie the appearance of some of the bacterial diseases. In fact, there is reason to believe that their relation to some of the bacterial diseases is as that of the horse to the cart, and that they ought, therefore, to take a corresponding place in order of investigation. The most important of the diseases referred to are as follows, viz.: the different forms of leukæmia and primary anæmia; the muscular dystrophies; the scleroses of the brain and spinal cord; cirrhosis and acute atrophy of the liver, and primary Bright's disease; idiopathic obesity and emaciation; myxœdema and Graves's disease; Addison's disease, acromegaly, and gigantism; scleroderma and ichthyosis; and osteitis deformans and osteomalacia.

It is true that theories are not wanting to account for the appearance of these diseases, but as a rule they are indications rather of the existence of a natural horror of an

[2] For details of the author's treatment of these cases see THE LANCET, Jan. 5th, 1900, p. 6.

etiological vacuum than of a serious attempt to deal with the question which they are supposed to settle. This may be said, for example, of three of the most popular of these hypotheses—namely, the inflammatory, the bacterial, and the nervous. In nearly all cases one or other of these theories is torn out of its proper setting and forced to do duty in a way which is foreign to its nature. Each when applied to any one of these disorders is as a round cork to a square hole: it may be made to go in but will not fit.

Now it is the object of this paper to show that all the diseases in question belong in reality to the same type or group. At first this appears to be quite impossible, seeing that they differ so widely that they do not seem to have anything in common; but on subjecting them to that form of inquiry which has for its object the sifting of principles from details, it will be found that these differences, great as they may appear, are not in reality such as separate classes or orders, but only genera or species. They are in all cases due to differences of form, use, or age of the organ affected, and to these alone. They are secondary or accidental, and not primary or essential. If we put these accidental differences on one side and keep in view only those which are essential it will be found that the diseases in question resemble each other and differ from all other diseases in the following particulars.

A. Form.—The form which is assumed is invariably one of four kinds, the differences between them establishing the genera. The organ affected shows either: (*a*) hypertrophy (enlargement with increase of function), as of the thyroid gland in Graves's disease and of the bones in gigantism; (*b*) degenerative hyperplasia (enlargement with destruction of function), as of the thyroid gland in goitre, the bones in osteitis deformans, the blood in leukæmia, and the lymphatic glands in Hodgkin's disease; (*c*) hypoplasia (simple defect of growth), as of the brain in microcephalism and of the kidney in congenital "atrophy" of that organ; (*d*) degenerative hypoplasia (degeneration and wasting), as of the anterior horn of grey matter of the spinal cord in progressive muscular atrophy and of the liver in acute atrophy of that organ.

These forms may be still further reduced to two. In one (hypertrophy and hypoplasia) the constituent elements remain unaffected in proportion and quality though the organ itself may be either larger or smaller; in the other (degenerative hyperplasia and degenerative hypoplasia) together with alteration in size of the organ involved the constituent cells are degenerated, and running with this degeneration is more or less increase of tissue of low type. Some of the conditions included in the first of these two are on the boundary line between health and disease, as in hypertrophy of bone (gigantism), muscular hypertrophy, and obesity. While on the one hand they merge into conditions of health, on the other hand they shade off into the next group and show an especial tendency to degenerative changes. The following group characters must therefore be understood to apply more particularly to those diseases which are distinguished by degenerative atrophy or excess, though all diseases share in them more or less.

B. Functional characters.—1. All the diseases under consideration are *sporadic*, though some may be also endemic. Among the chief of these latter are goitre and osteomalacia. Others show the same tendency in a minor degree, as, e.g., osteitis deformans and pernicious anæmia.

2. All are *idiopathic* in origin, using the word in its widest sense as signifying, not that they have no cause (which would be absurd) but that their causes are not recognised or are unknown. This is true of every one of them, for though many diseases undoubtedly owe their appearance to certain more or less well-defined causes yet in no case can it be said that these causes account for all cases of the disease. Moreover, in those instances in which these proximate causes are so obvious as to admit of no question, they must still be regarded as idiopathic, since there is always some remote but necessary cause at work, of the nature of which we have to express our ignorance. Thus we well know that cirrhosis of the liver is produced by the action of alcohol; yet it is quite as certain that behind this there is an ultimate cause with the nature of which we are unacquainted and which is still more important than alcohol, for it is only in this way that we can account for the fact that hard drinking will produce the disease in one drinker and not in another, or that cirrhosis may occur in a teetotaler and not in a drunkard. On the other hand, no disease is truly idiopathic, in whatever sense the word is used, for not only must each have some primary cause, but, as a rule, some secondary influence can also be traced in its production. Thus, pernicious or idiopathic [illegible] name, is undoubtedly some[illegible]ces which have an exhausting effect upon the body at large [illegible] particular. Depressing mental em[illegible], insufficient food, and frequent child-bearing may each be regarded as a cause of pernicious anæmia. In most of these diseases a multiplicity of secondary causes, differing more or less in kind, can be traced, and this fact by itself at once shows that there is some one unknown, but essential, cause at work, for only on this ground can it be explained why different actions should produce the same effects.

3. All are *progressive* in their course, though this course is, in most cases, liable to interruptions. Periods sometimes occur during which the progress of the disease is arrested or positive improvement takes place. This is especially the case with pernicious anæmia, osteomalacia, lymphadenoma, the leukæmias, cirrhosis of the liver, granular kidney, Graves's disease, and disseminated sclerosis and other scleroses of the spinal cord, but it is also noticeable in other diseases of the group. These periods of abatement or arrest are irregular in their appearance and are more marked in some cases than in others.

4. All are *pernicious* in their results—i.e., when well established their course terminates only with the destruction of the part affected or in death. Exceptions to this rule are met with in some of those affections which are most exposed to external influences, such as scleroderma and ichthyosis, and, in a less degree, in other diseases. It is probable that in no case is the disease absolutely hopeless, though in most we are justified in pronouncing it to be so.

5. No remedy has been found of any certain effect in any one of them with the exception of the skin diseases. They are *incurable* by drugs. A modified exception must, however, be made in favour of three or four drugs, one of which is arsenic, which has been found to do good in pernicious anæmia, in the allied anæmias and leukæmias, and in some other diseases. Another is extract of the thyroid gland, which is of use in reducing obesity, goitre, and some other enlargements. Iodide of potassium and some of the salts of mercury may also have an influence in the direction of cure.

The diseases of the group have also certain other features in common.

6. They show peculiar liability to attacks of inflammation. This is most evident in the various forms of leukæmia and in fibrous degeneration of the liver, kidneys, lungs, prostate, and ovaries.

7. There is also close affinity between many of these diseases and the infective granulomata. This is especially shown in fibrous degeneration of the lungs, in lymphadenoma, and in local gigantism of the hands or feet. So close is this relation in certain cellular diseases of the adrenal and pituitary bodies that it may be almost impossible to say in a given case whether we have to do with a degenerative hyperplasia or with one form of granulomata or another. Sometimes, moreover, syphilis or tubercle may pass by almost imperceptible steps into hyperplasia or atrophy, as when it produces fibrosis of the lungs or liver, or when syphilis in its congenital or tertiary form affects the nervous system. It is probable that every one of the diseases of this group may be either produced or successfully imitated by syphilis alone.

8. They are all closely related to the innocent tumours and to the cancers. This is shown in the following ways—viz., (*a*) By their occasional occurrence together in different parts of the same body, as when fibrous or fatty tumours are found on the trunk of a patient affected with local giant growth of the extremities, or when myeloma occurs with Hodgkin's disease or with goitre,[1] or sarcoma of the stomach with osteitis deformans. Cancer of the breast, the rectum, or other part sometimes also occurs in patients affected with fibrous or cystic disease of the ovaries, or tumours of the suprarenal capsules (two cases) with sexual precocity.[2] I have seen the conjunction of idiopathic obesity with a cartilaginous outgrowth and with a third mark of degeneration—viz., diabetes. Instances are also reported of the association of splenic leukæmia[3] and of Hodgkin's disease[4]

[1] St. Bartholomew's Hospital Museum, 453*a*.
[2] Sir J. Burdon Sanderson: Transactions of the Pathological Society of London, vol. xx., p. 384; THE LANCET, Feb. 7th, 1885, p. 252.
[3] Archives de Medecine Experimentale, March, 1895.
[4] Transactions of the Pathological Society of London, vol. xxix., p. 313

microscopical examination of the blood appears to have been made during life. They refer to some cases reported by Grawitz in which sarcoma seems to have occurred with pernicious anæmia, and similar cases by Ehrlich and Litten are also mentioned. None of these cases, however, is of recent

[illegible]

as when macrodactyly affects a hand with webbed fingers (two cases)[6] or, when misplaced or malformed kidneys, breasts, or testicles become the seat of fibrous or cystic disease. Dr. Hale-White[7] gives a good instance of combination of malformation with fibrous metaplasia. [illegible] patient was a child, aged nine years, each of wl[illegible] kidneys was cut into by a band of fibrous tissue in suc[illegible] way as to constrict off one-third of its substance. The smaller portion of each kidney, so constricted, was affected with cirrhosis. There was also an associated "hypertrophic" cirrhosis of the liver which was not due to alcohol. In another case we find cirrhosis of the liver occurring in an organ in which the left lobe was rudimentary.[8] The left kidney and suprarenal capsule were absent. Instances are also not very uncommon in which one organ is misplaced or malformed while the other is fibrous or cystic. At other times the malformation and degenerative disease occur in different organs, of which two instances have just been given and many others are reported. Thus Dr. Carrington[9] writes of a case of pernicious anæmia in which there were also [illegible] urinary org[illegible] association [illegible] sexual organs, of amyelus or atrophy of the thyroid gland with ichthyosis, of congenital heart disease with congenital splenic leukæmia,[10] or of retinitis pigmentosa with lymphadenoma,[11] are by no means uncommon. Sometimes the association occurs, so [illegible] ordinary information, as [illegible]

Of this, too, there are [illegible] said whether they are sufficiently indicative to establish a connexion between them from this association alone. (*e*) Like congenital malformations, also, they show hereditary tendencies or occur as family diseases. This heredity may be direct or indirect. There is good evidence that *direct* and family heredity is sometimes shown by splenic leukæmia, osteomalacia, granular disease of the kidneys, goitre, [illegible] derma, ichthyosis, and various [illegible] the muscular and nervous systems. [illegible] believe that osteitis deformans, [illegible] lenoma, and cirrhosis of the liver [illegible] same way. *Indirect* heredity is that form of heredity which is manifested by the occurrence of one or more diseases of the group in a family of which other members are affected with some disorder which is recognised to be hereditary. Thus there are many instances on record of one or more members of a family being

malformations in showing a tendency to [illegible]

[illegible] and degenerative hyperplasia of the bone marrow and bone (osteomalacia and osteitis deformans) may occur together. Many other instances occur. Thus splenic leukæmia may be associated with chronic Bright's disease,[12] splenic anæmia

find one in which one member of a family had muscular dystrophy, another cirrhosis of the liver, while yet another died from granular disease of the kidneys. In another case one had cirrhosis of the liver and another disseminated sclerosis. Singer,[13] in describing a case of congenital splenic leukæmia, mentions that the mother was affected at the time of the child's birth with chronic Bright's disease. I myself was recently present at the post-mortem examination of a child (a patient of Dr. Francis Hawkins) who had died from cirrhosis of the liver and in whom the spleen was found to be large and in a more advanced stage of fibrosis than the liver. A brother of this patient was suffering at the time from muscular dystrophy. No cause could be found for these diseases. Many other similar cases might be mentioned, but perhaps the most striking is one which is incidentally referred to by Professor Clifford Allbutt,[14] who says that he was "once called in consultation to a father and three children, whose maladies were as follows: carcinoma, lymphadenoma, pernicious anæmia, and pseudo-hypertrophic palsy." All these are examples of heredity showing itself in an indirect manner. They furnish evidence as to the unity of the different diseases. Other instances will be referred to presently.

SIGNIFICANCE OF ASSOCIATION.

The association of these diseases in the same family or the same individual has hitherto been held to be due either to [illegible] so being the direct out- [illegible] may, however, in most [illegible] it is usually founded on the fact of association alone and has no other basis. In regard to the former view it is obvious that it cannot be entertained if in the case of any given disease it can be shown that those affected with it are far more subject to either of these diseases than are the population in general. Due allowance in such cases must, of course, be made for the action of some common exciting cause—such as alcohol or syphilis. As a matter of fact it is widely recognised that after making such deduction certain of these diseases occur in association much more frequently than can be explained on the score of mere chance. Under these circumstances the aid of a "diathesis" has been called in and an individual affected with degenerative hyperplasia of two or more organs, such as the lungs, the liver, and the spinal cord, or the kidneys, is said to be suffering from the effects of a "fibroid diathesis." In other words, it is recognised that behind these associated diseases there is some dyscrasia which predisposes the tissues to mixed overgrowth and degeneration.

[6] Berliner Klinische Wochenschrift, 1890, p. 231.
[7] Bulletin de la Société de Chirurgie, December, 1890; Guy's Hospital Gazette, July 30th, 1898, p. 330.
[8] Transactions of the Pathological Society of London, vol. xxvi, p. 242.
[9] Brit. Med. Jour., vol. i, 1883, p. 115.
[10] Transactions of the Pathological Society of London, vol. xxxv, p. 237.
[11] Munchener Medicinische Wochenschrift, 1898, vol. xlv.
[12] Brit. Med. Jour., vol. ii, 1898, p. 1781.
[13] Von Jaksch, Clinical Diagnosis, translated by Dr. Cassel, p. 23.
[14] Virchow's Archiv (Berlin), Band lxxiii, p. 222.
[15] L'Union Médicale, 1884, No. 93, p. 177.
[16] Archiv für Dermatologie und Syphilis, Band xxxvi, H. 2, p. 182.
[17] Brit. Med. Jour., vol. ii, [illegible] p. 247.

This is, in fact, identical with the view which is now being put forward. Here, however, it is widened in scope so as to embrace degenerative overgrowths of all organs and tissues. It includes not only morbid excesses of growth, but defects, especially where they are combined with degeneration, and these excesses and defects may date from all periods, either before or after birth.

But although it is recognised that there is some common factor underlying the appearance in the same person of such prevalent diseases as cirrhosis of the liver and granular kidneys, the same cannot be said of the rarer of the diseases under consideration. Yet the statistics of some of the less common of these diseases seem to tell the same tale. Thus, in writing of splenic leukæmia Sir William Gowers[17] says that among 111 cases the state of the kidneys was referred to in 62, and that in six of these they were affected with Bright's disease; while among 109 cases of leukæmia there were three instances of cirrhosis of the liver. Now the percentage of liver and kidney diseases here is far higher than it is among the healthy, yet it is quite possible that there was some common exciting cause, such as alcohol or syphilis, which accounted for the association, though Sir William Gowers himself says that it was accidental. The same explanation may also be given of the conjunction in the same person of Addison's disease and cirrhosis of the liver (Dr. Leva[18] and also Dr. Carrington[19]), of Addison's disease and chronic Bright's disease (Dr. Thompson[20]), or of pernicious anæmia and goitre.[21] But it is evident that the more these instances multiply and the rarer the diseases themselves are, the less likely it is that their conjunction is due to mere chance. Thus in a case of Addison's disease in a man, aged 36 years, which was carefully examined by Dr. Bergtold,[22] it was found after death that there was not only the usual lesion of the suprarenal capsules, but that there was also slight emphysema of the lungs, cirrhosis of the liver, fibrosis of the spleen, chronic Bright's disease of the kidneys, and obliterating degeneration of the arteries. The diseased capsules were examined for tubercle bacilli, but none was found. Now, it is true that this man "had been in the habit of drinking a great deal of beer," but nevertheless the bare fact of the occurrence of such a number of degenerative diseases in one man goes a long way towards proving their family connexion and dependence upon some remoter origin than beer. Perhaps even more may be said of the association of two such rare diseases as Hodgkin's disease and osteomalacia (Dr. Goodhart[23]) or of Graves's disease and osteomalacia.[24] Equally significant is the occurrence among different members of the same family of Addison's disease and Graves's disease (Dr. Hale White[25]), and it would be contrary to all the rules of evidence to believe it possible that the before-mentioned instance of the occurrence of carcinoma, muscular pseudo-hypertrophy, pernicious anæmia, and lymphadenoma in a father and his three children respectively (Professor Clifford Allbutt) should have no other explanation than that of fate. Finally, some diseases are associated so often that there seems to be no possible escape from the inference that there is some common but remote factor which connects one with the other. This may be said, for example, of the conjunction of cirrhosis or atrophy of the stomach and intestines with pernicious anæmia, of fibrous degenerations of the spinal cord with pernicious anæmia, of similar degenerations of the brain and spinal cord with osteomalacia, and perhaps Dr. R. Saundby's[26] cases of hereditary enlargement of the spleen with atrophy of the suprarenal capsules. In each of the first three of these instances the usual explanation is that the association is due either to the one disease being the direct cause of the other, or to both being the result of the same poison acting in different ways on different parts. The view which is held here is that they are related to one another as cleft palate is related to club-foot, that they are the expression of some intrinsic and unexplained anomaly of growth or malformation, and that, like all other malformations, they tend to occur in different parts of the same body and in different members of the same family.

Beyond what has already been said, evidence as to the class unity of these diseases and as to their nature is furnished by the occurrence of certain links which connect two or more of them together. Thus diabetes, which is one of these links, is found in association with cirrhosis of the liver, idiopathic obesity, splenic leukæmia, pernicious anæmia (Osler), osteomalacia, acromegaly, Graves's disease, general paralysis, and tabes dorsalis. Goitre is another such link, and scleroderma another. These and chronic Bright's disease, or "dropsy," or "liver disease," are not infrequently found as comcomitants or as family complaints in the clinical reports of the rarer diseases.

Some of the associations which have been mentioned are by no means convincing and are doubtless capable of explanation on other grounds than that of a common origin of the associated diseases in a depravity of growth. But it must be insisted upon that the subject is not like a chain whose strength resides in its weakest link. It is like a collection of sticks, some of which may be mere twigs and easily snapped when they are taken separately, but when bound up together they form a bundle which cannot so readily be broken. It must be recognised that that the subject is one which is strengthened by everything that supports it, however weak it may be. Taken as a whole, in this way the facts are consistent with the view that the diseases which have been mentioned owe their origin to the same ultimate cause acting in the same way upon different tissues. They form a group which is closely connected with that of the granulomata and the tumours, and which differs in no essential particular from that which is formed by congenital malformations, but differs in every important respect from all other groups.

RELATION TO OTHER DISEASES.

Mixed forms.—This group of primary growth diseases comes in contact with other groups in many directions. Thus it is mixed more or less with other groups in rheumatoid arthritis, in the infective granulomata, and in inflammation. Hereditary and tertiary syphilis in particular sometimes give rise to such overgrowth and degeneration as may be indistinguishable from that which is idiopathic. This is the case, e.g., in some instances of locomotor ataxia, of general paralysis, and of leucoplakia of the tongue.

Relation to inflammation.—Inflammation runs by such imperceptible degrees into degenerative hyperplasia that instances occur of which it is almost impossible to say whether they are more inflammatory or more hyperplastic. This is well shown in a case which I once reported,[27] in which these two processes also merged into that of new growth. In this case a concretion in a vermiform appendix gave rise first to inflammation with the formation of pus and then to a large hyperplastic swelling which finally ended in sarcoma. As a rule, however, inflammation, when it arises in the course of lymphadenoma, splenic enlargement, cirrhosis of the liver, or any other of the group, is not primary but is an addition to the morbid process; or, at most, it acts but as a secondary or exciting cause. It then signifies no more than that tissues affected with overgrowth and degeneration are thereby rendered more vulnerable to those micro-organisms which give rise to inflammation. But though inflammation and hyperplasia are closely connected they are in reality very different processes. Inflammation is essentially a protective and *destructive* process; whereas the process which gives rise to scleroderma, muscular pseudo-hypertrophy, Hodgkin's disease, osteitis deformans, and other diseases of the group, is essentially self-contained and *constructive*. The one has a motive, the other has none.

Relation to malformations.—While degenerative hyperplasia and inflammation are distinct from one another the same cannot be said of hyperplasia and the malformations, or errors of development. Everything that is known of these two goes to prove that they are identical. It is so usual to associate developmental errors with fœtal life that we sometimes forget that the processes of growth and development, with the possibility of running too far or in wrong directions, do not stop at birth, but continue even up

[17] Reynolds's System of Medicine, vol. v., p. 216.
[18] Virchow's Archiv (Oestreich), Band cxxv., 12 f., p. 85.
[19] Transactions of the Pathological Society of London, vol. xxiv., p. 454.
[20] American Journal of the Medical Sciences, October, 1893, vol. cvii.
[21] Brit. Med. Jour., vol. ii., Nov. 14th, 1885.
[22] New York Medical Journal, Jan. 13th, 1891, p. 665.
[23] Transactions of the Pathological Society of London, vol. xxxix., p. 232.
[24] Twentieth Century Practice of Medicine, vol. iv., p. 787.
[25] Brit. Med. Jour., vol. i., 1890, p. 1197.
[26] Transactions of the Pathological Society of London, vol. xxxvi., p. 440.
[27] THE LANCET, July 29th, 1893, p. 241.

which show themselves at different periods are necessarily tinged with the characters of the particular period in which they first appear. Thus we can hardly expect that a mistake in the month after birt one, which take nor ought we starting in infan first shows itself in middle or old age.

The differences that may in this way arise at different ages may be formulated as follows. Errors of growth taking place in early life may be expected to differ from those which first appear at a later age. 1. They will differ in being more rapid, in accordance with the greater rapidity of the processes of natural growth and development. 2. They will differ in being more definite and complete, owing to the same cause. 3. They will differ in being more widespread, for the same reason and because of the comparative small- 4. They will differ in being an affection taking place in a end to implicate each of the it tissue is moulded. 5. Errors early life must also be more diseases, because it must of necessity happen that the stronger the taint the earlier will it tend to show itself. 6. Also in the case of double organs the more complete will be the compensation when only one is involved. On the other hand, when single organs are diseased the more profoundly will all those tissues be affected which are dependent upon them. 7. As a rule, the earlier in life the disease occurs the more defined will be its cause. Those malformations which occur in fœtal life we have no hesitation in calling idiopathic; those which first show themselves in infancy or childhood (e.g., cretinism, pseudo-hypertrophic paralysis, cirrhosis of the liver, or granular kidneys) we suspect may have some other cause; but those which first appear in adult life, such as myxœdema, cirrhosis of the liver, granular kidneys, splenic leucocythæmia, or Hodgkin's disease, we attribute to many causes. These etiological differences arise from the fact that before birth influences which can be brought to bear upon processes of growth are so scanty that, with the exception of syphilis and alcohol, they are a negligible quantity. But in later life there are many influences which may affect growth adversely and play their part in the production of disorder.

If we keep in view such considerations as these we find sufficient explanation for the fact that some diseases which were at one time thought to be distinct are now known to be in reality the same diseases modified by age. Thus, the skin disease of the harlequin fœtus is now recognised to be the same disorder as the ichthyosis of the youth or the young adult. It is the same disease, but more rapid in its development, more definite and complete, covering a wider area, more often hereditary, and affecting the functions of the body more profoundly. Goitre and arrest of growth of the thyroid gland in the fœtus give rise to a condition which is so different from the cretinism of the infant that it is sometimes looked upon as a different disease and called fœtal rickets. Cretinism of the infant, again, was at one time regarded as a totally different disease from the cretinism of the adult, and it was for this reason that the latter was so unfortunate as to receive a different name. It is now clearly recognised that these three diseases are but instances of the same disease affecting people of different ages. Myxœdema is the same as congenital and infantile cretinism, but is slower in its appearance, less definite and complete, less hereditary, and less disastrous in its effects. All these differences are due to the fact that in one case it first shows itself in an individual who has reached an age when all the processes of life are more subdued, while in others it acts upon the body at times of life when changes are rapid.

In the same way it may be shown that scleroderma, primary lymphatic enlargements, cirrhosis of the liver, granular kidneys, hyperplasia of bone, and similar affections of other organs are sometimes so modified by age that at different periods they may appear to be different diseases. But by making allowance for the effects of age and by tracing disease step by step in different cases, from fœtal life or early infancy to its appearance in adult life or middle age, we find that there is no gap between the conditions we meet with in early periods of life and those which we meet with in the later periods. In this manner we can trace, for example, an unbroken connexion between the granular kidney of the adult, and the absence, or mere fibrous vestige, of that organ which is sometimes met with in the fœtus; between complete absence of a thyroid gland and a fibrous goitre; between an atrophied suprarenal body and one which is cystic, fibrous, or "tubercular."

PATHOLOGY.

These facts and deductions enable us to understand the nature of the morbid process with which we are now dealing. They show that the four different forms which were referred to at the outset are but modifications in rate of growth or maturity. Simple excesses and defects of growth (hypertrophy and simple hypoplasia) are abnormal manifestations of the developing stages of tissue life, and may or may not tion and c plasia and degenerative hyper declining periods of tissue life, and at whatever age they occur may be regarded as manifestations of local senile decay or of that which is equivalent to it. In no other way can the anatomical and clinical features of these diseases be accounted for.

Further evidence of the nature of these diseases is furnished by comparing these growth diseases with normal growth.

1. The clinical characters are such as we might expect to find in a primary perversion of growth. Thus the diseases are sometimes inherited because peculiarities of normal growth are to some extent heritable. They are progressive and remittent because natural growth is progressive and proceeds, not with absolute regularity, but by successive impulses, alternating with periods of comparative quiescence. They are pernicious and incurable for the reasons that healthy senile changes terminate either in complete extinction of the function of an organ or in death, and no one has yet been able to permanently arrest the progress of old age.

2. That they are disturbances of growth is also indicated by the way in which they are affected by those changes which influence the rate of normal growth. Hence they are peculiarly liable to appear during fœtal life, early infancy, puberty, and the menopause, and often originate in, or are improved or aggravated by, pregnancy and the puerperal state. Chronic Bright's disease, pernicious anæmia, and other primary anæmias and leukæmias, osteomalacia, Graves's disease, goitre, acute yellow atrophy of the liver, and Addison's disease are especially implicated in the physiological rise and fall of growth and nutrition which are incidental to child-bearing and the puerperal state, and such a fact as this is of the greatest significance in its bearing on the nature of these diseases.

3. The two kinds of degenerative changes (degeneration and degenerative overgrowth) are identical in nature, if not in quantity, with those which occur in organs affected with senile decay. Thus in the case of the liver granular and fatty degeneration of liver cells sometimes takes place in the cell of exactly the same character, though less in quantity "acute atrophy." the quantity of ich is sometimes so excessive in cirrhosis; and we may speak in a similar manner of the kidney, spleen, bone, and other organs. Anatomically, in short, degeneration, and degeneration with overgrowth, are exaggerations or caricatures of that which takes place physiologically in old age.

4. Moreover, all those factors which help to give rise to leucocythæmia, granular kidney, acromegaly, pernicious anæmia, and other disorders of their class are essentially of a depressing or ageing character. On the contrary, all those factors which have any influence in delaying the progress of these diseases have actions which are physiologically of the opposite nature. Hence, on the one hand, we find that anxiety, grief, and other depressing emotions, low-lying malarious districts or sunless valleys, repeated pregnancies, insufficient food and clothing, frequent losses of blood, syphilis, alcohol with its offspring gout, and old age itself, all act as causes of these degenerations; and probably nothing has been left outside this list that is of any consequence. All are debilitating and depressing, and the only one to which exception might

be taken on this score is, perhaps, the worst offender of all. I allude to alcohol. It both stimulates and narcotises, both elevates and degrades. It narcotises or depresses all the higher functions of the body and of the mind and lessens the acuteness of the sensations and perceptions. At the same time it not only impairs functions but disturbs them. It acts upon one part more than another. It diminishes the influence of the inhibitors or controllers and thus indirectly stimulates those functions and qualities which it is their office to control. It stimulates also by dilating the blood-vessels and accelerating the action of the heart. But the action is that of a drug and not of a food: it is pathological and not physiological. This action, which is obvious when alcohol is taken in great excess, differs only in degree from that which is manifested when it is taken in small doses. A stimulant-narcotic action of this character is just that which is best calculated to bring about mixed overgrowth and degeneration, and it amply accounts for the disastrous and paramount influence which is played by alcoholic excess in the production of cirrhosis of the liver, granular kidneys, and fibrous degenerations of the brain, lungs, and other organs. On the other hand, the only remedies which are of any use in delaying the progress of these diseases have in health an "alterative" effect which is of an opposite character to the above. These remedies are, among drugs, arsenic, mercury, the iodides, and thyroid extract; and, among hygienic measures, fresh air, sunshine, bracing climates, electricity, massage, good food, and congenial occupation and lively society.

5. Another feature of the degenerative diseases which points to their being of a senile character is their proneness to set in at times of life when the organs they affect are becoming extinct. Thus, myxœdema, though it may appear at any age, is prone to first show itself in women at the time of the menopause, whereas Graves's disease, which is a true hypertrophy of the thyroid gland, generally sets in during early adult life. Osteomalacia appears, as a rule, in women in the prime of life, at a time when the activity of the bone marrow is on the wane, while osteitis deformans does not show itself until middle age or old age, when the shafts of the bone usually first show signs of degeneracy. Prostatic enlargements generally first give rise to trouble between the ages of 55 years and 60 years, when the male sexual organs are becoming extinct.

6. These diseases also resemble senile conditions in their liability to become the seat of innocent tumours and cancers. Thus, degenerative hyperplasias of the stomach, pylorus, breast, tongue, thyroid gland, liver, bone marrow, and shafts of the bones, are all prone to give rise to innocent or malignant tumours. Of these diseases it is noteworthy that degenerative hyperplasia of the shafts of the bones (osteitis deformans) is far more often associated with malignant disease than is similar hyperplasia of the marrow (osteo malacia). This probably arises from the fact that osteitis deformans does not appear until late in life, when there is a double proclivity to the formation of cancer, the special proclivity of the disease being added to the general proclivity of old age.

Notwithstanding all that has been said, it is by no means certain that it is correct to speak of organs, the seat of degeneration or degenerative hyperplasia, as being affected with premature old age; for, as a matter of fact, exactly the same effect might take place as the result of mere defect of development. We might very well suppose that when an organ has been arrested in the course of its development those influences which give rise to growth or nutrition, though insufficient to produce or maintain cells of higher type, may yet be amply sufficient to lead to overgrowth of cells of a lower order. It is possible that we may in this way account for the fact that in these diseases we have not only degenerated cells, but embryonic cells, as in the large white kidney of Bright's disease, in the liver affected with pseudo-hypertrophic cirrhosis, in the bone marrow in osteomalacia, and in the blood in pernicious anæmia. On the other hand, it is conceivable that a senile change taking place in youth may be expressed in this same manner. We may well imagine that it may be attended, not only with considerable overgrowth of tissue of low type, but that there may also be some attempt at progress or repair due to infusion of new (embryonic) cells into the part affected. All that we are justified in saying is that the diseases which have been discussed are not primarily due to the action of any external or internal agent with which we are acquainted. They are further distinguished by the anatomical [illegible] tissue of higher [illegible] type; by the clinical features [illegible] but interrupted course, p[illegible] to treatment; by showing as a rule some hereditary tendency; and by being influenced for the worse by certain depressing [illegible] improved by others which have [illegible] ect. They are especially liable [illegible] with the infective granulomata, and constitute favourable soil [illegible] innocent and malignant tumours. In the [illegible] they show that they are malformations or errors of growth produced either by defective development or premature senile decay.[28]

(To be continued.)

ON THE RELATIVE VALUE OF SYMPTOMS OF ACUTE PERITONITIS.

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ANY operating surgeon must have found great differences of opinion existing amongst practitioners as to the presence or absence of acute peritonitis in cases where his interference is required. Why should this difference of opinion exist? Is it that peritonitis itself differs in different patients, or is it not rather due to the vague teaching to be found in [illegible] on the subject? I believe tha[illegible] one, and yet the question [illegible] It is at the same time a mo[illegible] and to settle quickly. In the [illegible] of peritonitis was held to be ta[illegible] That is no[illegible] pening the abdom[illegible] accompanied or [illegible] estine, some lives [illegible] due to some mec[illegible] operation, if do[illegible] itis be averted; [illegible] ession that perit[illegible] about the very c[illegible] and the complicati[illegible] duced during the time which has elapsed, may render the chances of [illegible] or at least extremely slig[illegible] of sudden and great pai[illegible] ble to say at once and without hesitation whether he or she is suffering from acute peritonitis or not. Can we do so?

Let me collate a few authoritative statements from various sources. Spence[1] gives as symptoms of this condition "great pain, of an acute bur[illegible] spasmodic—character, extending [illegible] of the wound over the whole abdomen. This pain is greatly increased by pressure over the abdominal surface or by stretching out the lower limbs. The patient generally lies with the limbs drawn up and the thighs flexed on the pelvis to relieve tension. The features at first are flushed and have an anxious expression. The skin is hot and dry and the urinary secretion is diminished. The tongue is at first of white milky appearance, but soon becomes foul and loaded. The pulse varies from 98 [illegible] and has a hard, wiry feel. As t[illegible] abdomen becomes tense and ty[illegible] supervenes, at first of a bilious cha[illegible] of dark-greenish watery fluid. When the disease progresses to a fatal termination the vomiting, or the attempt to vomit, becomes almost incessant. The features become sharp, the pulse increases in frequency but becomes weak and irregular, and the patient gradually sinks."

Heath's "Dictionary of Practical Surgery" gives the following: "Pain, tenderness, and the impairment of visceral muscular functions; alterations in the temperature,

[28] Dr. Meigs of Philadelphia in his book on the "Origin of Diseases" has thoroughly elaborated this view of the identity of the changes which are found in certain fibrous degenerations with those which are produced by old age. This work is solely on the anatomical side and is well illustrated by many drawings from his own specimens.

[1] Lectures on Surgery, vol. ii., p. 973.

pulse, and respiration; the temperature commonly elevated a few degrees at first, followed in later stages by depression; the pulse is characterised by greatly increased rapidity and hardness, which in the acute form is almost "wiry" to the finger; the respiration is sometimes quickened and shallow. There are changes in the demeanour and facial expression. Lastly, there is the act of vomiting."

Jakob[2]: "Severe abdominal pain, vomiting, greatly distended abdomen, elevation of the diaphragm; tympanitic percussion note, or if exudation has taken place dulness in the dependent portions, Hippocratic facies, and, after several hours, heart failure."

Treves[3]: "Initial rigor. Intense, [illegible] pain, with shock, collapse, and vomit[illegible] exacerbations. It is at first ref[illegible] umbilicus but soon becomes general. The face shows exhaustion, pain, and terrible distress. The abdominal walls are at first sunken in and in some cases of perforative peritonitis this contraction of the belly-wall may be extreme. They then become rigid and board-like and the abdomen—except in corpulent subjects—is flat. There is very considerable tenderness to the touch, which depends mainly on hyperæsthesia of the skin. Later, as meteorism appears, the abdomen becomes [illegible] rounded and barrel-like. The extreme hardness of the muscular wall is less noticeable and towards the close of [illegible] paratively flaccid. [illegible] ments of the chest are exaggerated. The patient, in order to relax as much as possible the strain upon the abdominal muscles, lies with his knees drawn u[illegible] above his head. This attitude is [illegible] Meteorism may be absent during the [illegible] cases. Constipation is usually marked, [illegible] [illegible] suspicious. May be persistent [illegible] stipation. The symptoms may be mistaken for those of intestinal obstruction, and the abdomen has been opened with this idea." Henrot, quoted by him, has described a number of cases of perforation of the gall-bladder and the [illegible] the symptoms pointed so [illegible] inal obstruction that a [illegible] clinicians. Physical [illegible] utterly inadequate to [illegible] obstruction and diffuse [illegible] ist be remembered that [illegible] constipation and fæcal vomiting are the most characteristic symptoms of obstruction, and that in peritonitis the pain is severe and continuous, with diffuse tenderness, tympanites, and absence of visible intestinal coils. "*In mechanical obstruction of the bowels the temperature is, as a rule, not above normal unless complications have set in, while in peritonitis a rise in temperature is the rule, although in some of the gravest cases it is subnormal.*" I have emphasised this sentence because it seems typical to me of most of the assistance to be found in these works—not that it is any worse than many to be found in English or German books of the same kind. The fact may be true enough, but this section is supposed to be written in order to clear up our difficulties, not to increase them; and for any help to be gained from it it might as well, and indeed far better, have been left out. I defy any man to make out from such a statement whether in any given case any reliance is to be placed on the temperature or not. The first half of the sentence would imp[illegible] suppositious case [illegible] normal. Then it cannot be [illegible] of the sentence shows that this is a mistake. It may, on the contrary, be one of the gravest and most dangerous cases. What can result but mental confusion from such statements? They may be as true as you please, but they are utterly irrelevant and irritating in a paragraph which is presumedly written for the illumination of those who consult it.

Now, if you combine and analyse all these statements you will find that they may be reduced to the following list: sudden and continuous pain; tenderness; hot dry skin; temperature elevated, normal, or depressed; hard "wiry" pulse; quickened respiration; tympanites; clear note on percussion, unless effusion has occurred, when there is dulness in the flanks; distended abdomen; altered facial expression; flexed thighs and characteristic position of the body; and, later, vomiting.

Take these symptoms in detail. Is there one of them characteristic, except, perhaps, the expression of the face? Such an expression is known well enough to those who have [illegible] lence of this condition, but can anyone [illegible] escribe it, I mean, so that a novice will [illegible] he sees it for the first time? I have never seen such a description, and I do not believe it to be possible. It is called an expression of great anxiety; but it is much more than that. It is a combination of anxiety, pain, dread, and a piteous inarticulate appeal for help, but no one who has never seen it would recognise it merely from that description. Photographs might here be useful, but there is something so cold-blooded in attempting to photograph a patient in great pain and misery that few would submit to it unless morphia [illegible] the characteristic expression won[illegible] for teaching purposes. [illegible] that any photograph would be spoilt in the process of taking.

Sudden and continuous pain in the abdomen is possible in[illegible] any value. Besides, pain being a [illegible] be accurately gauged by anyone [illegible] everyone knows that during the [illegible] statement made by the sufferer is not to be relied on for any scientific purpose. Then the capacity for endurance of pain, even the very sensation of pain, differs so widely in different people that no standard by which an outsider can estimate it is possible. [illegible] at the continuous character of [illegible] that felt in intussusception or [illegible] pain is dependent upon the [illegible] affected, but this is simply an [illegible] enough, doubtless, but utterly [illegible] ide. You must rely for the estimation of this upon the patient's own statements, and if she is at the moment suffering she will answer "Yes" or "No" indifferently, careless altogether of your academic distinctions and only anxious to hurry you into giving her something which shall relieve the torment. Moreover, peritonitis, as Treves points out, has its periods of exacerbation, due equally to peristaltic action, and he need be a very acute observer indeed who can feel certain in his own mind that during the intervals the patient is feeling no pain at all or is still suffering some. Besides, does a patient with impacted calculus or intussusception suffer no pain except when peristalsis is in action? The alternative conditions shade so easily into one another as to this symptom that it is practically valueless from a diagnostic point of view. There is pain, and intense pain: that is all that, in the majority of cases, can be said.

And if this is true of pain how much more of tenderness upon which some writers—Treves, for example—lay so much emphasis! A woman with pyosalpinx will be acutely tender over the iliac and inguinal regions, though there may be no peritonitis whatever present. Pressure over an inflamed gall-bladder will usually elicit this sign. A patient with cystitis may be distinctly tender on pressure over the hypogastrium, and yet there may be no peritonitis. The most tender abdominal wall is that in which there is cellulitis of the subcutaneous tissue, wholly unconnected with the peritoneum which itself is absolutely healthy. Who does not know the hysterical abdomen, with its abnormal—apparent—[illegible] formes? And who can possibly say how much of what [illegible] case is not nervous [illegible] [illegible] ys no special meaning to my mind. In the first place I have seen peritonitis when the skin has been distinctly cold to touch, and the temperature, as marked by the thermometer, has been subnormal, whilst a hot dry skin is found in so many abdominal conditions that its value as a diagnostic sign is absolutely *nil*. The pulse is described by many as hard and "wiry." Will anyone define what a "wiry" pulse is? This, indeed, seems to be one of those terms which have been copied from text-book to text-book without due consideration. It is a

[2] Atlas of Clinical Diagnosis, p. 203.
[3] System of Surgery, vol. ii., p. 612.
[4] Principles of Surgery, p. [illegible]

term which conveys no definite idea and, as a matter of fact, the pulse in peritonitis is not always even hard; by which is meant, I suppose, incompressible. Suppose an impacted urinary calculus in the ureter, with coincident nephritis, but no peritonitis at all. Is not the pulse in this condition harder, more incompressible, more "wiry," if you will, than in any septic peritonitis?

Tympanites and distended abdomen are two symptoms which are certainly as often absent as present. I have seen, as many others have done, peritonitis with a distinctly scaphoid abdomen. When they do occur they do so in a comparatively late stage and suggest intestinal paralysis or obstruction, which may be the result of peritonitis or of a good many other causes. What abdomen can be more distended or more tympanitic than that of a case of sigmoid volvulus, for example, where there may not be a trace of peritonitis?

Vomiting, again, is not a symptom upon which any dependence can be placed. It may be due to irritant materials in the stomach or intestines, it may be due to foul smells, it may be due to many things besides peritonitis. When it becomes persistent it is too late to be of any service and even then is far more the consequence of intestinal paralysis, however produced, than of the peritonitis itself.

As to flexed extremities, if one was to trust to this alone we should diagnose peritonitis in all cases of simple colic, whether caused by lead or by improper and indigestible food, by the passage of gall-stones or of a ureteral calculus.

But it is often said you must not diagnose peritonitis by any one symptom, but by the combination of all. The same authorities, however, warn us that all may not be present, so that it is difficult to know in what cases we must depend on the first rule and in what we must depend on the presence of certain symptoms, and which. Such teaching is certain to leave the mind of the learner in a chaotic condition, with no feeling of certainty when in face of a definite case. And the fundamental reason is this, that whilst all these symptoms may or may not be present they are most of them not of the essence of the thing but represent possibilities in the case which may or may not occur.

Is it true, however, that we cannot depend upon any one symptom which when present is an absolute sign of this condition, and *vice versâ* the absence of which is an equally certain proof that peritonitis does not exist? a sign, moreover, which is objective and therefore does not depend for its security upon the loose statements of a patient half-maddened with pain. I believe that it is not true—that such a sign does exist easily demonstrable in all cases and capable of being estimated and estimated correctly by the observer himself. With acute peritonitis there is always rigidity of the abdominal muscles. Without peritonitis there is no rigidity. But it must be "rigidity." The surgeon who goes to his patient's bedside, flings down the coverings, and places a cold, possibly wet, hand suddenly on his patient's abdomen and relies on this sign will find all his patients suffering from this condition. But they are not. Such stiffening of the abdominal walls as he will meet with is not true rigidity, it is spasmodic contraction of the recti. The patient is not suffering from peritonitis, she is suffering from a totally different complaint, and its proper name is Dread of the Doctor. The physician who boasts of a list of from 60 to 100 patients every day is not to be trusted with this pathognomonic sign. He has no time to distinguish, and often, I fear, he has not the patience. Patience and time are essential. The hand must not be suddenly applied, nor should it be used in the standing position. The surgeon must find time to sit down. His hand must be warm, warmer, if possible, than the patient's skin. The tips of the fingers are not to be used. The entire hand should come in contact with the abdomen like a feather, so that it is almost impossible for the patient to say when actual contact is made. It should then lie without any weight almost entirely supported by the surgeon's own muscles for a few moments motionless, then gradually and gently move with an imperceptible sliding action over the surface. Thus, and thus only, will he be qualified to say whether or not there is actual muscular rigidity

Can we demonstrate the truth of this? I think we can. Analogically, the abdomen is a large joint. To create a joint bone and cartilage are not necessary. A joint is primarily a normal solution of continuity between structures permitting of their movement the one upon the other. Such movement is produced by the action of muscular fibre. Between the structures is a membrane which secretes sufficient fluid to enable this movement to be easy, smooth, and painless. There is a telegraphic, automatic communication by means of a nerve arc with nerve centre, afferent and efferent nerve fibres, connecting the interior of the joint with the muscles which move that joint. Hilton long ago demonstrated this with reference to the bony joints of the body, and Thomas based his method of treatment—now of world-wide acceptance—upon this fact. Any inflammation of the lining membrane produces such irritation of the intra-articular afferent nerves as to be at once and automatically referred to the nerve centre in the spinal cord whence it is as instantaneously conveyed to the muscles moving that joint, and produces in them a tonic contraction, nature's own admirable method of securing rest to the parts affected; and this is precisely what occurs, and must occur in this, the largest joint of all. The rigidity is not confined to the abdominal muscles, though its occurrence in them is perhaps the more easily noted. But it is the cause of the flexed thighs which have been pointed out by so many observers as a separate and distinct sign, but which is now seen to be correlated with the abdominal contraction and explainable by the same law; the psoas and iliacus muscles are part of the muscular coating of the abdominal cavity, influenced by the same nerves and forced to contract in the same way, and show their sympathetic contraction by the flexed drawn-up thighs. It is probable, too, that some of the difficulty experienced in obtaining fæcal evacuations in peritonitis is due to a rigid condition of the levator ani which also forms part of the muscular covering of the peritoneum. Many of the symptoms noted are thus seen to depend upon a common cause—a cause which is inherently present in all cases from the very nature of the condition.

The operation of this law may, indeed, be traced in other "visceral joints," as Kelynack terms them. In acute pleurisy where the "synovial" membrane, the pleura, is affected is not one of the earliest and most characteristic signs the fixation of that side of the chest in which the pleurisy is situate? In inflammation of the tunica vaginalis is there not tonic contraction of the cremaster and dartos muscles, so markedly different from simple hydrocele, which is not dependent on any process of inflammation at all, but is due simply to a loss of the normal balance between secretion and absorption. In cerebral meningitis we have the rigid neck so characteristic of that affection, and in infective spinal meningitis the rigid erector spinæ, but however that may be, and whatever importance may be attached or not to such additional illustrations of Hilton's law, it is indubitable that in the case of the peritoneum it furnishes us with a clear, concise, and scientific criterion upon which we may safely base our diagnosis, a symptom which we can all appreciate, and which will put an end to the miserable indecision from which we have all suffered—no one, perhaps, more than the present writer.

Are cases required to illustrate this dictum? Here are three, each in its way, I think, instructive. In March of this year I operated upon a man who suffered from intussusception of the sigmoid flexure into the rectum. 14 days after a preliminary colotomy I performed Maunsell's operation through a median abdominal incision. Two days later I received an urgent message from my house surgeon to the effect that peritonitis had developed. It was very possible. In such an operation, as is well known, the interior of the intestine is exposed, and the fingers and instruments of the operator, after touching the mucous surface in removing the intussusceptum, are applied again to the peritoneal surface whilst closing the longitudinal incision in the intussuscipiens. No one under such circumstances can feel sure that he has performed an aseptic operation. When I saw the patient he had been vomiting, he was complaining of pain, and his pulse was thin, rapid, and weak. The temperature was 101° F. and his general appearance was decidedly bad. He was lying low in bed, and altogether, if one was to rely on the symptoms usually detailed in text-books, my house surgeon was fully justified in his diagnosis. But the abdominal wall was everywhere supple and with perfect confidence I put peritonitis altogether on one side. The result justified my opinion. A hypodermic injection of strychnine, repeated in four hours, together with stimulants and some stomachics, put a totally new aspect on affairs, and everything went well. The patient recovered and nothing more was heard of peritonitis.

The second case was even more critical. A woman, aged 28 years, came into hospital with the largest double pyosalpinx I have yet seen. The mass extended to the level of the umbilicus, her temperature was 103° F., her legs were drawn up, and she was in very severe pain. During removal of the greatly enlarged tube of the left side some thickened omentum which had plugged the fimbriated extremity tore away, allowing the escape of some thin, ichorous pus. The majority of this was caught on sponges, but one could not be by any means sure that some had not escaped and soiled the peritoneum. The abdomen was dried out and closed without drainage. She suffered from bronchitis and for some days was extremely ill. The temperature went up again on the fifth day to 103° F. The pulse was 116 and the respirations were 36. But the abdomen remained supple throughout. A month later she developed a subdiaphragmatic abscess which was opened and washed out. At length the patient perfectly recovered. Now, although this pus was virulent enough to produce cellulitis behind the peritoneum, ending in abscess, peritonitis was never present. This case proves perhaps still more forcibly the power of the peritoneum to dispose of micro-organisms under prompt purgation with calomel, but it demonstrates also the value of this sign (muscular rigidity), absence of which was throughout depended upon and proved reliable.

The third case, ending in death as it did, enabled us to prove by post-mortem examination the truth of my contention. It has not been the only one, but is, I think, sufficient.

During the last few years I have been investigating as to the possibility of sealing all abdominal wounds with celloidin, so as to avoid the use of dressings, bandages, &c., and I published in April of last year in the *Medical Chronicle* several cases illustrating this practice. One of my earliest cases was fatal. A large subcutaneous hæmatoma formed, owing no doubt to defective hæmostasis, and deceived by the absence of swelling and redness, which is one of the results of this method, I did not diagnose it. The skin was, as might be expected, extremely tender; the patient's temperature rose to 102° and she died five days afterwards, with all the symptoms so common in septic peritonitis, from septic intoxication, but the abdominal wall, tender as it was, was always supple. Post-mortem a large accumulation of broken-down offensive blood and pus was found in the subcutaneous and submuscular tissues. The peritoneum beneath, however, was absolutely closed and free from all signs of inflammation. There were no adhesions, no redness; all was absolutely smooth and unchanged. The intestinal coverings were absolutely normal. No case has to my mind, although I have seen many, so absolutely proved the value of muscular rigidity in determining the presence or absence of acute peritonitis.

The presence or absence of acute peritonitis can, therefore, in all cases be gauged with absolute certainty by the presence or absence of this one essential sign. Inasmuch as this rigidity is temporary, lasting about three or four days, it is useless as a pathognomonic sign in cases of chronic peritonitis, which differs from acute in course, causes, importance, and treatment. But in acute peritonitis it is always necessarily present, and that during the time in which a diagnosis has to be made if it is to be of any value at all.

Manchester.

SOCIETY FOR THE PREVENTION OF CRUELTY TO CHILDREN.—The eleventh annual meeting of the Bristol branch of this society was held on May 29th, under the presidency of the high sheriff. The report stated that 428 complaints were attended to during 1899 and these affected the welfare of 967 children and involved 570 offenders. The financial statement showed that the total local expenditure amounted to £560 and there was a favourable balance of £3 remaining.

VACCINATION LAW.—At the meeting of the Frome (Somerset) Board of Guardians held on May 30th the vaccination officer for the Nunney sub-district reported the result of a prosecution at the magistrates' court on May 24th, [illegible] of the defending barrister [illegible] to show that the notice [illegible] by half-penny post had reached the person to whom it was intended. The public vaccinator for the Nunney district was therefore requested to send the notice in future by registered post, the cost of which would be defrayed by the guardians.

THE INFLUENCE OF THE BUXTON THERMAL WATER ON THE EXCRETION OF URIC ACID.

BY WILLIAM ARMSTRONG, M.R.C.S. ENG.

THE Goulstonian Lectures of 1897,[1] in which Dr. Luff so ably dealt with "The Chemistry and Pathology of Gout," marked a distinct advance in the treatment of that disease. It was shown that in the Gowland-Hopkins method there was at command a test which, while it showed the exact amount of uric acid passed, did not throw down the xanthins and hyper-xanthins—the great blot on certain other methods in general use; the necessity for the purpose of exact observation of testing a sample of the mixed urine of the 24 hours was pointed out; and more than all it was clearly demonstrated that the gouty patient, so far from passing uric acid in excess, in the great majority of instances passed too little; that there was a daily storage going on which, although small in amount, was still sufficient to keep up certain morbid conditions; or if it had no such gradual outlet eventually culminated in an acute attack of articular gout. In repeating these experiments I observed that in patients drinking or bathing in the Buxton thermal water there was a constant and in some cases a considerable increase in the quantity of uric acid excreted, and that this action was the more marked as the natural temperature (82° F.) was approached. Neither the mineral constituents nor the temperature of the water accounted for the facts observed, while nitrogen gas, although present in very large quantity, had always been looked upon as a simple element which was therapeutically inert. It seemed rather significant, however, that Wildbad, Gastein, and Buxton—all associated with relief to the gouty—possessed nothing in common, both temperature and mineral constituents differing, except the presence of nitrogen, and it could not be overlooked that the recent researches of Lord Rayleigh and Professor Ramsey had shown that gas to be not an element but really a very complex body, the whole chemistry of which is probably not yet known.

With a view to finding, if possible, the *rationale* of the "gout cure" for which the Buxton thermal water had so long been noted, a large number of observations and many control and cross-experiments have been made. Over 300 persons have contributed to this investigation. They were of various ages; all except ten suffered from gout in one form or another; these ten were persons in normal health, showing no signs of the gouty diathesis. Their ordinary mixed dietary was not altered in any way. Some of the patients only drank the thermal water, 24 ounces being taken daily, divided into three doses; some bathed only; while a third section both drank and bathed. In all cases the 24 hours' urine was tested, and the first two examinations were made before either the bathing or drinking "cures" were commenced.

The Buxton thermal water is discharged from the earth at a temperature of 82° F. It is soft, clear, and of a light bluish colour, almost free from taste, and without odour. Several exhaustive analyses have been made, the most complete by Dr. Thresh, who devoted much time and care to the investigation. His results were as follows. Calculated into grains per gallon the water was estimated to contain: bicarbonate of calcium, 14 01; bicarbonate of magnesium, 6 02; bicarbonate of iron, 0 03; bicarbonate of manganese, 0 03; sulphate of barium, 0 05; sulphate of calcium, 0 26; sulphate of potassium, 0 62; sulphate of sodium, 0 84; nitrate of sodium, 0 03; chloride of calcium, 0 02; chloride of sodium, 3 10; chloride of ammonium, trace; chloride of magnesium, 0 95; silicic acid, 0 95; organic matter, 0 02; carbon dioxide, 0 20; nitrogen, 0 19; total, 27 32. Lithium, strontium, lead, and phosphoric acid, traces. There were six cubic inches of nitrogen gas to the gallon and a small quantity of carbonic acid gas. This nitrogen has been carefully tested and contains 2 per cent. of argon and a trace of helion. It will be seen that the mineral constituents are small in quantity and of slight therapeutic power and that

[1] THE LANCET, March 27th and April 3rd and 17th, 1897.

there is a large quantity of nitrogen gas, a little in suspension, but by far the greater quantity in solution.

The following lines were laid down for the purpose of this investigation: (1) to note the effect of drinking the thermal water as it emerged from the spring; (2) to eliminate (*a*) by cooling and (*b*) by heating, the contained gases and to note the comparative effects; (3) to test the relative effects of drinking ordinary water at the same temperature; and (4) to note the effects of bathing in the thermal waters at 82° F., 90° F., 96° F., 100° F., and in the ordinary water at 82° F. and at 100° F. The average quantity of urine for the 24 hours before treatment commenced was a little under 46 ounces in the non-gouty and about 41 ounces in the gouty; in the former the uric acid averaged 0·780 grammes per day and in the latter 0·660 grammes.

Drinking (over 60 cases).—1. Thermal water drunk at the spring at 82° F. Average urine after one week, 57 ounces; uric acid, 0·799 gramme. 2. Thermal water allowed to cool to 70° F. Average urine, 45 ounces; uric acid, 0·700 gramme. 3. Thermal water heated in closed vessel to 110° F. Average urine, 48 ounces; uric acid, 0·696 gramme. 4. Ordinary drinking water at 110° F. Average urine, 47 ounces; uric acid, 0·696 gramme.

Bathing (over 100 cases).—1. At 82° F. Average urine, 55 ounces; uric acid, 0·939 gramme. 2. At 90° F. Average urine, 50 ounces; uric acid, 0·874 gramme. 3. At 96° F. Average urine, 47 ounces; uric acid, 0·777 gramme. 4. At 100° F. Average urine, 40 ounces; uric acid, 0·680 gramme. 5. Bath in ordinary water at 82° F. Average urine, 41 ounces; uric acid, 0·675 gramme. 6. Bath in ordinary water at 100° F. Average urine, 38 ounces; uric acid, 0·669 gramme.

Drinking and bathing at 82° F. (over 100 cases).—Average urine, 60 ounces; uric acid, 1·004 grammes.

While drinking the water the quantity of uric acid excreted gradually reached its maximum in from 14 to 20 days, kept about this figure for another seven or eight days, and then gradually declined to the normal amount. This was also the rule when bathing in the water heated to 90° F. and over; but *immersion* alone in the water at its natural temperature (82° F.) was often followed by a considerable increase in uric acid excretion from the very first bath. It will be noted that this bath contains the full amount of nitrogen gas undisturbed by heating.

The results of this investigation may be summed up as follows: (1) that the excretion of uric acid and the flow of urine are both largely increased by the drinking of, and by immersion in, the Buxton thermal water; (2) that it is more efficacious when bathed [illegible] regards uric acid excretion; (3) that t[illegible] greater when drunk than when used as a bath; (4) that any deviation from the normal temperature either by heating or cooling interferes with its efficacy; and (5) that while the alterations in temperature would not be likely to diminish the therapeutic properties of the salts they would, on the other hand, greatly interfere with the contained gas.

The late Dr Robertson, so long the leader of the medical profession in Buxton, who did so much to press forward its claims as a gout spa, wrote: "It may be advanced that the modern researches of chemistry have caused more and more importance to be attached to the great elementary principle with which the Buxton tepid waters are surcharged. The very large proportion of nitrogen contained in the essential crystallisable principles of tea, coffee, and cocoa, in taurine, the great azotised constituent of the bile, in the various fibres and tissues, in the secretions and excretions of the body, the consumption of nitrogen shown to be involved in every movement and process of the animal systems, are so many indications of the inference deducible from the great advance of modern chemistry, and so many reasons why this nitrogen in an available form for internal and external use may have a significance which may hardly admit of exaggeration. Argon being much more soluble than nitrogen and therefore more rapidly absorbed through the skin and mucous membranes appears to give an additional explanation of the influence on the tissues of the body of these nitrogenous waters."

Dr. Thresh writes: "Doubtless much of the gas is liberated within the very pores of the skin itself during bathing and acts in what may be considered its semi-nascent state, producing effects altogether unattainable by the use of the same agent in any other condition."

It is also interesting to note some recent work regarding the chief mineral constituent of the Buxton thermal water, calcium bicarbonate. Kionka of Breslau gave powdered egg-shells to birds and by this means increased the excretion of uric acid from 40 to 50 per cent. Van Noorden has recommended the use of lime in this form as a remedy for gout. It is not impossible therefore that in the combined action of the nitrogen gas and of the lime salts may be found the explanation of the undoubted influence of the Buxton thermal waters on uric acid excretion. If it be true, as seems to have been proved beyond doubt, that the manifestations of gout are largely due to deficient excretion of uric acid, it is of importance that a natural water which so largely increases that elimination should have its therapeutic position placed upon a definite scientific basis.

Buxton.

ON SUPRAPUBIC LITHOTOMY IN OLD MEN WITH ENLARGED PROSTATE.[1]

BY W. THELWALL THOMAS, F.R.C.S. ENG.,

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WE have but to look through any pathological museum to realise how irregularly an enlarged prostate disports itself and to notice a well-marked pouch behind the middle lobe in a great number of the specimens. The capacity of this pouch during life is readily ascertained by measuring the quantity of so-called "residual urine" that can be drawn off, quantities of two, four, or even more ounces being met with. Gravel in small fragments or well-formed calculi coming down the ureters emerge into this pouch and there lie, unable to surmount the barrier offered by the middle lobe of the prostate to escape per urethram; they may remain there unsuspected for months without causing symptoms. Cystitis with decomposition of the [illegible] my cases the [illegible] sition, and the [illegible] conditions are [illegible] of the prostate that the existence of stone is sometimes overlooked. Slightly increased frequency of micturition and occasional pain may attract attention; in one case a little blood was noticed in the urine on one occasion. Should catheter life be entered [illegible] often complicates the case, septic in [illegible] es from want of due precautions; the urine becomes ammoniacal and purulent, severe pain is often present, blood is more frequently passed, and the calculus becomes encrusted with rough phosphates. When in a case of enlarged prostate with any degree of residual urine symptoms become in any way exaggerated it is well as a routine practice to sound for stone and if the prostate be very large to use a special sound (Kane's) or cysto- [illegible] behind the middle lobe. [illegible] will occasionally fail to discover a stone in this pouch and aspiration sound- [illegible] be relied upon. It is hardly [illegible] the importance of a thorough [illegible] and the sterilising of the sound before use; the bladder in these cases is particularly liable to be infected, and if it becomes so it adds greatly to the gravity of the condition. Having ascertained the presence of a stone, how best to deal with it becomes the question. Given an old man with an enlarged prostate, the stone in a pouch behind it, a congested, friable, possibly ulcerated mucous membrane, maybe some degree of septic cystitis, and the bladder-wall containing numerous small pouches bounded by prominent fasciculi—is the operation to be lithotrity or lithotomy?

The objections to crushing in these cases are: (1) the difficulty, or even the impossibility, of seizing the calculus; (2) if caught and broken, then the difficulty in finding the fragments; and (3) [illegible] crushing, then, aspiration diffusing [illegible] e innumerable pits in the mucous membrane, the great uncertainty of washing out all the pieces, for in these cases the patient cannot be trusted to pass any portions left behind, they will lodge behind the prostatic enlargement and form nuclei for fresh calculi.

[1] A paper read at the Liverpool Medical Institution on March 8th, 1900.

The difficulty of seizing a calculus behind an enlarged middle lobe with a lithotrite will be readily understood on exan
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sutured and the wound be treated antiseptically.

Before resorting to the operation it is advisable to render the urine and
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oftener, have answered best in my experience. Boric acid is much too feeble an antiseptic if the urine be "high."

water in the proportions of eight, six, and four. Four grains of potassium mercuric iodide dissolved in four ounces of water before mixing makes a proportion of nearly 1 in 2000.[2] In ordinary cases, without ammoniacal urine, the administration of urotropine is enough. It is useful in all bladder, urethra, and kidney cases that require surgical treatment to administer urotropine internally for a few days before opera-
condition does not urgently
having been shaved and the skin prepared for an aseptic operation, a purgative is administered on the day before, and the rectum is washed out on the morning of the day of operation. The patient having been anæsthetised, a catheter is passed to empty the bladder and to allow of washing out if necessary. An inflator,
small bicycle pump,
is attach
three or four inches long, is
abdomen above and extending on to the pubes, the cut is deepened until the extra-peritoneal fat is exposed immediately above the pubes, retractors now keep the sides apart; one rectus being nicked if enough room is not obtained. Air is pumped into the bladder until the viscus rises into the wound like a balloon; the peritoneal reflexion is seen moving upwards. A couple of silk loops are passed through the muscular coat of the bladder by means of a handled needle; these serve as fixation points and are held by an assistant to keep the bladder well up in the wound after opening. A small incision is made in the bladder and the air escapes. The catheter is withdrawn and the finger is passed in to locate the calculus and to ascertain its size. If small, the stone can be readily extracted by Tait's gall-stone forceps, which takes up less room than the unnecessarily clumsy lithotomy forceps; if large, the wound in the bladder is extended, the mucous membrane being divided to a lesser extent than the muscular coat, blunt hooks are inserted above and below to keep the opening on the stretch, and a pair of lithotomy forceps is used to seize the calculus. After the calculi have been removed the bladder is thoroughly examined with the finger and an inspection is made of the interior, aided by light from a forehead electric lamp. The bladder wound is sutured, continuous chromic gut for the mucous membrane and continuous silk *a la* Lembert for the muscular coat being employed. The bladder suture is now tested by air
ire a few ounces of chinosol lotion are
small blood-clot that may be in the
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kin incision is closed by sutures and
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withdrawn and on the ninth day the glass

washing out with chinosol lotion put that right. The bladder was examined with no evidence of calculus.

CASE 2.—A man, aged 70 years, was seen in consultation with Mr. J. F. Ronayne of Liverpool on June 26th, 1897. For the last six months the patient had been troubled by greatly increased frequency of micturition, and latterly dribbling of ammoniacal urine; he had occasional severe spasms of pain on micturition and some blood had passed. He had a very large prostate as felt through the rectum. On passing a sound a calculus was found at the bladder orifice of the urethra; the passage of the sound pushed it into the bladder, and it became lost in a pouch behind the enlarged prostate. On June 29th suprapubic lithotomy was performed. The catheter was removed in 48 hours on account of the urine passing alongside it. A glass drainage-tube was removed in 72 hours. On the fourth day a little urine escaped through the sinus left by the drainage-tube; this was not repeated and on the eleventh day the patient was up and about. The calculus weighed 120 grains and consisted of uric acid covered with rough phosphates. On June 23rd, 1899, there was some cystitis, the urine was acid, and there was ropy mucus. There was no calculus. The bladder was washed out.

CASE 3.—The patient was a man, aged 63 years, under the care of Dr. W. McGeagh of Liverpool. He was seen on Feb. 17th, 1899. For two years he had had greatly increased frequency of micturition and blood was noticed in the urine once. Lately he had suffered from severe pain in the perineum. The prostate was much enlarged. There were two ounces of residual urine. The bladder was examined by the cystoscope; a collection of reddish-brown calculi was seen in a pouch behind the prostate. On the 20th suprapubic lithotomy was performed; at the operation Dr. R. T. McGeagh and Dr. W. McGeagh assisted. Air distension was used. 15 calculi, uric acid in composition and weighing 110 grains, were removed. The catheter was removed daily, cleansed, and re-introduced. The catheter and drainage-tube

[2] Messrs. Clay and Abraham, chemists, Liverpool, put up this lubricant soap in collapsable tubes.

there is a large quantity of nitrogen gas, a little in suspension, but by far the greater quantity in solution.

The following lines were laid down for the purpose of this investigation: (1) to note the effect of drinking the thermal water as it emerged from the spring; (2) to eliminate (*a*) by cooling and (*b*) by heating, the contained gases and to note the comparative effects; (3) to test the relative effects of drinking ordinary water at the same temperature; and (4) to note the effects of bathing in the thermal waters at 82° F., 90° F., 96° F., 100° F., and in the ordinary water at 82° F. and at 100° F. The average quantity of urine for the 24 hours before treatment commenced was a little under 46 ounces in the non-gouty and about 41 ounces in the gouty; in the former the uric acid averaged 0 780 grammes per day and in the latter 0·660 grammes.

Drinking (over 60 cases).—1. Thermal water drunk at the spring at 82°F. Average urine after one week, 57 ounces; uric acid, 0 799 gramme. 2. Thermal water allowed to cool to 70°F. Average urine, 45 ounces; uric acid, 0·700 gramme. 3. Thermal water heated in closed vessel to 110°F. Average urine, 48 ounces; uric acid, 0·696 gramme. 4. Ordinary drinking water at 110°F. Average urine, 47 ounces; uric acid, 0 696 gramme.

Bathing (over 100 cases).—1. At 82°F. Average urine, 55 ounces; uric acid, 0 939 gramme. 2 At 90°F. Average urine, 50 ounces; uric acid, 0 874 gramme. 3. At 96°F. Average urine, 47 ounces; uric acid, 0 777 gramme. 4. At 100°F. Average urine, 40 ounces; uric acid, 0 680 gramme. 5. Bath in ordinary water at 82°F. Average urine, 41 ounces; uric acid, 0 675 gramme. 6 Bath in ordinary water at 100°F. Average urine, 38 ounces; uric acid, 0 669 gramme.

Drinking and bathing at 82° F. (over 100 cases).—Average urine, 60 ounces; uric acid, 1·004 grammes.

While drinking the water the quantity of uric acid excreted gradually reached its maximum in from 14 to 20 days, kept about this figure for another seven or eight days, and then gradually declined to the normal amount. This was also the rule when bathing in the water heated to 90°F. and over; but *immersion* alone in the water at its natural temperature (82°F.) was often followed [illegible] increase in uric acid excretion from the [illegible] will be noted that this bath contains [illegible] nitrogen gas undisturbed by heating.

The results of this investigation may be summed up as follows: (1) that the excretion of uric acid and the flow of urine are both largely increased by the drinking of, and by immersion in, the Buxton thermal water; (2) that it is more efficacious when bathed in than when drunk as regards uric acid excretion; (3) that the diuresis is somewhat greater when drunk than when used as a bath; (4) that any deviation from the normal temperature either by heating or cooling interferes with its efficacy; and (5) that while the alterations in temperature would not be likely to diminish the therapeutic properties of the salts they would, on the other hand, greatly interfere with the [illegible]

The late Dr Robertson, so long the [illegible] profession in Buxton, who did so muc[illegible] claims as a gout spa, wrote: "It may be advanced that the modern researches of chemistry have caused more and more importance to be attached to the great elementary principle with which the Buxton tepid waters are surcharged. The very large proportion of nitrogen contained in the essential crystallisable principles of tea, coffee, and cocoa, in taurine, the great azotised constituent of the bile, in the various fibres and tissues, in the secretions and excretions of the body, the consumption of nitrogen shown to be involved in every movement and process of the animal systems, are so many indications of the inference deducible from the great advance of modern chemistry, and so many reasons why this nitrogen in an available form for internal and external use may have a significance which may hardly admit of exaggeration. Argon being much more soluble than nitrogen and therefore more rapidly absorbed through the skin and mucous membranes appears to give an additional explanation of the influence on the tissues of the body of these nitrogenous waters."

Dr. Thresh writes: "Doubtless much of the gas is liberated within the very pores of the skin itself during bathing and acts in what may be considered its semi-nascent state, producing effects altogether unattainable by the use of the same agent in any other condition."

It is also interesting to note some recent work regarding the chief mineral constituent of the Buxton thermal water, calcium bicarbonate. Kionka of Breslau gave powdered egg-shells to birds and by this means increased the excretion of uric acid from 40 to 50 per cent. Van Noorden has recommended the use of lime in this form as a remedy for gout. It is not impossible therefore that in the combined action of the nitrogen gas and of the lime salts may be found the explanation of the undoubted influence of the Buxton thermal waters on uric acid excretion. If it be true, as seems to have been proved beyond doubt, that the manifestations of gout are largely due to deficient excretion of uric acid, it is of importance that a natural water which so largely increases that elimination should have its therapeutic position placed upon a definite scientific basis.

Buxton.

ON SUPRAPUBIC LITHOTOMY IN OLD MEN WITH ENLARGED PROSTATE.[1]

BY W. THELWALL THOMAS, F.R.C.S. ENG.,

HONORARY ASSISTANT SURGEON, ROYAL INFIRMARY, LIVERPOOL; ASSISTANT LECTURER ON SURGERY, UNIVERSITY COLLEGE, LIVERPOOL.

WE have but to look through any pathological museum to realise how irregularly an enlarged prostate disports itself and to notice a well-marked pouch behind the middle lobe in a great number of the specimens. The capacity of this pouch during life is readily ascertained by measuring the quantity of so-called "residual urine" that can be drawn off, quantities of two, four, or even more ounces being met with. Gravel in small fragments or well-formed calculi coming down the ureters emerge into this pouch and there lie, unable to surmount the barrier offered by the middle lobe of the prostate to escape per urethram; they may remain there unsuspected for months without [illegible] decomposition of the [illegible] two of my cases the [illegible] composition, and the [illegible] these conditions are so slightly different from those of enlargement of the prostate that the existence of stone is sometimes overlooked. Slightly increased frequency of micturition and occasional pain may attract attention; in one case a little blood was noticed in the urine on one occasion. Should catheter life be entered upon then cystitis often complicates the case, septic in character in most cases from want of due precautions; the urine becomes ammoniacal and purulent, severe pain is often present, blood is more frequently passed, and the calculus becomes encrusted with rough phosphates. When in a case of enlarged prostate with any degree of residual urine symptoms become in any way exaggerated it is well as a routine practice to sound for stone and if the prostate be very large to use a special sound (Kane's) or cystoscope to explore the pouch behind the middle lobe. An ordinary bladder-sound will occasionally fail to discover a stone in this pouch and aspiration sounding is not always to be relied upon. It is hardly necessary to emphasise the importance of a thorough cleansing of the urethra and the sterilising of the sound before use; the bladder in these cases is particularly liable to be infected, and if it becomes so it adds greatly to the gravity of the condition. Having ascertained the presence of a stone, how best to [illegible] Given an old man with an [illegible] a pouch behind it, a congested, friable, [illegible] mucous membrane, maybe some degree [illegible] and the [illegible] small pouches bounded [illegible] operation to be lithotrity or lithotomy?

The objections to crushing in these cases are: (1) the difficulty, or even the impossibility, of seizing the calculus; (2) if caught and broken, then the difficulty in finding the fragments; and (3) granted the possibility of crushing, then, aspiration diffusing the fragments into the innumerable pits in the mucous-membrane, the great uncertainty of washing out all the pieces, for in these cases the patient cannot be trusted to pass any portions left behind, they will lodge behind the prostatic enlargement and form nuclei for fresh calculi.

[1] A paper read at the Liverpool Medical Institution on March 8th, 1900.

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with ammoniacal urine be present, the administration of urotropine in five-grain doses thrice daily and washing out the bladder with chinosol lotion (1 in 1200) twice a day, or oftener, have answered best in my experience. Boric acid is much too feeble an antiseptic if, the urine be "high." Chinosol is non-poisonous and a powerful antiseptic. It is imperative that every aseptic and antiseptic precaution should
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In ordinary cases, without ammoniacal urine, the adm
tion of urotropine is enough. It is useful in all bladder, urethra, and kidney cases that require surgical treatment to
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Operation.—The pubic hair
skin prepared for an aseptic
ministered on the day before,
out on the morning of the day of operation. The patient having been anæsthetised, a catheter is passed to empty the bladder and to allow of
inflator, ball syringe, or bet
is attached to the catheter.
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extending on to the pubes,
extra-peritoneal fat is exposed immediately above the pubes, retractors now keep the sides apart, one rectus being nicked if enough room is not obtained. Air is pumped into the bladder until the viscus rises into the wound like a balloon; the peritoneal reflexion is seen moving upwards. A couple of silk loops are passed through the muscular coat of the bladder by means of a handled needle; these serve as fixation points and are held by an assistant to keep the bladder well up in the wound after opening. A small incision is made in the bladder and the air escapes. The catheter is withdrawn and the finger is passed in to locate the calculus and to ascertain its size. If small, the stone can be readily extracted by Tait's gall-stone forceps, which takes up less room than the unnecessarily clumsy lithotomy forceps; if large, the wound in the bladder is extended, the mucous membrane being divided to a lesser extent than the muscular coat, blunt hooks are inserted above and below to keep the opening on the stretch, and a pair of lithotomy forceps is used to seize the calculus. After the calculi have been removed the bladder is thoroughly examined with the finger and an inspection is made of the interior, aided by light from a forehead electric lamp. The bladder wound is sutured, continuous chromic gut for the mucous membrane

washed out with a few ounces of chinosol lotion daily. Four

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troubled with frequency of micturition for months, but had never required catheterising. On August 24th, when he came under observation, the urine was faintly acid, of specific gravity 1022, and contained blood but no pus. The bladder had two ounces of residual urine. The ordinary sound revealed a calculus. On the 27th before administering an anæsthetic the stone was sounded under chloroform. On asking the dressers to "feel" the stone the could not strike it, and although we rolled the patient and had the base of the bladder manipulated from the neither sound nor lithotrite could find the stone. rity was thus clearly out of the question. Suprapubic my was performed, boric lotion was used to distend ıdder, and the stone was found in a deep pouch behind iddle lobe of the prostate. No ordinary lithotrite possibly have grasped it. On the sixth day the er was withdrawn and on the ninth day the glass . Two days later he developed an delayed his convalescence, but his but on two occasions we washed the bladder out as a precaution. The calculus removed weighed 46 grains and consisted of uric acid coated with phosphates. In January, 1900, it was ascertained that he had had occasional turbid urine since the operation, but washing out with chinosol lotion put that right. The bladder was examined with no evidence of calculus.

CASE 2.—A man, aged 70 years, was seen in consultation with Mr. J. F. Ronayne of Liverpool on June 26th, 1897. For the last six months the patient had been troubled by greatly increased frequency of micturition, and latterly dribbling of ammoniacal urine; he had occasional severe spasms of pain on micturition and some blood had passed. He had a very large prostate as felt through the rectum. On passing a sound a calculus was found at the bladder orifice of the urethra; the passage of the sound pushed it into the bladder, and it became lost in a pouch behind the enlarged prostate. On June 29th suprapubic lithotomy was performed. The catheter was removed
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CASE 3.—The patient was a man, aged 63 years, under the care of Dr. W. McGeagh of Liverpool. He was seen on Feb. 17th, 1899. For two years he had had greatly increased frequency of micturition and blood was noticed in the urine once. Lately he had suffered from severe pain in the perineum. The prostate was much enlarged. There were two ounces of residual urine. The bladder was examined by the cystoscope; a collection of reddish-brown calculi was seen in a pouch behind the prostate. On the 20th suprapubic lithotomy was performed; at the operation Dr. R. T. McGeagh and Dr. W. McGeagh assisted. Air distension was used. 15 calculi, uric acid in composition and weighing 140 grains, were removed. The catheter was removed daily, cleansed, and re-introduced. The catheter and drainage-tube

* Messrs. Clay and Abraham chemists, Liverpool, put up this lubricant soap in collapsible tube.

were removed on the third day. On the fourth day the patient was much troubled by flatus, the abdomen became distended, and he vomited. A turpentine enema was administered which caused a free evacuation and he was soon well. On the tenth day he got up. In February, 1900, he was well and strong, doing heavy farm work.

CASE 4.—The patient was a man, aged 80 years, under the care of Mr. J. Herbert Sykes of Birkdale. He was seen on March 2nd, 1899. 15 months previously he had passed some gravel. He had experienced extreme irritability of the bladder since. Hurrying caused pain. The urine was acid and contained blood. Cystoscopic examination revealed several calculi behind the middle lobe of the prostate. On March 16th suprapubic lithotomy was performed, Mr. Sykes assisting. Air distension was used. Six calculi were removed; they were uric acid in composition and weighed 133 grains. The catheter was removed on the sixth day and the glass tube on the eighth. The patient got up in three weeks. He had no complications, but he was feeble and the weather was cold, so he was kept in bed longer than were the other patients. On March 3rd, 1900, the patient was keeping very well. He had some tenderness over the operation scar but no pain. He passed urine every two hours and occasionally uric acid dust.

Liverpool.

MONOGAMY IN ITS RELATION TO LONGEVITY AND THE DISEASES OF LATE LIFE.

BY HARRY CAMPBELL, M D, B.S, F.R C P. LOND,
PHYSICIAN TO THE NORTH WEST LONDON HOSPITAL AND TO THE WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM.

THE increase in the death-rate from cancer has of late attracted, and rightly attracted, the attention of medical men, and various opinions have been advanced to account for it. One reason doubtless is that owing to the increased average length of life more people live into the cancerous age now than formerly. Some hold this to be the entire explanation and doubt if there has been any increase in the individual tendency to the disease. I believe, however, that I can see one reason why the individual tendency should increase, and though the suggestion I have to offer may at first sight appear chimerical I yet hope to advance a convincing argument in its support. My contention is that monogamy tends to favour the increase in our race of all late-life diseases, cancer among others, and to shorten the vital span.

Intent on his microscope and test-tubes the pathologist is all too prone to overlook first principles. I have long wondered at his indifference to some of the grand truths of biology—at his failure to realise, for instance, that in order to maintain a high standard of racial efficiency there must be a ceaseless and rigorous elimination of the unfit. The belief that we can rear a healthy race by a perfect system of sanitation, and by that alone, is one of the most grievous fallacies of our time. Sanitation is doing much, and will do more, but it will never by itself secure a supremely healthy race. This end can only be attained by a vigilant weeding-out of the unfit. We are seeking, but shall ever seek in vain, to elude the inexorable law.

No species is, or ever can be, stereotyped. No two organisms are born exactly alike. Taking all the children of a family, and striking their mean standard of fitness, we find that some surpass, while others fall short of, this standard, and it is quite impossible to prevent racial deterioration unless those who fall *far* short are eliminated. I here refer to general fitness, but my proposition applies to each and every character of the individual. To take an example. A high *racial* (I use this term as distinguished from *individual*) excellence in respect of visual accommodation can only be maintained by a stringent elimination of those displaying errors of refraction. In civilised communities such are not eliminated, and consequently the race is deteriorating in respect of eyesight. In this instance the defect is remediable and the loss is in the main an æsthetic one, but countless other instances could be mentioned in which defective elimination is lowering the efficiency of our race, and in consequence we have among us a vast multitude of the unfit. As a physician I am seeing every day of my life people whom I am compelled to class among nature's failures—people who fall short of the standard which makes life worth living, people who in virtue of their unfitness suffer more than they enjoy. When, therefore, I see, and share in, the vain struggle to patch up such failures and when I read elaborate systems on treatment I ask myself: Why not look *facts* sternly in the face and strike at the root of the evil by conforming to the supreme and inexorable law? I am convinced that some day this will be done, and that the wilful begetting of inefficient humans will be looked upon as scarcely less serious than the destruction of those already launched into being.

I make these observations because it is needful for my argument to insist upon the importance of this factor of elimination in keeping down the tendency to disease. In my work on "The Causation of Disease" I lay it down as an axiom that all non-accidental deaths occurring before the end of reproductive life are, racially considered, deaths of the unfit, such deaths acting beneficially on the race by limiting the production of unfit offspring. If the unfit individual dies before the procreative period he can leave no offspring whatever to inherit his unfitness; if he dies during this period he has an opportunity, increasing with every year of survival, of leaving unfit offspring; while if he dies after the procreative period he has had the opportunity of leaving his full complement of such offspring. Hence so far as the racial effect of death from unfitness is concerned, it is greatest when it occurs before the reproductive period, becomes less and less as it occurs later and later in this period, and ceases altogether when it takes place after it. The purifying action of elimination varying thus at different ages, we find the tendency to grave disorder is least before procreative life, steadily increases during it, and rises enormously at its termination. Inasmuch as post-procreative life comes not at all under the corrective influence of elimination I should expect to find the organism manifesting many defects directly this period is entered upon. I should, indeed, be prepared to find, not only an enormous increase in the tendency to disease at this time, but *a tendency for all organisms, vegetable as well as animal, to die soon after* the cessation of reproductive life. How far this conclusion is borne out by observation I know not, but I believe it is true of man.

This line of thought renders it important to determine the average limit of the procreative period in man. The most vigorous specimens of the human male certainly retain procreative power beyond the allotted age of the Psalmist; and we owe it, I believe, to this very circumstance that many of us are able to reach or even live beyond this limit. Had no man during the last 100,000 years got offspring after the age of 50, we should all probably tend to die of old age about this time. There has, however, been no such limit to reproduction. In primitive communities, e.g., the man who by his great physical superiority becomes the warrior-chief or king may continue to get children until well on in years, and may thus leave many more children than the average man. Now children thus got, female as well as male, tend by the law of heredity to live as long as their father, to resist deadly disease as long as he. It is true that children got by fathers who procreate into old age must have always formed a small proportion of the total number of children born. Nevertheless, they have, I contend, exercised a leavening influence on the race, an influence which has been at work from the time of the ape-like man. The ability to live into the sixties and seventies, or even longer, we owe to the vigorous man of fine physique who retains his procreative power into advanced life. The woman, on the other hand, has played no part in the evolution of this power: her ability to live beyond 40 or 45 has no racial influence, since it does not increase her opportunity of leaving offspring to inherit it.

Now in civilised communities the tendency, observed in the more primitive ones, for the man who lives to a vigorous old age to leave more children than the average man is not great. The majority of men among the civilised have children by one wife only, and she is generally about the same age as the husband. The effect of this is to reduce the age limit of reproduction in the man to that of the woman. A man, therefore, marrying a woman about his own age, and possessing the power of propagation into advanced life, leaves no more children to inherit his superior death-resisting powers than the inferior man who dies at 45. Monogamy in such a case reduces the superior man to the reproductive level of the inferior man, and robs the race of a number of

individuals whose birth would diminish the racial tendency to disease in the later years and increase the racial span of life. The effect of monogamy, in fact, is to increase the racial tendency to disease after middle life and to shorten the vital span.

Among the diseases one would expect to be increased by the monogamous limitation of procreative life is carcinoma. Reckoning for the sake of argument 40 years (which is, indeed, below the mark) as the average age-limit to procreation among monogamous people, we must regard carcinoma as essentially a disease of post-procreative life and one on which elimination has little or no racial effect. Before the individual with a tendency to this disease develops it he has had abundant opportunity of leaving children to inherit the morbid tendency. Nothing hinders his contribution to the species being as great as that of the individual possessing the *minimum tendency to malignant disease*. Thus monogamy tends to increase the percentage of cancerously disposed individuals.

While, however, *monogamy is thus exercising an injurious* influence on our race, polygamy is a sociological impossibility, and happily we have at our disposal a much more efficacious means than is afforded by it of securing to the fittest the largest number of offspring—of giving full play to that searching process of elimination which alone can sustain a high level of racial fitness. [illegible] is a merciless one; she [illegible] individual for the benefit [illegible] type is she, so careless of the single life. The sole object of individual elimination, racially considered, is [illegible] offspring to [illegible] unfitness, [illegible] this object [illegible] same end [illegible] from getti[illegible] increasing racial stan[illegible] of other fell[illegible] h some may [illegible] life almost indefinitely. I have elsewhere shown that a man does not grow old, as is so often assumed, by wearing out, like his boots. If such were the case he would begin to wear out from the very beginning of his existence, whereas it is precisely in the years of developmental life when most energy [illegible] vital cycle as that of development [illegible]

I would observe, in conclusion, that I do not advocate any [illegible] than ourselves to help on the [illegible]

Wimpole street, W.

[illegible] miners [illegible] inted as [illegible] d Owen, [illegible] ry: Pro- [illegible] itts, and [illegible] and Dr. [illegible] n, are to [illegible] Hygiene [illegible] ory work in chemistry, &c., for the D.P.H examination will be given by Mr. J. E Parris at the Chemical Laboratory during the ensuing long vacation. The course will be open to practitioners who are not members of the University and it will begin on July 6th.—The Vice-Chancellor, Mr. Chawner, has been elected to hold office for another year.—Mr. Wilberforce of Trinity College has been appointed Lecturer on Experimental Physics in the place of Mr. W. N. Shaw, F.R.S.—The plans for the medical school buildings having been approved by the Senate it is proposed during the summer to obtain specifications and tenders for the erection of the first portion facing Downing-street.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

ADDISON'S DISEASE FOLLOWING ENTERIC FEVER.

BY HAROLD W EVANS, M.R.C.S. ENG., L R C.P. LOND.

On Feb 26th of this year I was called in to see a girl, *17 years of age, who said she had felt unwell for 10 days.* Her temperature was 103° F. and she complained of a fulness at the lower part of her abdomen. I ordered her to bed on milk diet and found in a day or two that the case was one of enteric fever in the second week, and of moderate severity—i.e., she had from three to four loose stools a day which had the colour of yellow ochre and were occasionally streaked with blood. Typical rose spots appeared in crops. *The temperature remained between 101° and 103°* till March 10th when it dropped to normal, corresponding to the end of the third week from the time the patient [illegible] For the next week all seemed [illegible] emperature keeping down, the [illegible] oming moist, and the motions [illegible] improving both in colour and [illegible] ing week, however—i.e., the [illegible] tended her and the fifth of the [illegible] ced and occurred, two or three [illegible] vice a night. The vomit was of watery consistency, and did not [illegible] with the diet which at that time [illegible] e most marked feature being its [illegible] had to control it. At [illegible] s symptom and thought [illegible] the stomach as a result of the general debility caused by the enteric fever or to a gastric ulcer, though there were no symptoms of the latter, such as pain *after food or blood in the vomit.* About this time I noticed a marked increase in the pulse rate which made me think that the patient was going to have a relapse, but though I repeatedly took her temperature I never found any rise, nor was there any return of the other symptoms—viz., rose spots or diarrhœa.

One day in the *sixth or seventh week* when examining the girl's abdomen I noticed a brown discolouration of the skin immediately above the pubes. At the time I did not pay much attention to this point, thinking that as the patient and her surroundings were none of the cleanest it was probably due to the want of soap and water. The following week, however, I noticed this discolouration had increased considerably in extent a[illegible] to me what a funny c[illegible] examination I found this [illegible] of small brown spots [illegible] The deepest colour was [illegible] which it extended near[illegible] fading into the adjacen[illegible] arpund the nipples and [illegible] examined the mucous membrane of her lips and mouth there was never any *staining* to be noted.

The further course of the case was one of steady decline. The pulse became weaker and weaker—in fact, for many days it was quite imperceptible at the wrist. The vomiting continued, being some days better, other days worse. There was great emaciation, *though this may have been due partly* to the enteric fever and partly to the patient's great dis- [illegible] inclination to take food. Towards the end very troublesome [illegible] constipation occurred and in the last week a number of purpuric spots appeared upon the chest and abdomen which showed up in marked contrast *to the brown discolouration.* The patient gradually sank and died from asthenia on May 19th—i.e., 11 weeks and five days from the time of my first seeing her.

As the patient lived at a distance of seven and a half miles from my house I was unable to visit and observe her as closely as I should have liked. I was not able to obtain a

necropsy to verify my diagnosis, though with the three cardinal symptoms so well marked I have little doubt in my mind that it was a true case of Addison's disease.

I should like to have the opinion of my professional brethren on the questions: Was there any direct connexion between the last and first diseases, or was it simply the case of a body debilitated by a wasting disease becoming a suitable nidus for the invasion of the bacillus tuberculosis, if, as seems generally to be acknowledged, that be the cause of Addison's disease? I examined the patient thoroughly on more than one occasion but was never able to find any tuberculous mischief elsewhere.

Littleport.

NOTE ON A CASE OF FAILURE OF RESPIRATION UNDER ANÆSTHESIA.

BY FRANK E. MARSHALL, M.B., CH.B. VICT., L.S.A.,
ANÆSTHETIST (PRO TEM.) TO THE ROYAL SOUTHERN HOSPITAL, LIVERPOOL.

IN a recent issue of THE LANCET[1] there was a report of a meeting of the Society of Anæsthetists at which three cases of Failure of Respiration under Anæsthesia were reported by Mr. Carter Braine. As I have recently had a case somewhat on the same lines I think an account of it may be of interest to anæsthetists generally.

The patient was a well-built lad, aged 18 years, upon whom osteotomy of the neck of the femur for old fracture and subsequent ankylosed hip was being performed. The first stage a [illegible] normally, except that perhaps the [illegible] ore prolonged and more violent than is usually seen in patients of this class. The operation had been in progress about 10 minutes, nearly an ounce of chloroform having been used in an ordinary open inhaler, when the patient suddenly stopped breathing with his pupils widely dilated and not reacting to light. The heart continued beating, as far as one could judge, quite normally. The tongue was pulled out and the jaw was jerked forwards and upwards several times with no result. The patient's head and the upper part of the trunk were hung over the edge of the [illegible] artificial respiration was commenced, [illegible] leaving the chest quite naturally. N[illegible] was made by the patient to continue breathing. His colour remained good, though slightly pale. The pulse was very fair, but the pupils still kept widely dilated. Owing to the apparently good condition of the circulatory functions the operation was continued and completed, 10 minutes being thus occupied, during which time the above-mentioned position was maintained and artificial respiration [illegible] After about 10 minutes, the patient's [illegible] menced just as suddenly as it had [illegible] returned to their normal [illegible] minutes he began to r[illegible] The after events were quite normal. At no time was there any sign of approaching vomiting—the patient, indeed, did not vomit at any time after the anæsthesia. The lower jaw, I may mention, was quite flaccid; in fact, it had dropped. The heart sounds were quite normal and there was no albuminuria. Curiously enough, a week later the same patient was again operated upon, and this time a wedge-shaped piece of bone was removed from the neck and great trochanter of the femur. The ope[illegible] three-quarters of an [illegible] tered, and at no time [illegible]

To me this case appears as a true paralysis of the respiratory centre, the circulatory centre being uninterfered with; the chloroform which was used (Duncan and Flockhart's) being above suspicion.

Liverpool.

[1] THE LANCET, May 26th, 1900, p. 1518.

NEW MEDICAL FACULTY IN RUSSIA.—The University of Odessa has hitherto lacked a medical faculty. The necessary buildings have been already partly erected and a commencement will be made next session. There will be at first seven clinics with 195 beds, 14 ordinary and nine extraordinary professors, and nine prosectors and six assistant prosectors. The first dean of the medical faculty will be Professor Podvysotski.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro[illegible] et morborum et dissectionum [illegible] collectas habere, et inter se c[illegible]—MORGAGNI: *De sed. et caus. Morb.*, lib. iv. Proœmium.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL.

A CASE OF OMPHALITIS RESULTING IN ULCERATION AT THE UMBILICUS; CLOSURE OF ULCER BY A PLASTIC OPERATION; RECOVERY, WITH A FIRM CICATRIX.

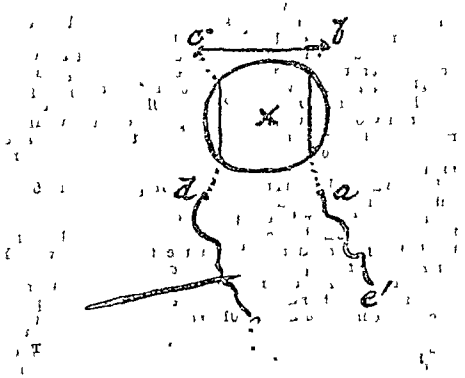
(Under the care of Dr. J. PINKERTON.)

FOR the notes of the case we are indebted to Mr. William Herbert, late house surgeon.

A female infant, [illegible] April 15th, 1898, taken by the [illegible] l and Wirral Children's Hospital for treatment on account of an inflammation of the umbilicus. The mother stated that the inflammation had been present for about a fortnight. The infant, who was born at the eighth month, was small and ill-nourished. On examination there was found to be an extensive inflammation around the umbilicus, the margin of the inflammatory zone being about [illegible] entre. The skin over this area was very [illegible] There was no discharge from the umbilicus, nor could a sinus be detected. A dressing of equal parts of saturated boric acid lotion and carbolic lotion (1 in 40) was prescribed, to be applied four times a day. A quarter of a grain of hydrargyrum cum creta was prescribed for internal administration every night. The child was being hand-fed and an ounce of lime water was added to each bottle of diluted milk. When seen a week after this the redness had somewhat subsided. A purulent discharge, however, had made its appearance at the umbilicus; the treatment was continued. On the 30th the discharge of pus continued, but the zone of redness had disappeared and the general health of the infant had improved. Boric acid lotion was prescribed and the grey powder was ordered to be taken every other night. The patient was not again seen till May 17th. The mother then said that on the 15th a "core" had come away from the umbilicus. C[illegible] r with roughened edges occupied t[illegible] It was about one-third of an inc[illegible] ved all the soft structures of the abdominal wall. Forming, as it were, the floor to this resulting cavity was a glistening structure which was found to be the peritoneum; but it had escaped, as it showed no inflammatory change. There was no bulging at the opening. The infant looked better. The powders were stopped.

On May 25th (with the [illegible] of Dr. Pinkerton, the honorary medical officer) Mr. William Herbert performed a plastic operation with a view to close the ulcer as the general health of the infant seemed to permit this. No anæsthetic was given. First the edge of the ulcer was pared all round with a hernia bistoury. This instrument was chosen on account of its blunt end which could not injure the peritoneum. A clean, raw margin was obtained, as little healthy tissue as possible being removed. A curved needle, threaded with medium-sized catgut, was pushed through the abdominal wall (inferior right hand corner) about an eighth of an inch from the freshened edge (see figure, *a*). It passed through the whole thickness of the parietes, carrying the suture across the floor of the ulcer, again through the parietes, to emerge at the superior right hand corner (*b*). The suture then curved to the corresponding left upper corner and was inserted there; again carried across the floor it emerged at the left lower angle. The two ends (*e*, *f*) were then tied; good apposition was thus obtained with a certain amount of puckering. A dry dressing (double cyanide gauze) was applied and a flannelette bandage was firmly bound over this. On May 31st the suture was removed and except for a slight superficial portion union was complete. Boric acid in powder was dusted on the wound,

covered with dry lint, and the bandage was re applied. On June 2nd union by first intention was complete The child was last seen at the beginning of July. The cicatrix then appeared to be very firm and the flannelette binder was



discontinued. The infant's general condition was good and there was no trace of any bulging at the cicatrix

elsewhere [illegible]
the above case the condition was no doubt a septic one, the

[illegible]
bulging at the site of the ulcer This was doubtless due to the fibrous ring of the umbilicus being left more or less intact and capable of offering sufficient resistance to internal [illegible] the structures [illegible] membrane to [illegible] The absence of [illegible] of both carbolic [illegible] ven rise to unpleasant symptoms in their use in infants and young children I am indebted to Dr. Pinkerton for permission to publish this case

LUCEA HOSPITAL, JAMAICA.

A CASE OF PROLAPSE OF THE RECTUM AND A CASE OF FIBROIDS OF THE UTERUS.

(Under the care of Dr. E R. C. EARLE.)

THE case of prolapse of the rectum and sigmoid flexure described below may be looked upon as really an example of intussusception, for the upper part of the rectum had become invaginated into the lower Many cases of prolapse commence in this manner, but so long as there is a sulcus between the protruding mass and the anus the case is one of intussusception A case in many respects resembling the one appearing below was recorded by Dr C B. Kelsey,[1] though the intussusception had existed for a longer time The second of Dr Earle's cases illustrates well the fact that of all forms of uterine fibroid the most easily removed is the pedunculated subperitoneal variety, and with modern asepsis the risk to life is but slight In this case the size of the tumours was very great and would have justified even more severe measures.

CASE 1 *Prolapse of the rectum with invagination of the sigmoid flexure, recovery* —A feeble old coloured man, 69 years of age, was admitted into Lucea Hospital at 11 30 A M on Oct. 22nd, 1899, with a large tumour protruding from the anus He stated that at 2 P M on the previous day, whilst straining at stool, he felt the bowel come down and that it had remained in that condition ever since On examination it was seen that a large tumour, eight inches in length and between two and a half and three inches in diameter, protruded from the anus The tumour consisted of prolapsed rectum and sigmoid flexure It was conical in shape and slightly smaller at the lower end than at the middle, at the

dark red in colour and much congested and swollen, with small, dark, submucous hemorrhages It was not strangulated at the anus and there was no odour of gangrene. The anus was lax and the finger could with ease be passed up for two or three inches between the sphincter and prolapsed bowel all round the tumour. The patient complained of severe pain in the back but not in the tumour, he was very old, poorly nourished, and very weak

At 12 noon he was put under chloroform and the tumour, which was thoroughly cleaned and warmed, was replaced gradually and slowly without any great difficulty, owing to the lax condition of the anus. There was a slight laceration in the posterior wall of the anus Powdered tannic acid and a morphia suppository were put in the rectum and a perineal pad and band were applied. Hot water bottles were placed at either side and the hips were raised on a pillow

At 6 P M his condition was fairly good. He had slept a little and was in no great pain. Five minims of liquor opii sedativus were given after the operation and one and a half ounces of whisky in water He passed a good night On Oct 23rd, early in the morning, a stool was passed containing serous bloody fluid and small blood clots The bowel was washed out with boric acid lotion and a five grain suppository of tannic acid was inserted The patient was comfortable and was stronger At 5 P M, after an enema of boric acid lotion, no fæcal matter came away, the fluid was dark-col[illegible]
membrane.

patient rested [illegible]
of the bowels, the pain in the back was relieved, but he had pain in the left shoulder and front of the chest At 5 P M an enema was administered, the stool was very offensive. The suppository was given as before. On the 25th he had slept well, the former pain was relieved, but he now had pain in the left hip. No stool had been passed during the night The enema and suppository were administered morning and evening as before On the 26th he had slept well. The bowels had acted once during the night; the stool was offensive. The treatment was continued. On the 27th the patient passed three liquid stools, on the 28th and 29th two, and on the 30th and 31st one each day. There were no signs of prolapse and there was no pain On the 31st he became very weak and low and had much difficulty in speaking, but he became stronger on Nov. 1st. He was discharged from the hospital on the 5th

CASE 2 *Large fibroids of the uterus; removal; recovery* — A coloured woman, age 40 years, was admitted into Lucea Hospital on June 1st, 1899, complaining of great distension of the abdomen which had gradually increased during the previous three years On examination the abdomen was found to be much distended. There was a large moveable tumour felt in the front and right side of the abdomen, passing into the right lumbar region and upwards under the liver, filling the right half of the abdomen; the tumour was firm, elastic, and freely moveable A second tumour similar in character, freely moveable, but of smaller size, was felt in the left lumbar region By vaginal examination a large firm elastic tumour was felt, filling the right lateral fornix of the vagina, the cervix being small and displaced towards the left side. The tumour appeared to be situated in the right lateral wall of the uterus As the patient was in poor health she was kept in the hospital for three weeks prior to operation in order that her physical condition might be improved

On June 21st, at 8 A M, chloroform was administered. A dose of castor oil had been given the night before and a rectal enema and vaginal douche had been administered early in the morning. The abdomen had been thoroughly cleaned and aseptic and the pubes shaved on the previous day and the urine had been drawn off just before the operation An incision was made in the mid-line from a point two inches below the umbilicus to about one inch above the symphysis and the abdominal cavity was opened; some ascitic fluid escaped The tumours were seen to be dense, solid fibroids attached to the uterine wall by

[1] The Post-Graduate, New York, August, '99.

short pedicles. The incision had to be enlarged in an upward direction to a point two inches above the umbilicus before the large tumour could be got out of the abdominal cavity. Its surface was covered with apron-like folds of peritoneal membrane through which coursed tortuous vessels of large size, and the omentum was adherent to it in several places. The large vessels were ligatured and cut, the adhesion bands were torn through, and the pedicle, which was about one inch long and as thick as a finger, was ligatured close to the uterus and cut and the tumour was removed. The smaller tumour on the left side was removed in a similar manner. A third tumour, of about the size of a fowl's egg, was found attached by a short pedicle to the posterior wall of the uterus under and behind the large tumour, and this was also ligatured and removed. A fourth large fibroid tumour was now clearly defined, of about the size of a man's fist, in the right half of the pelvis, apparently arising from and in the right lateral wall of the uterus, and situated between the folds of the broad ligament. It was found to be impossible to remove this large sessile tumour without also removing the uterus, and as it was not deemed to be justifiable to increase the patient's risk it was left *in situ*. Bleeding from the stump of the pedicle of the large tumour gave trouble owing to the ligature having slipped from retraction, but it was eventually controlled by stout silk ligatures. The abdominal cavity was wiped out with sponges but very little blood had escaped into it. The wound was then closed by approximating the edges of the peritoneum with a continuous fine silk suture and the abdominal wall by deep and superficial silk sutures. No drainage-tube was inserted. Tension was avoided by long strips of plaster from loin to loin. A morphia suppository was administered and she was put into bed between blankets with hot-water bottles on each side. The operation was completed and the patient put into bed at 10 A.M.

The patient was only allowed to have small quantities of warm water at intervals until 10 P.M., when milk and barley-water were given every two hours. The urine was drawn off by catheter every four hours. On the 22nd, 23rd, and 24th a vaginal douche was given each evening. Before noon each day the temperature remained normal but each afternoon and evening it rose to between 100·4° and 100·8°F., the pulse remaining at 74. The patient remained comfortable and cheerful. On the evening of the 24th small repeated doses of sulphate of magnesia were given and the diet was more generous. On the 25th the morning temperature was 101·2° and the pulse was 76. The bowels acted, a copious loose stool with much flatus being passed, the patient sleeping well afterwards. The urine was clear. The wound was dressed and was healing well. At 4 P.M. a slight, bloody, offensive discharge came from the vagina; there was no pain. The temperature was still above 101°. On the 26th the morning temperature was 99·6° and the pulse was 72. The patient passed a good stool without pain. There was a bloody vaginal discharge. The evening temperature was 101·4° and the pulse was 74. On the 27th the morning temperature was 100·4° and the pulse was 72. A copious bloody discharge was still present—bright arterial blood; there was no pain. The patient felt well. The evening temperature was 101·6° and the pulse was 74. On the 28th the morning temperature was 100·8° and the pulse was 74. The hæmorrhage from the vagina was less in quantity. An enema was given and a slight amount of flatus was passed. The evening temperature was 101·2° and the pulse was 70. Ice was applied locally in the vagina. On the 29th the morning temperature was 99° and the pulse was 70. At 4 A.M. a sero-purulent discharge came from the lower end of the wound and soaked the dressings. There was a firm lump felt in the uterine region. The lower stitches were removed to allow free exit for discharge. A probe inserted in the sinus passed upwards and backwards in the mid-line. The hæmorrhage from the vagina was much less. The evening temperature was 99·2° and the pulse was 70. On the 30th the morning temperature was 98·2° and the pulse was 70. Sweet pus was still discharging from the sinus. The lump in the uterine region was smaller. The temperature was normal all day. The vaginal discharge had almost ceased. On July 1st all the sutures were taken from the wound except three deep middle ones. After this the discharge gradually ceased and the temperature and the pulse remained normal. The patient convalesced rapidly, made an uninterrupted recovery, and was discharged from the hospital on August 13th.

Remarks by Dr. EARLE.—Case 1 was undoubtedly one of invagination of the sigmoid portion of the colon into the rectum, with prolapse of the invaginated bowel through the anus. The lower two or three inches of the rectum were not prolapsed, as was proved by the insertion of the finger through the anus between the sphincter and the tumour, when the fold between the two layers of rectal mucous membrane could be easily felt round the whole circumference of the tumour. The extreme age (89 years) and the weak condition of the patient, the large amount of prolapsed bowel, and the interval that elapsed before the prolapsed bowel was replaced, namely, 22 hours, all tended to increase the gravity of the patient's condition, and the favourable result must be considered noteworthy, as the mortality rate in these cases amongst the aged and infirm is as a rule very high.

In Case 2 the three tumours weighed respectively 6 lb. 6 oz., 2 lb. 2 oz., and 2 oz., and were composed of dense fibrous tissue. The tumour in the right lateral wall of the uterus became much smaller in size before the patient left the hospital. The continued rise in the temperature was, I think, due to the suppuration which occurred in the locality of the large silk ligature, for the temperature became normal as soon as efficient drainage of pus occurred. The temperature rose only once above 101° and the pulse never went beyond 80. I was ably assisted during the operation by Dr. C. M. Phillips of Philadelphia and Sister Annie Douglass of St. Bartholomew's Hospital, to whom I desire to convey my thanks for their valuable aid.

Medical Societies.

HUNTERIAN SOCIETY.

Exhibition of Cases.

A CLINICAL meeting of this society was held on April 11th at the London Institution, the President, Dr. DUNDAS GRANT, being in the chair.

Dr. BUTLER HARRIS showed a case for Diagnosis—an infant with a Sublingual Swelling.—Dr. F. J. SMITH said that he had no doubt that the lump was some form of developmental error, most probably a persistent thyroglossal duct. He thought that this was so because of its position in the middle line of the body and from the softish, cystic feeling of the lump. For treatment he advised waiting till the child was a little (a year or more) older and then radical excision.—Dr. RAWES considered it to be a case of venous nævus and he based his diagnosis upon the presence of distended veins in the neighbourhood and upon the fact that the tumour could be so easily compressed between the forefingers.—Mr. J. H. TARGETT suggested that it was a nævoid growth.

Sir HUGH BEEVOR showed a case of Hemianopsia occurring in a man 49 years of age. In September, 1897, he had a sudden attack which left him with much loss of sensation on the left side, slight left paralysis, and impaired intelligence. In November, 1897, he was under Dr. Ferrier's care and the record then made was to the effect that his family history had been good and that he had had no ailment but syphilis 17 years before. A few months previously he had noticed a sudden loss of sensation on the left side and his eyes were so affected that in his work he used to spoil material by not cutting it properly; he had noticed little alteration since the attack commenced; the loss of power in his arm and leg had been increasing; he had no loss of consciousness at the time of the attack and had no headache or vomiting. He was a well-built man, looking stupid and listless. Tests of sensation gave the following results: the taste and smell were normal; the hearing was less acute on the left side after removing the cerumen; vision—hemianopsia, left, complete to middle line; analgesia of the left arm and leg; anæsthesia of the face, arm, and leg; and loss of muscular sense in the arm and leg. He walked with a slight stagger and a tendency to fall backwards and to the right. The grasp of his left hand showed loss of power. Ankle-clonus and exaggerated knee-jerk were present. Ophthalmoscopic examination was normal. Cranial tenderness on deep pressure was elicited over the right parietal eminence. In February, 1900, he was attacked

with vomiting and left-sided convulsions and with conjugate deviation of the eyes to the left, followed by paralysis of the left side and of the right external rectus oculi; for a few days he was semi-conscious. In a few weeks the ocular movements became normal and the patient's condition seemed little altered by his recent attack.—Dr. F. J. SMITH said that from the absence of neuritis and from the stationary nature of the symptoms for over two years the lesion was probably a softening, either thrombic or embolic. He thought a tumour was ruled out by these facts. He thought that the lesion must be more central than in the optic tract. The staggering in the gait might possibly be due to hemi-paresis of sensation leading to incoordination, and not necessarily to subjective unsteadiness. He was inclined to place the lesion at the hinder part of the posterior limb of the ca[illegible]
lesion [illegible]
would [illegible]
than to multiple [illegible] d to
cerebellar influenc[illegible] vould
require a second [illegible] as it
was so very complete.—Sir HUGH BEEVOR said that from the recent attack it seemed evident that a tumour was present.

Dr. F. J. SMITH showed, by permission of Dr. F. WARNER, a case for which he thought a provisional diagnosis of Friedreich's Ataxy was most likely. The patient was a girl, 14 years of age, the eldest of four children, and was quite well till she reached the age of seven years when she had measles. After the measles she was noticed to have twitching of the limbs, which was diagnosed as chorea. With this twitching there was noticed a difficulty in walking and this, it was said, had got steadily worse. In fact, at the end of 1899 she was still thought to have chorea. Coordination was markedly interfered with in all her limbs; she could not stand alone, much less walk, even with her eyes open; with the hands she could pick up small objects fairly naturally and easily so long as her eyes were open, but on closing the eyes she completely lost the power of touching her nose with the finger and could not locate her limbs at all. There were no knee-jerks and no ankle clonus; on testing the plantar reflex [illegible]
The cranial nerves seemed [illegible]
lectual faculties were some[illegible]
called attention to the marked degree of scoliosis present in this case and the resemblance which it bore to the trophic scoliosis of syringomyelia. In the latter affection scoliosis occurred in more than half the cases. Pes cavus was present in both disorders, [illegible]
Friedreich's ataxy. [illegible]
known in connexion [illegible]
myelia, had not been [illegible]

THE PRESIDENT showed a case of Syphilitic Lesion of the Facial Auditory and Spinal Accessory Nerves. The patient, a man, 41 years of age, had come under Dr. Grant's care in June, 1899, on account of extreme deafness in the left ear. The left side of the face was almost completely paralysed as was [illegible]
the left vocal cord. He [illegible]
the facial, the auditory, [illegible]
simultaneously. In July, [illegible]
his work and was uncons[illegible]
recovery was found to have some weakness on the right side of the body. Two years later he had a second attack which developed suddenly in the middle of the night and left him with paralysis of the left side of the face, complete deafness in the left ear, hoarseness of voice and giddiness. The history of acquired syphilis was elicited and there seemed little doubt that the combination of nervous conditions was due to a syphilitic lesion either in the medulla oblongata or [illegible] exit of the nerve mentioned.

[illegible] owed a case of Rhinoscleroma, [illegible] years of age. A microscopic [illegible] of the tissue when removed was made by Mr. Wingrave, and Dr. St. George Reid made a cultivation which, he considered, answered to that typical of rhinoscleroma, as showing the capsuled bacillus.

Dr. W. H. KILSON showed a case of Lupus of the Nose, Palate, and Tongue.

Dr. J. H. SEQUEIRA showed a case of Birth Palsy occurring in a male infant, aged four months, the first child of healthy parents. There was no history of syphilis. The labour was apparently an easy one, the mother being attended by a midwife. It was stated that the child was born "head first," and so far as could be gathered no undue efforts were necessary for delivery. Immediately after birth it was noticed that the child's fingers were bent into the palm and that the left elbow could not be straightened.

Dr. J. H. SEQUEIRA also showed a case of Lupus Erythematosus occurring in a woman, aged 21 years, who had suffered from the disease for two years. The eruption began as two symmetrical patches just in front of each ear and gradually spread on to the cheeks.

Facilities have been provided for Fellows to dine together before the meetings at an hotel near the London Institution. This is found to be a great convenience to Fellows living at a distance and is quite in accordance with the social traditions of the "Old Hunterians."

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.

The Hill Stations of India as Health Resorts.

THE annual meeting of this society was held on May 30th, when the members dined together. A conversazione was subsequently held at 20, Hanover-square with a reception by the President, Dr. J. IVOR MURRAY.

Sir JOSEPH FAYRER, Bart., F.R.S., K.C.S.I., gave an address on the Hill Stations of India as Health Resorts. He wished, he said, to consider these stations not merely in reference to the treatment of disease and convalescence but also as resorts in which the European might preserve his health and avoid the physical deterioration which inevitably resulted from protracted residence in the plains; places indeed, where it seemed even possible that he might take root, thrive, and propagate his race—a subject of ever-widening interest to our rapidly increasing population. For this there were grounds of belief that the prospects of success were not altogether unfavourable, though so far no conclusive proof of it was forthcoming. Past history, however, showed that colonisation by the unmixed European races in the plains [illegible]
instances in [illegible]
had evidently [illegible]
Portuguese who preceded us [illegible]
blood could be said to exist. The physiographic characters of British India were next described, there being three natural divisions. (1) the Himalayan and sub-Himalayan region; (2) the Indo-Gangetic ba[illegible]
Peninsula proper formed by the [illegible]
Deccan bounded on each side by [illegible]
between them and the ocean. In these areas there were very many varieties of climate which depended upon the latitude, elevation, and soil. There were three seasons in the year—the hot season, which extended from March to June; the rainy season, which extended from July to October; and the cold season, which extended from November to March. These seasons varied considerably according to the latitude and elevation. They were also greatly influenced by the monsoons or rain-bearing winds. The monsoons did a great deal to determine the conditions of climate and health as well as the production of food. They resulted from the northern flow of air bearing moisture from [illegible] they were more or less deflected or modified by [illegible] country over which they [illegible] was the great carrier of rain [illegible] the Western Ghauts, where [illegible] greatest amount fell. Then [illegible] passing over extensive tracts of desert land it came in contact with the Himalayas where a large fall took place. Every variety of climate, Sir James Fayrer said, could be met with in India. Malaria was widespread in the plains and here no Europeans could exist for any continuous length of time, but there were many hill stations where they could live, and many others which had never been fully explored or taken advantage of, and he believed that such an investigation as this would form a worthy object for this society, the opinion of which would carry much weight. There were, for instance, the elevated plateaux of the Khasia, and the Syntea Hills between Bengal and Assam, which were at a height favourable to the European constitution, and the range of high country parallel to the Ganges presented the table lands at Solingpore, the elevation of which had been estimated at from 3000 to 5000 feet. Both of these were favourably

satisfactorily anæsthetised with the indicator half way between 0 and 1. In this section the possibility and the importance of [illegible] by raising the face-piece are [illegible] It is a pity to advise the administrator to adopt the practice of blowing out the bag himself. It can be satisfactorily distended by raising the face piece during inspiration and firmly applying it during expiration.

A very good account is given of the various inhalers and their uses. In the section on [illegible] should like to see more stress laid on the importance of maintaining the pupil at its greatest possible degree of contraction with reference to the fact that a contracted pupil is one of the most valuable sign [illegible] the fact that the size of the pupil is [illegible] depth of anæsthesia. We see no mention of the fact that chloroform is borne much better and that the liability to cardiac and respiratory depression is much less if the administration is begun with ether or gas and ether, so that the patient is efficiently stimulated. There can be no doubt of the advantage of this succession of anæsthetics in long abdominal operations.

The directions for the preparation of patients for anæsthesia and for the after-treatment, and the description of the measures to be adopted in alarming complications and emergencies, are exceedingly good and practical. Dr. Buxton rightly attaches great importance to the horizontal posture during and after the administration of chloroform.

A good plan is adopted in the introduction, where suggestions are given as to the order in which the different chapters are to be read. This is likely to be useful to students who are studying the subject for the first time. The illustrations are admirable.

The Nervous System of the Child: Its Growth and Health in Education. By FRANCIS WARNER M D, F.R C.P. Lond. London: Macmillan and Co. 1900 Pp. 233. Price 4*s* 6*d*.

DR WARNER'S name is so well known in connexion with child study that whatever he writes will be read with interest by those concerned in the education and upbringing of children. In this book Dr. Warner describes the brain and body in infancy, tracing the gradual development of the mental faculty from birth onwards to school age. He very rightly insists that the training of a child must begin from birth and shows how the formation of regular habits as to sleep and bodily requirements and the cultivation of a healthy state of mind prepare the child for a methodical life later. A very clear and excellent chapter dealing with the food, clothing, and the general hygiene of childhood ought to be helpful to anyone in charge of the young. Wrapped up in not always clear language and illustration is the sound idea that children should be taught to use their senses in an orderly manner when called upon to form judgments; "the confusion arising from seeing, hearing, and feeling at the same time" must be removed by "methodical procedure in looking carefully, attending, to what may be felt in handling objects, and in hearing distinctly what is said."

Amidst much that is interesting and profitable to teachers and parents, to whom the book is primarily addressed, there is not a little that suggests criticism. Many of the methods proposed for mental training seem to be more adapted for dull or feeble-minded children than for those of average capacity. We cannot imagine a normal child either submitting to, or profiting by, such instruction as is recommended on page 159: "Make him hold out his hand and move the fingers A, B, C, D, E, one at a time in succession, and again all together; then, dropping his hand, look at you while you say and he pronounces the word 'five.' Make him turn his eyes to five similar objects at equal distances apart, then look at you and say 'five'; thus in each case you make five impressions by muscle sense and teach the numeral. Put an ounce weight in his hand, add others up to five ounces, and make him say 'five'; he feels by his muscles the strain added by each weight and feels the 'five' heavier than the one." A normal child who was old enough to appreciate and [illegible] ch directions would already know "how many [illegible] five."

The Norwegian North Polar Expedition, 1893–1896, Scientific Results. Edited by FRIDTJOF NANSEN. Vol I. London: Longmans. viii.+16+26+53+137 pp. 46 Plates. 1900 40*s*. net.

[illegible] ilment of the account of the results of t[illegible], forms a large and handsome quarto volume. It commences with an account of the *Fram* itself, which is illustrated by three plates portraying the structure of that vessel; this is followed by a sketch of the geology of Cape Flora, Franz Josef Land, including a description of fossil plants and animals. The purely zoological part of the work contains a report upon the birds collected and the crustacea. Dr. Nansen himself, with the collaboration of the well-known ornithologist Professor Collett of Christiania, deals with the birds, and it is almost unnecessary to state that Professor G. O. Sars is responsible for the crustacea. As might well be supposed, the ornithological section is not interesting from the point of view of new species; so much has been done in this part of the world that new forms could hardly have been expected to turn up In the crustacean section, however, Professor Sars finds much that is new, especially among the smaller forms, and most particularly among those minute creatures belonging to this order known as copepoda. These are illustrated in 36 plates by the author himself, who is a skilled draughtsman and, we believe, always draws and lithographs his own plates.

LIBRARY TABLE.

Golden Rules of Ophthalmic Practice. By GUSTAVUS HARTRIDGE, F R C S. Eng., Senior Surgeon to the Royal Westminster Ophthalmic Hospital. Bristol John Wright and Co. London: Simpkin, Marshall, and Co. May, 1900 Pp. 69. Price 1*s*.—This little duodecimo volume is one of a series which may be very well carried in the pocket of the country practitioner's carriage to be consulted when occasion may require. The author, who has had large experience, has compressed much information into a small compass. The diseases mentioned are placed alphabetically and the diagnosis and treatment are given clearly and concisely. The treatment might in some cases be more fully given with advantage and without materially increasing the size of the book.

Manual of Chemistry, Inorganic and Organic, with an Introduction to the Study of Chemistry. By ARTHUR P LUFF, M.D., F.R.C P., B Sc. Lond., F.I.C., and FREDERIC JAMES M. PAGE, B Sc Lond., F.I.C., A R S.M. London: Cassell and Co. 1900. Pp. 541. Price 7*s*. 6*d*.—Among the many text-books of chemistry written mainly for the use of the medical student perhaps few have been more favourably adapted for hospital schools than the work now before us. The first edition, however, as we pointed out in THE LANCET of July 16th, 1892 (p. 145), contained certain serious errors of omission and commission. Otherwise the plan of the book was excellent. We are glad to see that the whole work has now been thoroughly corrected and revised and brought up to date. By medical students, indeed, such a treatise will be much appreciated in that it provides them with the

work which they require for
being essentially a cram book.
ever, that the descriptions in ___,
Short accounts are added of some of the organic compounds of the antipyretic and analgesic series, such as antipyrine, acetanilide, and phenacetin. Another distinctly useful feature is the frequency with which equations are employed in the descriptions of the various chemical
the theoretical portion of the
is provided for the detection of
metals included in the syllabus of both the Preliminary Scientific and Conjoint Board examinations. Some notes are also given on the preparation of those salts that now find a place in the practical work of the latter examination. We have no doubt that in its revised form this manual will be in greater demand than it has been in the past, and it may be confidently recommended to the student now that it is sound in theory and in fact.

The Absent-
London: The-
Printing Arts
Edition" of t
Gordon Browne, Frank Dadd, and W. Hatherell. The printing, which has been done on an Orloff press, is a curiosity, as the eight different colours have been obtained in one impression. The publishers estimate that in an edition of 100,000 copies their profit would be 3*d*. per copy and they intend to give 3*d*. upon every copy sold to the "Absent-minded Beggar Relief Fund" organised by the *Daily Mail*.

Mona Maclean. By GRAHAM TRAVERS (Margaret G. Todd, M.D. Brux.). Fifteenth and cheaper edition. Edinburgh and London: William Blackwood and Sons. 1900. Pp. 474. Price 2*s*. 6*d*.—We reviewed the first edition of Miss Todd's novel in our issue of Dec. 17th, 1892. When a book has reached its fifteenth edition it is needless to say any more, but we may add that the publishers should be thanked for putting a cheap edition of a clever and wholesome story within the reach of everyone.

Paris. Guides Conty Series. English edition. Paris: 12, Rue Auber. Pp. 336, with appendices and index. Price 2*s*. 6*d*.—The Guides Conty are so well known and so trustworthy that it is hardly necessary to say anything more about them. However, as in all probability many English and Americans will flock to Paris during this year we may remark that they will find almost everything in this guide that they can require. In addition, if the traveller will read a work called "The Stones of Paris" which has been recently published he will learn a great deal about the history of the city which will add to the interest of his visit.

JOURNALS.

Annales de Gynécologie et d'Obstétrique. March and April, 1900. Paris: Steinheil.—In the March number Dr. I. Ronsse discusses the presence of acetone in the urine during pregnancy. He concludes that a minute quantity of acetone is normally present in the urine. The amount is increased in almost all cases during the last 15 days before delivery, as a result of labour, especially when this is prolonged, and during the puerperal period. The author is unable to confirm the statement that the amount of acetone in the urine increases as a result of the death of the fœtus. Dr. Gouillioud contributes a paper upon Salpingostomy and Dr. Labusquière a clinical review of a case of Accidental Hæmorrhage reported by Dr. Fleux, in which condition the latter advocates manual dilatation of the cervix as giving better results than the use of the Champetier de Ribes bag. A summary of the obstetrical and gynæcological
made to the Anatomical Society of Paris
bliography conclude the number.
mber contains a paper upon two cases of Spontaneous Rupture of the Uterus and their Surgical Treatment in which MM. Weiss and Schuhl recommend in the presence of symptoms pointing to a complete rupture of the uterus the termination of the labour as rapidly as possible by the natural passages and the performance of laparotomy. If possible the tear should be sutured, otherwise supra-vaginal or total hysterectomy should be carried out. Dr. A. Fraikin contributes an exhaustive paper upon Sclerocystic Changes in the Ovaries. The number also contains a paper upon Dystocia caused by Uterine Fibroids by M. G. Lepage, and an account of an interesting case of Fibromyoma of the Abdominal Portion of the Round Ligament by M. André Claisse. The proceedings of the Society of Obstetrics, of Gynæcology, and of Pædiatrics of Paris and the tri-monthly bibliographical index are also given.

ARRANGEMENTS FOR THE CELEBRATION OF ROYAL OF ENGLAND

AN extraordinary meeting of the Council was held on May 31st, the President, Sir WILLIAM MACCORMAC, Bart., K.C.V.O., being in the chair.

A report from the Centenary Committee was received and adopted. The following arrangements have been made:—

On Wednesday, July 25th, there will be a conversazione at the College from 9 to 12 P.M.

On Thursday, July 26th, a centenary meeting will be held in the theatre
gardens, at 3 P.
the Honorary Fe
sion academic c
At 8 P.M. on the
the Hall of Linco

On Friday, July 27th, the
give a conversazione at the Mansion House.

In addition to these arrangements Professor Stewart, the conservator, with Mr. S. G. Shattock, the pathological curator
omical assistant,
will be
een 11 A.M. and
1 P.M.
library a collection of objects of interest in con-
ne
be displayed, and
Mi
a attendance each
m
ie, director of the
laboratories, will give lantern demonstrations of the work done in the laboratories.

Many invitations have been issued to foreign and colonial surgeons, and numerous invitations have also been sent to persons of distinction residing in Great Britain and Ireland.

A limited number of seats at the dinner will be reserved for Fellows and Members of the College and the price of the dinner ticket will be two guineas. Applications should be made not later than June 16th to the Secretary, but as it may be necessary to ballot for places subscriptions should not be sent until the Fellow or Member learns that a seat has been allotted to him.

Tickets for the conversazione at the College and the inaugural meeting at Burlington-gardens (including admission for a lady) may be obtained by Fellows and Members on application to the Secretary.

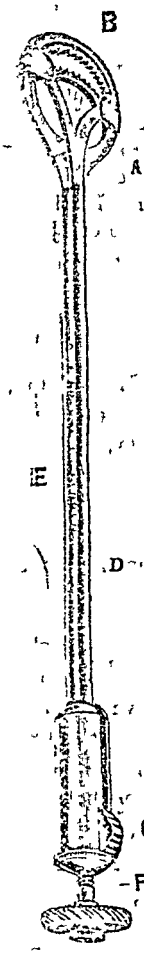
A short history of the College with eight illustrations has been prepared, and it is proposed to present this to guests invited to the centenary celebrations.

THE JOHNSON HOSPITAL AT SPALDING.—The trustees of this institution have received £5000 from the estate of the late Misses Johnson, of Holywood House, Spalding. The hospital was built and endowed by the generosity of these ladies.

New Inventions.

TONSIL CLAMP.

THIS instrument has been devised by me as a means whereby we may be secure against the hæmorrhage which too frequently occurs in ordinary cases and which is so great a source of alarm to the patient. Much more important is the service which it renders when the operation has to be done upon a young subject under chloroform. When it is understood that with the aid of this clamp the tonsils can be removed [illegible] blood its [illegible] ledged, [illegible] applied s[illegible] the amou[illegible] Thompson's postulate be granted—viz., that an instrument should be entirely under the control of an artistic hand and made to do exactly what the surgeon desires—then the superiority of this [illegible] guillotine must also be conceded. It may also be claimed that the chances of secondary hæmorrhage are much lessened. The instrument in general form resembles the guillotine, but what corresponds to the blade and which is figured A in the cut, has instead of a cutting edge a somewhat [illegible] When [illegible] this [illegible] tissue, which it constricts, against a similarly serrated surface on the concavity of the ring B. After the fashion of the lithotrite the instrument has a male blade D and a female blade E. On bringing the former home upon the part [illegible] into gear, so that as much pressure as is desired can be effected. The lump of adenoid tissue can now be shaved off with a blunt-point bistoury. The instrument is made by Messrs. Arnold and Sons, West Smithfield, London.

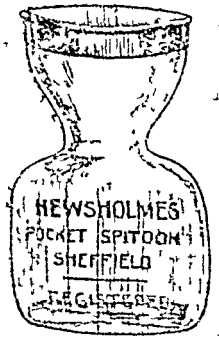


D. W. AITKEN, M.B., C.M. Edin.

Packington-street, Islington, N.

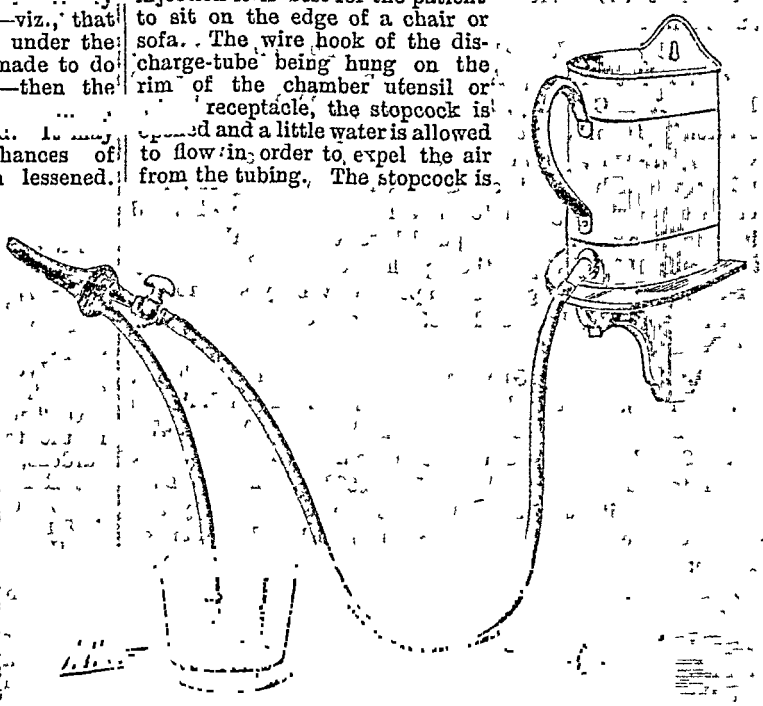
A POCKET SPITTOON.

THE sputum of sufferers from phthisis being the most active agent in the propagation of the disease, all phthisical patients ought to be provided with some means of guarding against their sputum becoming a source of danger to others. The essential precaution is to prevent the sputum from becoming dry and mixing with dust which is everywhere present, so that the tubercle bacilli are carried up with it and float in the atmosphere. One of the appliances for accomplishing this object is shown in the illustration. It is a bo[illegible] b[illegible] h[illegible] total height of four inches. It is provided with an easily fitting nickel-plated lid, and from its size and shape may be conveniently carried in the pocket with very little risk of the contents escaping. The price is 1s. 6d. and the maker is Mr. G. T. W. Newsholme, pharmaceutical chemist, High-street, Sheffield. The contents are disposed of by being thrown on a fire or mixed with a disinfectant and emptied into a water-closet, after which the bottle is thoroughly cleansed.



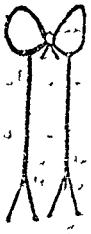
THE ONAH VAGINAL DOUCHE.

MOST of the many methods that have been devised for the giving of vaginal injections are open to the objection that either the bed-clothes or the patient's under-garments are liable to be wetted during the process, and this in the case of certain metallic solutions and astringent lotions has the further disadvantage of causing indelible stains. To meet this difficulty the Onah douche has a separate tube for the discharge of the used liquid, so that it can be employed without danger of wetting the clothes, especially as the enlarged end of the nozzle prevents any liquid escaping round its base. The douche-can being [illegible] or hung on a nail, the water is supplied [illegible] tends to obliterate the folds of the vagina and causes a constant renewal of fluid round the nozzle. During the injection it is best for the patient to sit on the edge of a chair or sofa. The wire hook of the discharge-tube being hung on the rim of the chamber utensil or [illegible] receptacle, the stopcock is [illegible]ed and a little water is allowed to flow in order to expel the air from the tubing. The stopcock is then closed, the nozzle is inserted in the vagina curving upwards, and the stopcock opened. The can holds two quarts. The instrument can be obtained through any dealer in articles of its kind. [illegible] enemata a bone rectal pipe is supplied [illegible] stopcock as the detachable vaginal nozzle.



"PORTIA" COMBINED STOCKING SUSPENDER AND SHOULDER SUPPORT.

THE stocking suspender represented in the illustration is made of elastic webbing three quarters of an inch wide, one portion of which is formed into two loops passing over the shoulders and meeting in the middle of the back where it is fastened by means of a crossing buckle. The stockings are held up by two lengths of the [illegible] stitched one to each loop and provided with buckles which permit of adjustment [illegible] to the height of the wearer. It is intended to be worn between the underclothing and corset and can be easily adapted to any figure. The stockings are suspended directly from the shoulders and by use of this article the circulation is not impeded as it is by garters. In some of the patterns there are rubber clips to make them especially suitable for use with thin silk stockings. The makers are the "Portia" Company, 202, Romany-road, West Norwood, Surrey.



THE LANCET.

LONDON: SATURDAY, JUNE 9, 1900.

AMONG the multifarious questions which occupied the time of the General Medical Council at its last session few were of more importance than that of legislation in Italy and England respectively upon the rights of reciprocal practice. The conditions of medical practice at home and the regulations for acquiring the right to medical registration are pretty well defined, and there is not likely to be any great departure from them as far as domestic legislation is concerned. But we enter another region altogether when we contemplate the British practitioner abroad, and try to lay down laws or principles of law for the acceptance of other States, which shall give our practitioners the right to practise in alien lands and which shall concede to foreigners a similar right in our own country. And this is the region into which the Council has had to enter *nolens volens*, inasmuch as the Privy Council have promised to consider the question of recognising in this country Italian medical degrees.

We are called an insular people. But there are few people in the world less so than we are. Our travellers explore every country, and in ever-increasing numbers reside in other lands. Our commerce permeates everywhere, our ships carry for the world. To be just to ourselves it must also be admitted that we entertain strangers. We have in London to look at another aspect of the matter, more Germans than there are in some large German towns, more Scotsmen than there are in Edinburgh, more Welshmen than there are in Cardiff, and more Jews than there are in Jerusalem. The men of Britain are at home on every continent, in every capital, and on every sea. They are said at the present moment to be unpopular. That is a passing phase. Complaint is soon heard if they withdraw their custom or withhold their presence from any country, and provision is soon made to conciliate and attract them. In short, with all our insularity we are the most ubiquitous people in the world. It is due to this quality that the General Medical Council has had to face the question of the exclusiveness of our medical laws. The discussion has been forced upon them and upon the Privy Council by men on our own Medical Register. They invade foreign countries, they follow their wealthy compatriots into France, Italy, and Switzerland, and they do so in such numbers and with such success as to excite the jealousy of the practitioners in these countries and to provoke the passing of protective measures against them. Other countries have had their attention aroused to the subject of the exclusive tendency of medical legislation—Germany and Russia, to wit—and have entered into communication with our own Government on the subject. So far we have been as exclusive in our medical laws as other nations if we have not been desirous of inflicting any penalties for encroachment. We have not opened our doors for the free admission to medical practitioners. We have not legalised their position, and it may be admitted that we have not, even in London, recognised the right of foreigners, except in the case of "any hospital established exclusively for the relief of foreigners in sickness," to have medical practitioners of their own nationality. But we have not been cruel in our exclusiveness. We have seldom or never threatened with penalties any practising physician or surgeon possessed of reputable foreign diplomas; we have actually provided by legislation for foreigners in their own hospitals being treated by their own countrymen without English qualifications; and we passed a law 14 years ago, the Medical Act of 1886, for the recognition of foreign diplomas under reasonable conditions. This measure it is now proposed by the Government to apply to Italy, and out of their expressed intention arose the debate on the subject which is reported in our columns.

A great feature of the Act of 1886 was the proposal to enter into reasonable and just relations with other countries as regards the recognition of their medical diplomas; and, in order to do this, it was left to the Privy Council to determine when this law should be acted on in relation to any given country. The medical profession would perhaps have liked the Act better if it had left the determining function in the hands of the General Medical Council. To the latter body, however, is intrusted the decision as to whether the diploma of any given foreign institution furnishes a sufficient guarantee of the possession of the requisite knowledge and skill for the efficient practice of medicine, surgery, and midwifery. The General Medical Council has done well to pass a resolution pointing out to the Government that the concession contemplated by the Italian Government is not equal to the concession which we should have to make to them. We think that our medical brethren in Italy were a little too ready to express satisfaction with the imperfect privilege of attending only their own countrymen, whereas the Act of 1886 would concede to Italians here the full rights of practice. Many will be disposed to agree with Sir JOHN BATTY TUKE that after all the most satisfactory solution of the difficulty would be the acquisition by English practitioners of the qualification of the countries in which they wish to practise. This course has already to a certain extent been adopted in those countries where no other is open, for there are not a few of our countrymen practising in France who have added to their English qualifications the distinguished degree of M.D. Paris. If, however, the Government is bent on "reciprocity" there must be *real reciprocity* and not a mere travesty of the principle of enjoyment of equal rights. Whatever be the departure, if any, decided upon, all will agree that practitioners already established in a foreign country cannot be disturbed in their vocation without a risk of the infliction of considerable hardship upon them being incurred.

THE second reading of a short Bill introduced by the Government in the House of Commons to amend the Housing of the Working Classes Act of 1890 recently produced an interesting discussion on the problem of how to provide the poor in large towns with wholesome dwellings. By Part III. of the above Act local authorities may provide lodging-houses, as the Act calls them, the term including separate

cottages, for the working classes in their district, and the new measure enables councils, other than rural district councils, to go outside the limits of their own locality in order to acquire by purchase suitable sites or houses for this purpose. The present Bill has now been read a second time and would probably have passed this stage of its progress towards maturity almost unobserved but for an amendment moved by Mr. ROBSON, Q.C., which sought to import powers into it to compel railway companies to provide train accommodation for the people who, when the Bill becomes law, may be expected to be housed at a distance from their work. This amendment was ultimately dropped, it being apparently conceded that the existing law was strong enough to meet the requirements of the situation, and that the railway companies had hitherto gone as far as could reasonably be expected of them.

We can well understand that the London County Council, for instance, may be enabled with advantage to purchase land outside the costly area in which it holds sway, in order to build houses which, instead of being of the big block order of architecture, may provide pleasanter and more healthy homes in the form of separate cottages at a smaller total cost. At the same time, no one can deny that to compel railway companies to provide trains in order to further such schemes, and to provide them at a possible loss, is to lay upon the railway companies a large share of the burden of re-housing the working poor, and this view seems to have been adopted by the House of Commons in rejecting a private member's Bill to increase the facilities of railway travelling for workmen living in the suburbs, just at the time when Mr. ROBSON'S amendment was also before it. The debate upon Mr. ROBSON'S amendment produced from Mr. A. J. BALFOUR an interesting pronouncement of the right honourable gentleman's views upon the future conditions of travelling which the coming generation should preserve in order to be able to criticise him in the future in the character of a prophet. "I believe," said Mr. BALFOUR, "we are on the eve of an immense social reform, of an immense augmentation of the means of communication. I believe that electrical traction and other forms of traction are going to play a far larger part in the solution of this difficulty than any of the strange schemes which I have analysed to the best of my ability for the benefit of the House. I sometimes dream—perhaps it is only a dream—that in addition to railways and tramways we may see great highways constructed for rapid motor traffic, which would have the immense advantage, could it be practicable, of taking the workmen from door to door, which no tramway or railway would do." Let us hope that Mr. BALFOUR may be correct in his vaticination; still at the same time let us remember that such a state of affairs as he predicts will ameliorate the condition of the artisan and of the labouring man in regular work, but will hardly touch the vast army of the poor who fail to come under either of these classes, although they have nothing save their own fitful exertions in one direction or another for their support. We can scarcely picture the sweated sempstress or the foreign refugees from Poland, who toil and starve in overcrowded slums within half an hour's trudge from the place where their ill-rewarded work is given out to them, dwelling in a more or less airy suburb, and coming to town in a workman's train or a workman's motor-car to fetch away the materials on which they are to labour unceasingly for the next 16 hours. We can hardly even picture the coster, as a class, travelling in similar wise to take his donkey and cart or his barrow out of a livery stable and proceed to commence his day's operations at the early market where his stock-in-trade is purchased. The seconder of Mr. ROBSON'S amendment, Mr. STEADMAN, M.P., L.C.C., spoke of 400,000 human beings in the county of London living in one-room tenements, 30,000 living six in a room, and 3000 eight in a room. It is not easy to believe that many of these will benefit greatly either by the Government Bill when it becomes law or would have been greatly affected had the amendment in question been passed. Members of this class, if they are ever to live in healthy conditions at all, will still have to live near where their work, such as it is, lies, or where they may most easily seek it. The building of houses for them by the London County Council so as not to form a perpetual drain upon the rates of London seems well-nigh impossible, whatever may be done by private enterprise and philanthropy. The high value of land in all central localities is the main obstacle. It has been the cause of the Bill we have referred to, and it was more than suggested during the debate that the price is inordinately enhanced where the County Council buys under compulsory powers, slum dwellings being then paid for as if they were substantial buildings earning honest profits for their owners.

Under the Housing of the Working Classes Act of 1890, when the arbitrator fixes the compensation payable under an improvement scheme in respect of premises situate within an unhealthy area, he is bound to receive evidence as to the premises being used for illegal purposes and as to overcrowding or defective sanitation. He is then to base his compensation on the rental obtainable if the premises were used for legal purposes and without overcrowding, while their value if in a sanitary condition is to be computed and the amount necessary to put them in such a condition deducted. On the other hand, if the premises are incapable of being made habitable their value is to be the value of the land and the materials on it only. It will be seen from this that, if unhealthy areas are rigorously treated as such, the compensation need not be excessive and, indeed, cannot be so without gross mismanagement. It is, in our view, wiser to urge the strict enforcement of the existing law against the slum owner, using the law to the full to provide better dwellings to replace those forcibly closed, than to stand idle while hoping for some better or vaster scheme to be devised, such as a tribunal in the nature of a land court to fix the rents of workmen's dwellings. This particular proposal has features which appear to commend it at first sight, but for the reasons given by Mr. BALFOUR to the House of Commons, if for no other, it hardly seems likely to take a definite form at present.

A TREATISE by the renowned ancient physician, GALEN, concerning the foods best adapted for preventing or reducing obesity, entitled in the Latin "De victu attenuante Liber," has now for the first time been edited in the original Greek by Dr. C. KALBFLEISCH of Fribourg. It is dedicated to his

confrère, Dr. J. ILBERG of Leipsic, and is published by TEUBNER of that city. This is the last work of GALEN catalogued at the British Museum, and, so far as we can discover, the editor's statement that its Greek text has never before been printed is undeniable. That its attribution to GALEN is correct is apparently confirmed by the fact that it is quoted and referred to by such classical medical authors as AETIUS, whose date is disputed, although it was probably about the end of the fifth or the commencement of the sixth century, by an anonymous author who addressed a treatise, "De Medicina," to CONSTANTINUS POGONATUS (668 to 685), and by MICHAEL PSELLUS, a philosophical writer of the eleventh century. Besides these, ORIBASIUS, who according to the best authorities was born at Pergamos, in Mysia, the birthplace of GALEN, in his work "De Victûs Ratione" made large use of GALEN's treatise; and HONEIN-IBN-ISHAK, an Arabian physician of the ninth century, is authoritatively asserted to have made an Arabic translation of it. Dr. KALBFLEISCH, in his elaborate preface, examines at considerable length the origin and nature of the Latin versions in existing editions of GALEN, and particularly states that four pages are wanting in all of them which refer to certain Asiatic wines, of which GALEN says, ἀλλα γάρ οὗτοι ἐναντιώτατοι τῇδε τῇ διαιτῃ (but these are most opposed to this kind of regimen), evidently implying that the western translator into Latin thought it worthless to trouble himself or his readers about Oriental liqueurs. Dr. KALBFLEISCH then proceeds to show whence he obtained the codex of his Greek text—viz., through the researches of a certain MINOIDES MYNAS, whom he amusingly describes as "vanus homo et impurus, sed idem in codicibus pretiosis investigandis prosperâ fortunâ adjutus." This worthy, about 1840, returned from the East with manuscripts in the original Greek of this and other writings, and after they had been temporarily deposited with Messrs. ARNOTT, bankers, at Salonica, they were purchased by various libraries, this treatise finding its home in the Bibliothèque Nationale. With true German diligence Dr. KALBFLEISCH minutely compares the Latin versions—particularly that made by NICHOLAS RHEGINUS for the edification of ROBERT of Sicily in the fourteenth century—with that made by MARTIN GREGORY, medical professor at Paris, about 1580, though his version, he believes, is only a paraphrase of that of NICHOLAS. Without going into the complex details and many referential figures of this introduction to the Greek text we will briefly analyse the contents of the text itself. The entire work is a sort of scientific anticipation of the notorious "Banting" treatment of some 40 years ago. The author deprecates the use of drugs for the dissipation and destruction of fatty particles in the system, stating that in his experience he has known of many cases of renal and rheumatic complaints cured or alleviated by use of a proper diet. Chapters I. to VII. treat of herbs and seeds which are calculated to produce the required result. GALEN here recommends leeks, onions, mustard, and nasturtiums as beneficial, also watercress and pennyroyal, though these are better taken green than dry, since when dry they in a measure become drugs. Generally speaking, herbs and vegetables grown upon hills are stronger than those grown in the valleys. Chapter VIII. describes the birds and fishes which are suited to his regimen, and recommends fishes which haunt rocks and birds frequenting mountains, saying that aquatic birds are fat-producers. All wild birds and game are less fattening than those which are brought up domestically. In Chapter IX. GALEN says that beetroot is not to be taken, neither the roots of vegetables which are round. Chapter X. treats of fruits, saying that mulberries are good as a laxative. Peaches should be eaten rather in a soft pulpy state than in a hard one, but these fruits must not be eaten εἰς κόρον—i.e., to excess. Persian and Armenian melons should also be avoided, but the Seric, or Chinese, melon may be eaten. In Chapter XI. GALEN recommends vegetables which have been preserved in vinegar or brine; and in Chapter XII. he discourses of the effects of honey, milk, and various wines, stating that sweet wines produce thickness of blood. It would be interesting to the profession if a competent medical scholar would translate this treatise into English, but this could only adequately be done by one who had made a considerable study of GALEN's works in the original Greek.

Annotations.

"Ne quid nimis."

WOUNDS CAUSED BY MODERN SMALL-ARM PROJECTILES IN THE CUBAN CAMPAIGN.

SIR WILLIAM MACCORMAC in his address at the meeting of the Royal Medical and Chirurgical Society on May 22nd referred to a valuable communication made by Professor Nancrede of the *University of Michigan to the last meeting* of the American Surgical Association. Professor Nancrede's paper, so opportune at the present time, is published in vol. xvii. of the Transactions of the American Surgical Association and deals with the effects of modern small-arm projectiles, as shown by the wounded of the fifth army corps during the campaign resulting in the capture of Santiago de Cuba. Professor Nancrede gives the outcome of some 1500 cases of gunshot wounds which he had himself observed during the war in Cuba in 1898, about 1400 of which were cared for at the hospital with which he was connected. His present attitude in regard to many of the questions discussed should, as he rightly urges, carry greater weight because it is opposed to that which he formerly held as the result of what his past experience had taught him. The trivial, almost incised, character of most flesh wounds might have been anticipated, because with such immense velocity, if little resistance is experienced, the missile will retain nearly all its energy, practically imparting none to the tissues and the devitalisation of the ball-track is consequently reduced to a minimum. He considers that the greatest advance in military surgery on the battlefield in recent times is the "first-aid" packet and the greatest boon conferred on the wounded soldier has been asepsis and antisepsis, because in the majority of instances rendering his injuries so painless and their complications so slight that even anæsthetics no longer occupy the chief place as a blessing to the wounded because no longer needed. Professor Nancrede is emphatically in favour of prompt and energetic antisepsis, too, in order to minimise the evils resulting from infection. The ubiquitous pyogenic organisms

1 THE LANCET, May 26th, 1900, p. 1453.

present in and upon a patient's skin immediately surrounding the wound would readily find lodgment in the wound unless at once inhibited by contact with an efficient germicide. The removal of limbs for extensive fracturing of long bones in the Cuban campaign was almost unknown. Exploration with extraction of splinters was sometimes done, but antiseptic occlusion was the rule and was followed by the best results just so long as infection was avoided. Joint wounds were likewise usually successfully treated by antiseptic occlusion with such fixation as was available. According to the official report, "more than a score of gunshot wounds of the knee-joint were thus treated with the happiest results." Antiseptic occlusion also proved the best treatment for most of the thoracic and abdominal injuries. Professor Nancrede was informed that of the perforating ball wounds of the abdomen all that were operated upon proved fatal, while he saw a number which were recovered from without operative intervention, antiseptic occlusion being relied upon.

MR. BARTLEY, M.P., AND THE SHOREDITCH VESTRY.

THE *Times* of May 28th contained a letter from the clerk of the Shoreditch Vestry written under instructions given by the Public Health Committee of that body. This official document deals with a speech recently made in the House of Commons by Mr. Bartley, the member for North Islington, in the course of a debate on the Bill for the Housing of the Working-classes. The Shoreditch Vestry contend that a serious and unmerited reflection has been cast on metropolitan authorities generally and on themselves in particular by Mr. Bartley's remarks. The paragraph in his speech to which they take special exception is as follows:—

"Another matter which hampered progress was the difficulty of satisfying local authorities. Within his own knowledge there was a case where everything that was possible was done in making good sanitary arrangements and providing an excellent water-supply to a block of houses. The local authority stepped in a few years afterwards and condemned the whole arrangement, which had to be altered at the cost of £500. Three years after that the same sanitary authority and the same inspector insisted on reinstating all the appliances which had been removed, and that was done at a cost of £300."

The Shoreditch Vestry believe that the dwellings referred to are within their own area and are the [illegible] himself. On this assumption they qu[illegible] in the year 1892 by their chief sanitary inspector on the dwellings to which they believe Mr. Bartley refers:—

"It was found that the various water-closets were fitted with tilting water-pans and iron containers—all in an extremely foul condition. In several instances the water-pans were gone and the emanations of the foul containers rose freely into the closets. The cisterns supplying the people living on the first, second, and third floors were found in the water-closets, close up to the ceilings, so that an examination of the state of the cisterns could only be made by removing the floor-boards of the water-closet overhead. This having been done the cisterns were found to be in a very filthy condition and there was abundant evidence that the water was fouled by excrementitious matters overflowing the closet pans. Against that contingency it did not appear that the builder or even the architect had thought it necessary to take any precautions whatever."

The clerk of the Shoreditch Vestry goes on to state that the cisterns were removed and each water-closet was fitted up "in a superior manner." Three years later the pressure in the mains of the East London Waterworks Company was insufficient to supply the upper floors of the tenements during the day time, and Mr. Bartley was required under a magistrate's order to supply storage cisterns in the roof. It is not stated who applied for the magistrate's order for the reinstatement of cisterns, but it is stated that the order was made under the "Public Health Acts." We should be glad to know under what section of what Act it has been held by a magistrate that a landlord can be compelled to supply a cistern in an area in which a metropolitan water company is under a statutory obligation to give a continuous supply of water. The Shoreditch vestry clerk remarks: "That the East London Water Company failed in giving a proper water-supply to the dwellings was not the fault of the sanitary authority who, during the recent water famines, have by every means in their power endeavoured to get Parliament to keep this defaulting monopolist company up to its duties to the public." It must be pointed out to the Shoreditch Vestry that Parliament has delegated the supervision of the water-supply to the vestries and to the County Council, and that these bodies are empowered by Acts of Parliament to insist that a constant supply of water shall be given to London water consumers. With a constant water service cisterns are not needed. The Shoreditch vestry clerk ends his letter by saying that two Royal Commissions and a Local Government Board inquiry have thwarted the efforts of the local authorities of London. It is hardly necessary for us to remind our readers that Lord Llandaff, on the contrary, severely and repeatedly blamed the local authorities of London for not availing themselves of their statutory privileges in dealing with peccant water companies.

SEATS FOR PARIS SHOP ASSISTANTS.

DR. FOVEAU DE COURMELLES is seeking to move the Société Française d'Hygiène so that an agitation may be organised having for its purpose to obtain seats for shop assistants. He declares that in the four leading drapery establishments of Paris there are no less than 6000 women whose health is gravely compromised by the conditions under which they work [illegible] to sterility, or to dangerous and very [illegible], or to uterine diseases, &c. But the men also suffer in common with the women from varicose veins and from a form of albuminuria which Stirling qualified as "postural albuminuria." Dr. de Courmelles says that in Paris the "demoiselle de magasin" has to be at her post at eight in the morning. She must then proceed to the sixth floor to renew her stock from the store-room. After this she must go to the control and labeling offices which are generally in a second basement. These journeys have to be repeated several times and thus it is necessary to climb 600 or 800 steps before the arrival of the customers. At breakfast time, from 11 to 12 30 A.M., the men are able to go out for half an hour to smoke and enjoy fresher air, but it would not be considered respectable for young girls to stroll about the streets alone. The vitiated air that is breathed in the large and crowded establishments [illegible] much more injurious and it must not be forgotten that the influenza epidemic began in one of these Parisian establishments shortly after the last Universal Exhibition held in 1889. The women also who are employed for trying on dresses and mantles, &c., depend on the elegance of their figures for their livelihood. Consequently they deprive themselves of some of the food they need for fear of becoming too stout, and then there is, of course, the temptation of lacing too tightly. The hope, so natural in women, of happy and healthy maternity must be abandoned unless they are in a position to leave their work altogether. Many are obliged to remain and are therefore prematurely aged and invalided. When late in the evening the great shop is shut the work is not over. All the goods have to be carefully folded up and put in their proper places. Then the accounts of the sales effected must be added up and the report thereon prepared. When this has been accomplished it is often necessary to wait a long time before it can be checked by the chief of the department and thus it is past 9 P.M.

before the shop assistants are able to go home to eat and above all to sit down. Under these circumstances, there is even more need in France of a Seats for Shop Assistants Bill than in England, where the hours of labour are not so long and where all shops are closed on Sundays and most shops close at 2 P.M. on one of the week-days. As in France so much is attempted by the State and by private charity to preserve infant life [illegible] what surprising that [illegible] assistants, especially the women, is not better appreciated, and that comparatively little has been said or done in this direction. [illegible]

THE SOLICITORSHIP OF THE GENERAL MEDICAL COUNCIL.

WE have already announced the resignation of Mr. Farrer who for many years has acted as the solicitor of the General Medical Council, and who will be remembered with respect and pleasure by its members. The Council has elected as its standing solicitor in his place Mr. W. H. Winterbotham, who is also official solicitor to the Court of Appeal. It is understood that the work of the Council as respects law and police-courts will be done by another solicitor to be approved by the Council.

DINNER TO SIR WILLIAM T. GAIRDNER.

IN THE LANCET of March 31st (p. 956) we gave a short [illegible] in which Sir William Gairdner [illegible] the University of Glasgow his decision to resign his professorship of the Practice of Physic. We have now pleasure in announcing that his very numerous friends in the University and among the medical profession in the West of Scotland will entertain him at dinner in the Windsor Hotel, Glasgow, on Tuesday, June 19th. In view of the importance of the occasion the arrangements are being made by an influential committee, which includes the Rev. R. Herbert Story, Principal of the University, and Sir Hector Cameron, President of the Faculty of Physicians and Surgeons of Glasgow. Tickets, 21s. each, can be obtained from Messrs. James MacLehose and Sons, 61, St. Vincent-street, Glasgow, and the committee state that early application for tickets is necessary, as the number is limited, and no application can be entertained after June 14th.

THE DEVELOPMENT OF THE CRANIUM.

A CAREFUL study of the development of the primordial cranium has recently been made by an Italian physician, Dr. Giuseppe Levi of Florence, and the results of his researches, published in the *Archiv fur Mikroskopische Anatomie*, Band lv., p. 341, 1900, are contained in the following propositions. The first rudiments of the primordial cartilaginous cranium in man occur in the form of isolated groups of closely compressed connective-tissue cells in looser tissue than that which forms the membranous primordial cranium. There is a certain homology between these aggregations of cell groups and those of the future bones. There is no homology between these rudiments of the skull of man and those described in mammals as parachordals and trabeculæ. The rudiments in question, even after their conversion into cartilage, preserve their identity for some time by the possession of a perichondrial layer. It is only just before the chondrocranium has attained its highest development that all the rudiments coalesce and then only does the chondrocranium form one continuous whole. The rudiments formed by connective tissue are not all formed coincidently; that of the occipital bone is the earliest, then follow those of the sphenoid and of the auditory capsules, and the last to appear is that of the ethmoid. The differentiation of the several rudiments does not progress with equal rapidity—as a general rule it advances with the greatest rapidity in the latest formed parts and presents in each case characteristic features; thus in the occipital region it takes place quickly and almost contemporaneously throughout its whole extent, whilst in other instances it commences at a definite spot by a kind of cartilaginous nucleus and *spreads uniformly outwards*. The [illegible] but extremely [illegible] and development of the occipital region presents a great similarity to that of the vertebral column. In particular the histological features of the formation of cartilage are different from those of all other segments of the skull and are identical with those of the vertebral column. Moreover, there is one distinct rudiment of a vertebra—that is the occipital—which has a symmetrical origin, and further forwards there are parts of an indeterminate number of vertebræ. The occipital region, like the vertebral column in the first stages of its development, is in connexion with the chorda, but as the cartilage develops it becomes distinct from the chorda. All this supports the statement made by Froriep that the occipital region represents the true spinal segment of the skull in man. The symmetrical rudiments of the body of the occipital vertebra become the condyles of the occipital, the unsegmented portion represents the portio basilaris, and the lateral portion of the arch of the occipital vertebra the processus jugularis. The form of the rudiments antecedent to the appearance of cartilage does not always correspond to that of the cartilage when fully formed since parts of the rudiments undergo absorption. The chief changes that occur, however, are those consequent on the remarkable alteration of position of the occipital and sphenoid rudiments. The floor of the sella Turcica is the only segment of the whole skull which preserves its original position throughout the process of development.

A CURIOUS THEORY OF PLAGUE.

THERE should be no difficulty in preventing the spread of plague according to the remarkable theory put forward by a correspondent in a pamphlet recently published in India. In this pamphlet, a copy of which we have recently received, the author sums up his view in a final paragraph as follows: "I humbly state that the more close the investigations and experiments the more fairly we expect to be convinced of the fact (*sic*) that plague is nothing but slow and gradual poisoning of carbonic acid gas." According to this view we should expect plague to be a chronic disease in this country, having as a starting point mineral water works or breweries, for in these places there is constantly a large proportion of carbon dioxide in the air. As a matter of fact the health of the operatives in these industries, in spite of a high proportion of carbonic acid in the air at times, is good. Carbon dioxide is, of course, a poisonous gas, but only when present in great excess. As Dr. J. S. Haldane has shown air may contain from 3 per cent. or 4 per cent. of carbonic acid gas without producing any serious distress. The author of the pamphlet referred to suggests as a plan of prevention the placing of all patients on the second floor or third floor of the building, for he remarks that carbonic acid gas is a heavy gas and accumulates on the ground floor and it is on the ground floor where the disease flourishes. If there were no such thing as a law of the diffusion of gases human life would have ceased to be long ago, for there is sufficient carbonic acid in the air to form a layer over the surface of the earth of the dimensions of an ocean, and in such an ocean life would be, of course, impossible. It is a pity that the author's simplicity of idea as to the origin of plague is not true, for such a simple *fons et origo mali* could easily be removed. When, however, he speaks of over crowding, ill-ventilation, and

dirty environment as factors in the etiology of the disease he is right, but to say that these conditions indicate nothing but the accumulation of a large quantity of carbonic acid gas and insufficient quantity of oxygen is to ignore the teachings of modern research and to manifest a lamentable ignorance of the nature of infection.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

To the list of candidates for vacancies upon the Council should be added the names of Mr. W. H. Bennett, surgeon to St. George's Hospital, and Mr. R. Clement Lucas, surgeon to Guy's Hospital. The full list will be found on p. 1674.

THE INTERNATIONAL CONGRESS OF MEDICINE.

IN answer to many inquiries which have been addressed to it, it is announced by the Executive Committee of the Thirteenth International Congress of Medicine that it has decided that dentists who are not doctors of medicine, but who nevertheless are registered or possess a *diplôme d'état*, either French or foreign, can register themselves as members of the Congress in the Section of Stomatology. Names must be sent to the Bureaux of the Congress, the address of which is 21, rue de l'Ecole de Médecine, Paris.

LOSS OF MEMORY AND OF SENSE OF PERSONAL IDENTITY.

[illegible] a decidedly uncommon in [illegible] medical and legal interest: [illegible] resting case is published in [illegible] *nal* (May 19th, 1900) and recalls the occurrence of a similar case recently at Cambridge where a young undergraduate disappeared from his quarters and was not heard of for several days till he was discovered staying at an inn in the country some distance from Cambridge. He seemed to have had no recollection of leaving his rooms in Cambridge or of any of the incidents subsequent to that event and until his arrival at the inn, except that he was feeling tired and fatigued and that his boots and clothes were wayworn and dusty. The undergraduate was a youth subject occasionally to epileptic fits at infrequent intervals, and it appears that after such a fit he lost his memory and his sense of personal identity and wandered about until he came to the inn where, wearied and worn out, he took lodgings. He had lost all recollection of his former life and condition and stayed in the inn for some days. Then a second fit occurred after which the memory of his former self returned and he was able to realise his position and find his way back to the University. The case reported in the *Philadelphia Medical Journal* is that of a law student, aged 19 years, living in New York, who suddenly lost his memory and sense of personal identity and found himself wandering in the streets of what he considered a strange city. He was so perplexed that he asked people in the street if they could tell him who he was and went to the libraries and hotels to search in the newspapers for stories of missing persons in order that he might get some clue to his identity. He lived at a hotel and after spending five days in fruitless wanderings and inquiries he finally entered a police station and inquired of the sergeant on duty whether he could inform him in what city he was and requested that search might be made in the record of missing persons. When this was done it was found that there was a description closely tallying with his appearance. A detective was sent with the youth to the address given in the description, where the wanderer was received with great joy by his mother and sisters. To their great surprise, however, he thanked them very politely, but assured them that he did not know them or the place. The mother told the police that he was a somnambulist and had left home previously under similar conditions. In the youth's pocket there was found a diary in which he had entered the details of his daily experience since the time he left home and forgot who or where he was. "His physicians state that his attack of amnesia is gradually passing off, and that while he shows memory of other events in his past life any reference to himself seems to be the signal for another lapse of his memory." The import of cases such as the above is evident both from a medical and medico-legal standpoint, and it is interesting to note their affinities with such neuropathic conditions as epilepsy and somnambulism.

UNIVERSITY OF LONDON THE ROGERS PRIZE.

AT a meeting of the Senate of the University of London, held on March 28th, 1900, it was resolved that one sum of £100 be offered as the Rogers Prize open for competition to all the members of the medical profession in Great Britain and Ireland for an essay under the following regulation as to the subject and conditions thereof, namely: an essay by any member of the medical profession in Great Britain and Ireland upon the Production of Immunity in Specific Infective Diseases; generally, and with particular reference to any one disease on which the writer of the essay has made original investigations. The essay is to be sent to the Registrar, University of London, South Kensington, S.W., on or before June 1st, 1901.

INTERMENSTRUAL DYSMENORRHŒA.

THE *Boston Medical and Surgical Journal* of April 19th contains an important paper by Dr. M. Storer on this rare and interesting affection. His observations lead him to conclude that intermenstrual dysmenorrhœa is not so rare as has been asserted: he had found it last summer 18 times in 400 "suitable cases" in which he inquired as to its existence. Analysis of 20 cases under his care and of 25 collected from literature led to the following conclusions. As regards regularity the pain in all cases appeared practically every month. In 22 cases it always occurred on a definite day from the beginning of the last menstruation; in 13 there was a variation of two days and in 4 of four days; in 2 with irregular menstruation it occurred on a definite day before the next menstruation. As regards day of appearance from the first day of the previous menstruation, out of 41 cases it came on in from the twelfth to the sixteenth days in 37. As to character, in a large number of cases it was described as paroxysmal, the attacks either coming on at intervals of several hours and lasting from five to 15 minutes or the pain being constant with exacerbations often of the greatest severity and resembling that of labour. As to duration, in 10 it lasted two days; in 9, three; in 8, one; and in 4, four or more. In no case was there a discharge like that of menstruation, but in two cases (one of bleeding fibroids and the other of hæmorrhagic endometritis) there was a slightly sanguineous discharge. Hence the term "intermenstrual dysmenorrhœa" is inapt. On the other hand, a marked increase of leucorrhœa is spoken of in 10 cases, which is evidence of temporary congestion. As to causation, the pain in most of the books is described as ovarian but it is not always so. In one case it disappeared after the removal of a hydrosalpinx; in another, after the uterus was curetted for endometritis; and in a third, stenosis of the internal os was apparently the only lesion. On the other hand, out of 40 cases in which the local condition is stated more or less of an inflammatory condition of the appendages is described in 30 ("ovaritis," 15; "salpingitis," 12; and "hydrosalpinx," three). The exact manner in which the

phenomenon is produced is [illegible] doubtful explanations, mechanical [illegible] brought forward [illegible]

MORTALITY AMONG SEAMEN.

IN the issue of the *Syrén*, a paper dealing with mercantile marine [illegible] entitled "Deaths [illegible] from a medical point of view. The [illegible] Shipping and Seamen issues monthly mortality returns from which it appears that although the average number of deaths in the British Mercantile Marine is about 300, the returns for March show the very high total of 808. Not all of these deaths, however, actually occurred in March and by far the greater part were due to the heavy gale which swept over the North Sea in the month of February. Some deaths, too, reported in March were due to the hurricane which devastated the Bahamas in August, 1899, and the two together were responsible for the loss of 413 lives by drowning in the case of vessels now reported as "missing." Of the other deaths 26 were due to chest affections and 18 to heart disease. Yellow fever is credited with 11 and malaria with 10 deaths. Falls from aloft killed 10 seamen and 20 met with other fatal accidents. Only one case of death from typhoid fever is reported. The number of deaths due to "chest complaints" is very small and shows that diseases of this kind are due, not so much, as is popularly believed, to cold and wet as to dust and the various other abominations which are found in the atmosphere of great cities. Many forecastles and much sleeping accommodation in the mercantile marine are still far from being what they should be, but there is always plenty of fresh and dust-free air on deck. The tale of deaths from "missing" is, however, a terrible one, and these apparently occurred mainly among fishing craft and coasters. The latter class of vessel is in many cases, we fancy, by no means too well found, and a glance at any wreck chart will show how dangerous are our own coasts to this kind of vessel.

RECOVERY FROM MENINGITIS IN TYPHOID FEVER.

THE following case, described at the meeting of the Société Médicale des Hôpitaux of Paris by M. Troisier, is interesting as an example of recovery from typhoid meningitis. A patient, aged 24 years, had typhoid fever of the adynamic form. The disease ran a regular course and the only peculiarity was the intensity of the headache which began with the prodromal period and its persistence, though in less degree, throughout the whole of the febrile period. The temperature commenced to fall on the twenty-first day, and on the twenty-fourth day, when defervescence was complete, the patient, who had never ceased to suffer from her head, complained of violent headache and photophobia. There were painful contracture of the cervical muscles, which rendered flexion of the head impossible, and repeated vomiting which took place without effort. The pulse was small and irregular and had become slowed from 90 on the previous day to 65. The meningeal streak was well marked. Kernig's sign was absent. These symptoms persisted without fever for four days. The patient was in a state of torpor accompanied by agitation and slight nocturnal delirium. She comprehended what was said to her, but answered slowly and had an absent air. On the twenty-ninth day the vomiting ceased and all the other symptoms improved, the headache and stupor diminished, the stiffness of the neck disappeared, and the pulse became regular. On the thirty-seventh day phlebitis with marked œdema of the whole left lower limb appeared. On the following day the meningeal symptoms had completely disappeared. In [illegible] the phlebitis of the left lower limb had [illegible] n the right was attacked, but less severely. Complete recovery ensued. M. Troisier insisted that in spite of the recovery the intensity of the symptoms established the diagnosis of meningitis which was produced by the typhoid bacillus or by some secondary infection. He quoted M. Dupré who has stated in the "Manuel de Médecine [illegible] t infectious meningitis might become [illegible] he thought, was a mere coincidence and but another manifestation of typhoid infection.

THE INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH.

THE members of the Yorkshire branch of the above society held their annual dinner on May 31st at the Hôtel Métropole, Leeds. Mr. T. B. Fairclough of Mirfield, the Preside [illegible] guests was [illegible] of "Our Society." [illegible] results which had been accomplished within his own recollection by the labours of medical officers of health and by the science of preventive medicine. Malaria, plague, and typhus fever were extremely rare or even absent in this country and he thought that in time tuberculosis would become as rare as typhus fever was now. But perhaps the most interesting portion of the speech of the Regius Professor of Medicine of the University of Cambridge was that passage wherein he referred to cancer. He urged his hearers to lose no opportunity of tracing out the distribution of cancer and said that when he reflected what had been done within the lifetime of one man towards the extinction of typhus fever and that plague and malaria had been absolutely abolished in this country he was confident in thinking that even cancer might be wiped off the slate. They did not know much about cancer, but the weight of evidence was on the side of its being an infectious disease. Optimism in medicine is undoubtedly a thing to be cultivated, but we fear that it may be long before cancer is "wiped off the slate." Still, the labours of Mr. Alfred Haviland and Mr. D'Arcy Power with regard to the geographical feature of cancer distribution, to say nothing of the pathological and physiological researches of many other workers, even if no definite results have as yet been arrived at, are at any rate an earnest that the problem is being steadily attacked.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC.

THE first annual dinner of this institution was held at the Trocadéro Restaurant on May 31st. The Right Hon. Lord Strathcona and Mount Royal was in the chair and the large number present testified to the interest which is extended to the youngest of London's medical colleges. The gathering was a most successful one and the committee responsible for the proceedings may congratulate themselves on the results of their labours. The Royal toasts were received with the enthusiasm which characterises all references to the Queen and all members of the Royal Family at the present time. Sir Henry Burdett proposed "The Imperial Forces," referring more particularly to the services rendered by the chairman and other representatives of the colonies to the mother country. Surgeon-Captain Kingscote and the Hon R. H. Lyttelton responded, the latter thanking those present for the manner in which they had received the mention of the name of his brother, General Lyttelton, now serving in South Africa. Lord Strathcona, in proposing the principal toast, "The Medical Graduates' College and Polyclinic," briefly explained the objects of the institution, the main one being to enable qualified men who had left the hospitals and entered on the practice of their profession to keep themselves

abreast with the advance of medical knowledge. Sir William Broadbent, President of the institution, in responding, further detailed the objects which the promoters of the Medical Graduates' College and Polyclinic had in view. He drew attention to the opportunities which were afforded to medical men to increase their knowledge of the special branches of medical science. Mr. Hutchinson proposed the toast of "The Hospitals and Kindred Institutions," and expressed the desire that the college might work in coöperation with the large hospitals and the principal medical societies. The toast was suitably responded to by the Hon. Sydney Holland who said that he sincerely trusted that the committee of the Medical Graduates' College would not attempt to start another hospital, but would seek to associate themselves with some existing hospital. The toast of "Our Guests" was proposed by Sir Joseph Fayrer and responded to by Mr. Brudenell Carter. The health of the chairman was proposed by Dr. Stephen Mackenzie.

THE "GOUTTE DE LAIT" SOCIETY.

UNDER the above title a society has for some time been at work in France, and Dr. Alfred Hill, the medical officer of health of Birmingham, has made certain inquiries with regard to it. The object of the society is the very laudable one of the reduction of infantile mortality. The method of procedure is by the substitution of a suitable for an unsuitable diet. (1) by encouraging mothers to nurse their offspring; (2) by furnishing a specially prepared milk to meet those cases in which the first of these propositions cannot be carried out; and (3) by arranging for the infant to have the exact quantity of prepared milk necessary. The efforts of the society are directed mainly towards the poorest class, and to them the daily quantum of milk is furnished for one penny. The artisan class is charged 3*d.* and the upper class 6½*d.* The infants thus provided for are weighed frequently with a view of judging as to an increase or decrease of the milk allowance. All milk supplied is sterilised. Dr. Hill reports to the Birmingham Corporation that this system is being attended with great success, there being a very marked decrease in the infantile mortality at places adopting these methods of milk-supply. Certainly the experiment is worthy both of study and encouragement; a diminishing supply of child life calls for vigorous steps to prevent an excessive infantile mortality.

ALARM OF PLAGUE IN SMYRNA.

IN THE LANCET of May 19th (p. 1456) it was mentioned that a case of suspected plague had been discovered in Smyrna and isolated outside the city on May 8th. On May 9th Dr. Cozzonis of Smyrna telegraphed to Constantinople a further description of the patient's symptoms which, although serious, were not precisely those of plague. The bubo in his right groin was still painful when touched, but his medical attendant, Dr. Amado, said that he had suffered from a similar bubo some years ago. His abode, which was a damp and unwholesome place nearly three feet under ground, was disinfected and closed. On May 16th Dr. Cozzonis telegraphed to Constantinople that Dr. Nouri Bey had examined pulp from the bubo microscopically and by inoculation of rabbits. The results were negative, but characteristic lesions were produced in guinea pigs by inoculation with cultures of three days' growth; the animals, however, did not die. The patient was improving and the conclusion was that very few germs were present. No dead rats had been found. On May 28th Dr. Mizzi, *médecin sanitaire* at Smyrna, telegraphed to Constantinople that a Jewish carpenter, 23 years of age, a patient under the care of Dr. Corris, was suffering from pyrexia and enlargement of several glands in the right groin without any concomitant lesion to account for them. Both the patient and his friends declared that they had never been in the neighbourhood of the case already isolated; the abodes of the men were about 400 yards apart. The second case was immediately isolated outside the city and both patients were inoculated with [illegible] Plague still continues at Jeddah and [illegible] the Turco-Persian frontier.

THE HEALTH OF GIBRALTAR.

THE population of this little peninsula varies but slightly and the census figures of 19,100 are still, the medical officer of health reports, applicable. The birth-rate for 1899 was 31·34 and the death-rate 22·03 per 1000. There were nine cases of small-pox with one death during the year, the source of infection having apparently been the Spanish Lines where the disease was prevalent. Primary vaccination is well carried out in Gibraltar, but revaccination is rarely practised. In the matter of milk supervision an example is set to this country by the registration of the street-vendors, stringent control being essential owing to the insanitary condition of the Spanish cowsheds. Major H. P. Elkington, R.A.M.C., the medical officer of health, suggests the establishment of a farm within the British lines, or, failing this, the milk should be sterilised. As regards water-supply it is interesting to note that arrangements have been made for an additional supply of rain-water, four large reservoirs having been constructed in the limestone rock in such fashion that neither bombardment nor fluctuations of temperature will affect the water stored therein. Before use the water will be filtered through "polarite" and aerated by falling as a spray through a distance of some 50 feet. Service pipes are apparently not in use in Gibraltar and Major Elkington strongly advises their establishment. He has, it would seem, no fear as to the action of the water on lead and he strongly condemns the present system of hawking water about the streets.

THE DUTIES OF AN ASYLUM SUPERINTENDENT.

A RECENT number of the *Portadown News* (May 19th) contains an account of the monthly meeting of the Board of Management of the Lunatic Asylum at Portadown, at which various opinions were expressed by the members concerning what they conceived should be the duties of a medical superintendent. Among such duties—in addition to the professional duties—expected of the medical superintendent appeared the following: keeping the subsidiary financial account of the institution, the care and supervision of china and crockery, and the planting of potatoes. The question of acquiring additional land was negatived as the committee were unanimously of opinion—considering that Mr. G. R. Lawless (the resident medical superintendent) did not know when potatoes should be planted—that there was no need of additional land. Among other things which fell within the medical superintendent's province was the selling of old clothes belonging to the patients as ordered by the board, though he (the medical superintendent) was of opinion that such clothes should be destroyed. On the motion of Mr. Best, seconded by Mr. Armstrong, "the board further instructed the medical superintendent to have mortar made on the grounds," and to keep a supply of the same for the needs of the institution. A member of the committee inquired if they could feed more pigs than they had at present and Mr. Lawless replied that they had not accommodation for more. The *Portadown News* concludes its report as follows concerning the committee and their doings: "After the meeting was over several of the governors visited the piggeries, and on finding that a number of them (the pigs)

were over two hundredweight and that in the ordinary course it would be two months before they could be disposed of by tender, it is said that some unprintable expressions were of the institution in medical and professional by the medical superintendent as the responsible physician in charge of the patients and of the administration of a beast of burden and a jack-of-all-trades—a state of things which is not conducive to the best interests of the public asylum service if a medical officer in charge of patients is required to do the work of a steward, an accountant-clerk, a farm-bailiff, a housekeeper, and a manager of the piggeries.

A CYCLING DANGER.

A CYCLING accident which occurred near Leeds on May 26th is no less instructive than it is regrettable. The rider, while descending a steep hill with his feet on the rests, came at great speed against a parapet at the foot of the descent, was thrown over with his machine, and was buried in the mud of the canal which flowed beneath. When extricated he was dead. Such an occurrence is not singular It has happened before under almost identical conditions With some variation in details it has probably been less unusual than is commonly understood For its prevention it is vain to search among mechanical contrivances Not even the free wheel allows the cyclist such a measure of control as to ensure his safety in the circumstances which we have recorded There is only one possible remedy, that is resolutely to refrain from riding down hill, and especially from "coasting," unless the rider feels assured of his control over his machine and understands the road he is travelling The slope may end with a sharp curve or with more than one such in succession, or a country cart may be mounting the hill unseen and very possibly, too, on the wrong side In either case there is danger, no matter how expert the cyclist Yet not a few ride down hills which are notoriously dangerous and are so marked in the road maps Another cause of accident is to be found in the habit of riding with the head down, the handle bars being placed low. Of course, the rider can avoid this if he pleases and he ought certainly to do so when on a declivity Even on a flat road there is strictly no more reason for the amateur to ride stooping than there is for an ordinary rider to sit like a racing jockey To ride a bicycle so down a hill slope is only to court misfortune.

LORD LISTER has consented to open the new clinical laboratories at the Westminster Hospital on Tuesday next, June 12th. Amongst those who have accepted the invitation of the president, treasurers, and committee to be present on the occasion are Lord Kelvin, the Dean of Westminster, Sir Michael Foster, the President of the Royal College of Physicians of London, the President of the Royal College of Surgeons of England, Sir John Burdon Sanderson, and Sir Joseph Bayrer.

THE St Petersburg Military Medical Academy has received a considerable grant from the Minister of Finance in order to establish a clinic for persons suffering from the effects of alcoholism.

WE regret to announce the death at an early age of Dr. G E Williamson, F R C S Eng, surgeon to the eye department, Royal Infirmary, Newcastle-on-Tyne.

THE MEDICAL, SURGICAL, AND HYGIENIC EXHIBITION.

JUDGING by the satisfactory attendance of visitors, comprising medical men, pharmacists, hospital nurses, and others, "the fourth annual exposition of professional exhibits," which was held this week at the Queen's Hall, Langham place, attained a success not less in degree than that which has marked former occasions As we have pointed out before, this annual exhibition affords an excellent opportunity to practitioners in London of inspecting new preparations, appliances, and other objects of medical interest Further, the exhibition being necessarily held on a small scale a good deal may be seen without experiencing that sense of fatigue which is commonly felt after a tour along row upon row of stalls. The exhibition at the Queen's Hall on the present occasion was tastefully arranged and very compact. One advantage which the hall offers for the purpose is that it is carpeted, so that the irritating noise of shuffling boots on plain wooden flooring is avoided, which makes conversation comfortable and enables the exchange of opinion between the exhibitors and the visitors to be carried on without interruption The exhibition was opened on Tuesday, June 5th, by the president of the Organising Committee, Mr Fred Weiss In the course of a short and appropriate speech Mr Weiss stated that every year showed an increase in the attendance of visitors, which fact was evidence of the increasing popularity of the exhibition. There was an increase last year of 2000 visitors over the previous year, the attendances being respectively 4000 and 6000 At the time when Mr Weiss declared the exhibition open, which was shortly after 2 P M, there were still a few stalls unfinished, but on the whole the organisers may be congratulated on having the exhibition practically ready for visitors at the time announced

There was an abundant display of drugs, comprising the most recent introductions both in regard to special forms of administration and novelty of composition The stall of Messrs Cooper and Co. of 80, Gloucester road, South Kensington, London, S W, presented an excellently arranged and attractive display of drugs, special foods, and mineral waters. This firm prepares mineral water aerated both with oxygen and carbonic acid gas and very special precautions are taken to ensure the [illegible] water may be obtai[illegible] naris," or it may be [illegible] piperazine, soda, and other soluble medicaments The exhibit included also the flexible, tasteless, and readily soluble wafer capsules known as "cachoid [illegible] tions A great number of [illegible] shown at the exhibit of Mr. [illegible] Cavendish street, London, W. In addition to well known drugs in various attractive forms there were amongst the specimens bacteriological culture media, stains and reagents, and other apparatus The portable urine test case is very useful, as we have shown, for the requirements of the busy medical man, for it enables him to conduct an analysis sufficiently accurate for clinical purposes at the bedside Amongst the interesting specimens of drugs shown were cacodylic acid which has recently been employed in the treatment of phthisis, and the sodium salt which is an excellent means of administering arsenic per rectum. Close by was the well stocked stall of Messrs Parke, Davis, and Co, of 111, Queen Victoria street, London, E C A greater variety of drugs and related preparations, as well as various methods for their administration, could hardly have been displayed. The standard fluid extracts of this firm are well worth attention, as affording a fluid preparation containing definite active principles in known proportion. The drugs are carefully assayed before the extract is prepared, both chemically and when necessary physiologically, so that the therapeutic activity of a given measure of the extract may be relied upon. The exhibit included serums and toxins, cathymol preparations, antiseptics, mercurol, a nucleide of mercury which we dealt with recently in our analytical columns, and that interesting and powerful enzyme taka-diastase. The chocolate coated tablets of this firm are also worthy of commendation. A very interesting series of pure chemicals,

alkaloids, and other preparations was exhibited by Mr. E. Merck of Darmstadt and 16, Jewry-street, London, E.C. This firm has a well-known reputation for the purity of fine drugs, and also in being enterprising in the manufacture of new pharmaceutical preparations which are suggested from time to time in medical practice. The exhibit included some organic iodine and bromine preparations and hæmoglobin. The preparations shown were excellent specimens of the art of obtaining pure crystallisable as well as non-crystallisable products in the laboratory. Some new interesting pharmaceutical products were shown by Messrs. Burgoyne, Burbidges, and Co., of 12 and 16, Coleman-street, London, E.C., who are the sole agents for the United Kingdom for Von Heyden's pharmaceutical products. Creosotal and duotal, which are respectively the carbonates of creosote and guaiacol, are examples. Besides these there were the interesting preparations known as "Collargolum," a form of metallic silver, but non-irritating and non-poisonous although a powerful antiseptic, and "Hyrgolum," which is described as "water soluble metallic hydrargyrum." As we have recently shown, this latter substance yields a clear but dichroic solution in water and this novel substance in the form of an ointment is said to be more effective than ordinary mercury. The special preparation known as Wampole's perfected and tasteless preparation of the extract of cod-liver oil was submitted for inspection by the representative in this country, Dr. E. A. Martin, 4, Duke-street, Adelphi, London, W.C. As we have before pointed out it contains certain alkaloidal and other principles found in the liver of the cod, but the oil is carefully eliminated In addition to these it contains the hypophosphites, fluid extract of wild cherry bark, and extract of malt which contribute in no small degree to the undoubted tonic qualities of the preparation. Clinical experience is quoted in proof of the statements in regard to its administration in debility. Synthetics were, as might be expected, largely exhibited by the Bayer Co., Limited, of 19, St. Dunstan's-hill, London, E.C., and Elberfeld. Amongst comparatively recent introductions should be mentioned aspirin, a substitute for the salicylates which is said to avoid their unpleasant effects; heroin, a substitute for codeine; and protargol or proteinate of silver which has been used in the treatment of gonorrhæa. A stainless iodine ointment known as "Kelpion" is being introduced by the Kelpion Company, Norgrove Buildings, 59A, Bishopsgate-street Within, London, E.C. Kelpion is stated to be quite non-irritating, and statements are made in favour of its use in rheumatism and syphilis. Messrs. Arthur and Co., of 69, Berners street, London, W., brought forward their well-prepared gold compounds; the one known as "Bromaurum," which is a brom-arsenate of gold, apparently acts in preventing the formation of urohæmatoporphyrin and in controlling the morbid process characteristic of muscular and chronic rheumatism. Samples of uric acid illustrating the control over the disease (by different degrees of pigmentation) were shown. Similarly samples of pigmented uric acid were shown illustrating the influence of an excess of alcohol in promoting the secretion of hæmatoporphyrin in antagonism to bromaurum. The exhibit included other well-known preparations which are specialities of this firm, as for example, sanochinol, described as a new atoxic derivative of quinine and a remedy for tropical fevers; tannopumilio, a remedy for irritation of the skin and bromidrosis, a compound of digallic acid with the principle of the essential oil of the pumilio pine. Messrs. Wyley's, Limited, of Coventry devoted the space on their stall chiefly to some excellent administrative forms of drugs, such as cachets, capsules, gelatin-coated pills, and "tropels" or compressed lozenges. Some elegant pharmaceutical preparations artistically relieved this display. Messrs. Oppenheimer, Son & Co., Limited, of 179, Queen Victoria-street, London, E.C., made a feature of palatinoids and bi-palatinoids in their well arranged exhibit. There are many applications of this ingenious form of vehicle for drugs which deserve attention. In the first place the palatinoid administers the drug in the powdered condition, while preserving the contents against deterioration from atmospheric influences. An important application, too, of the palatinoid appears in the case of animal substances. Amongst the other specialities shown by this firm were palatinoids of liquids and tinctures and bi-palatinoids of Easton's syrup. Messrs. F. Newbery and Sons, of 27 and 28, Charterhouse-square, London, E.C., exhibited largely on behalf of Messrs. W. R Warner and Co, of Philadelphia and New York, although the exhibit included a very comprehensive series of their own granular effervescent salts. Perhaps the most interesting and important subjects of exhibits by Messrs. J. F. Macfarlan and Co, of 93 and 109, Abbey-hill, Edinburgh, and of 9 and 11, Moor-lane, London, E C., were the double cyanides of mercury and zinc used for the well-known dressing introduced by Lord Lister. The exhibit included the specially purified chloroform for which this firm holds a deserved reputation. In addition were the opium derivatives, morphine benzoyl, morphine diacetyl, and morphine ethyl hydrochlorides, which are said to be milder and less toxic than morphine and codeine and more certain in their action. Vitæ Ore affords a simple and ready means of producing a chalybeate water with tonic properties. As we have shown, it consists of oxidised pyrites and its properties were explained to the visitors by representatives of the Vitæ Ore Co., Limited, of 39, Temple-chambers, London, E C. Amiral Soap may be mentioned in this paragraph, since the soap is but a vehicle for applying certain bile principles which are said to reduce corpulency by simple application to the skin. It is said to reduce the excessive fat of the body wherever applied, but on this point some evidence would seem to be required upon medical authority. The exhibitors were the Amiral Soap Co., Limited, 3, Throgmorton-avenue, London, E.C.

We shall continue our account next week by dealing with the special foods and other articles of interest which were on exhibition.

(To be continued.)

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ELECTION OF MEMBERS OF COUNCIL.

ON Thursday, July 5th, a meeting of the Fellows will be held for the election of four members of Council. In consequence of the additional year of office of Sir William Mac Cormac, Bart., K C.V.O., coming to an end during his presidency he will remain a member of the Council for another year.

The following list of the 24 members of the Council gives the date at which each member retires:—

Retire in 1907.—Mr. T. R. Jessop, Leeds General Infirmary (first elected 1891); and Mr. H. W. Page, St. Mary's Hospital.

Retire in 1906.—Mr. F. Richardson Cross, Bristol Royal Infirmary; Mr. Henr[illegible] Hospital; and Mr. John Langton, St [illegible]pital (first elected 1890).

Retire in 1905.—Mr. H. G. Howse, Senior Vice-President, Guy's Hospital (first elected 1889); Mr. Edmund Owen, St. Mary's Hospital; and Mr. Rickman J. Godlee, University College Hospital.

Retire in 1904.—Mr. Thomas Bryant, Guy's Hospital (first elected 1880); and Mr. T. Pickering Pick, St. George's Hospital (first elected 1888).

Retire in 1903.—Mr. A. Willett, St. Bartholomew's Hospital (first elected 1887); Mr. H. T. Butlin, St. Bartholomew's Hospital; and Mr. F. Treves, London Hospital.

Retire in 1902.—Mr. Reginald Harrison (first elected 1886); Mr. Howard Marsh, St. Bartholomew's Hospital (first elected 1892); and Mr. J. Hardie, Royal Infirmary, Manchester.

Retire in 1901.—Sir William Mac Cormac, President, St. Thomas's Hospital (first elected 1883); Mr. N C. Macnamara, Westminster Hospital; Mr. A. W. Mayo Robson, Leeds General Infirmary; and Mr. W. Watson Cheyne, King's College Hospital.

Retire in 1900.—Sir Thomas Smith, St. Bartholomew's Hospital; Mr. J. Tweedy, Junior Vice-President, University College Hospital; and Mr. Alfred Cooper.

A fourth vacancy is occasioned by the death of Mr. Davies-Colley, whose term of office would have come to an end in 1904.

Sir Thomas Smith does not intend, we understand, to apply for re election.

For the four vacancies two of the retiring members of the Council—viz., Mr. Tweedy and Mr. Cooper—are applying

H. H. Clutton, of St. Thomas's Hospital; Mr. W. H. Bennett, of St. George's Hospital; Mr. John H. Morgan and Mr. J. A. Bloxam, of Charing-cross Hospital; Mr. A. Pearce Gould and Mr. J. Bland-Sutton, of Middlesex Hospital; Mr. W. J. Walsham, of St. Bartholomew's Hospital; and Mr. Jordan Lloyd, of Birmingham.

It is quite possible that all these thirteen candidates may not go to the poll. Nomination forms must reach the secretary by Monday, June 11th. At present St. Bartholomew's Hospital has five representatives; Guy's Hospital, University College Hospital, and St. Mary's Hospital have respectively two representatives; and the following hospitals have one representative [illegible] College, London, Middlesex, St. [illegible] Two members of the Council [illegible] London hospitals and four are attached to provincial hospitals; Leeds General Infirmary has two representatives and Bristol Royal Infirmary and Manchester Royal Infirmary have each one.

THE PREVENTION OF TUBERCULOSIS.

THE interest in the prevention of tuberculosis, we are glad to see, is by no means abating, and the various local bodies throughout the country continue to further the erection of sanatoria and other means of fighting the disease which is responsible for so many deaths yearly.

PLYMOUTH.

The Borough Council of Plymouth at their meeting held during the second week in May received a report from the Sanitary Committee stating [illegible] ne Devon and West Cornwall Br [illegible] a- tion for the Prevention of [illegible] ns of Tuberculosis had waited upon them and had submitted a scheme for the voluntary notification of phthisis. The Sanitary Committee recommended that the scheme should be adopted and that notifying medical practitioners should be allowed a fee of 2s. 6d. for each private patient, and a fee of 1s. for each parochial or dispensary patient, notified. The recommendation was unanimously adopted.

DUNDEE.

The city of Dundee is about to erect a sanatorium for the treatment of tuberculous patients, the expenses of which are [illegible] very generous gift of [illegible] noncur. The plans were [illegible] May 14th. The site is on the Airlie estate and has been given by Lord Airlie. The whole establishment is to cover an area of between 20 and 30 acres and the building will consist of three blocks. The residential block will hold 34 patients and will have a frontage of 200 feet, and there is accommodation for the matron, nurses, and resident medical officer, as well as for the patients. The second block is devoted to a dining-room, kitchens, and offices, while the third contains a laundry and a lighting plant.

YORKSHIRE.

The annual meeting of the Yorkshire Branch of the National Association for the Prevention of Consumption and other Forms of Tuberculosis was held on May 14th in the Museum of York, Mr. Alderman E. Gray being in the chair — [illegible] at the [illegible] a site [illegible] ble to come to a conclusion. During the year 1899 there were 48 deaths of children under the age of five years from tuberculous diseases. This gave a rate of about 20 per 1000 births. There is great scope for the York branch to work for the promotion of a pure milk-supply.

LIVERPOOL.

A public meeting was held on May 18th in the Town Hall, Liverpool, its inception being due to an earnest request from the medical profession in Liverpool that a Liverpool Branch of the National Association for the Prevention of Consumption and other Forms of Tuberculosis should be inaugurated. The Lord Mayor presided, and were also present Lord Derby, Sir William Banks, the Rev. J. Bell Cox, a large number medical men (including Professor Rubert Boyce), [illegible] Mr. Malcolm Morris came from London and Dr. Arthur Ransome from Bournemouth. An account of this meeting has been already given by our Liverpool correspondent.[1]

ARMY MEDICAL REPORT FOR 1898.[2]

SECOND NOTICE.[3]

IN our previous notice we took a preliminary canter, as it were, over the ground which is occupied by the last published volume of the annual series of these reports, and gave a brief and cursory outline of its contents accompanied by a summary statement of the general health conditions of the troops at home and abroad during 1898. Our purpose now is to select a few points of interest which lend themselves to consideration and comment rather than to touch upon the classified statistical results at the different stations or to compare these with one another. Those of our readers who are more particularly interested in such matters will naturally refer to the report itself for information. As everyone knows public interest is absorbed at the present moment, almost to the exclusion of everything else, in the events which are taking place in South Africa. A glance at the daily journals is unfortunately sufficient to show the important rôle which disease, and notably enteric fever, occupies in the history of the present war. This fever is a veritable scourge of armies in the field and this has been even more the case with the expeditionary armies of other military powers than with ourselves. We find abundant evidence of [illegible] report [illegible] nberg, [illegible] —long [illegible] taken place in that country, and we are therefore not required to have recourse to the theory of any fresh introduction of the disease there by the newly arrived troops. As the subject is one of vast importance in relation to the diseases incidental to war service and camps, we need make no apologies for dealing with it more especially. As we have said on previous occasions it is a generally recognised fact, be the explanation what it may, that there is an increased liability to contract enteric fever at certain periods of life; in other words, that there exists an enteric fever age period which includes the time during which soldiers are serving with the colours in all short-service armies. But a still more powerful predisposing factor is recent arrival in a tropical or subtropical climate, especially during the hot season. We all know what the heat has been in South Africa, that most of the troops were young soldiers, and that all may be said to have newly arrived there. As far as India is concerned this susceptibility or vulnerability of the European constitution to enteric fever of fresh arrivals is at its maximum during the first year, markedly declines during the second and third years, and is, practically speaking, nearly exhausted between the third and fourth years of Indian service. It is not, of course, pretended that these are the only disease-factors, for if the real cause of enteric fever be the bacillus of Eberth and Gaffky then it follows that the presence of that specific germ, or micro organism is indispensably necessary to its production; but this bacillus must in that case be much more widely distributed in nature than our present knowledge would lead us to suppose in order to account for all the enteric fever that occurs, or, to put it another way, the number and extent of the infected areas on the surface of the globe must be greater than has been hitherto thought to be the case. Dr. Horton-Smith's recent Goulstonian lectures at the Royal College of Physicians of London on "The Typhoid Bacillus and Typhoid Fever" have opened out a wide field for further investigation in various directions, but especially in this respect that it has been found to be not uncommon for the

[1] See THE LANCET, May 26th, p. 1543.

[2] Army Medical Department. Report for the Year 1898, with Appendix. Vol. xl. London: Printed for Her Majesty's Stationery Office by Harrison and Sons, St. Martin's lane, Printers to Her Majesty. 1900. Price 2s. 6d.

[3] The first notice was published in THE LANCET of May 12th, 1900, p. 1384.

bacillus to remain dormant for long periods of time in the bodies of those who have been attacked and have seemingly quite recovered and meanwhile remained in perfect health. Assuming that to be the case such individuals may prove so many sources of hitherto unrecognised infection. Touching the liability of the young soldier to contract enteri [illegible] the first year of his Indian service this is very [illegible] brought out in the chart illustrative of the relation of service in India to cases of this fever which appears at page 179 of the Army Medical Report for 1898. The admission ratio of 91·5 per 1000 in that year is out of all proportion to those that follow in subsequent years, the next highest being 38·0 for men of the second year of service, while it is only 1·0 per 1000 for those of 10 years' Indian service and over.

The principal medical officer (Surgeon-General W. Taylor, C.B., A.M.S.) writes as follows concerning enteric fever amongst the troops in India:—

The liability of troops on service to enteric fever, even when encamped on what appears to be virgin soil, is a fact in regard to which almost all observers are unanimous, and a considerable part of the increase in both the admission and mortality rates for 1898 can be accounted for by field service. The chief instances of increase from this source are the outbreaks in the Khyber and Malakand Forces, admissions from troops returned and passing through from field service at Rawal Pindi, and [illegible] the front at Ahmednagar, F [illegible] source of increase was the Qu [illegible] creased admission rate may be due to improved means of diagnosis. Thus, at Quetta Widal's test was employed in 82 cases and was much relied on for the differentiation of typical cases. It was also used at Rawal Pindi and Ahmednagar. [illegible]

Whilst on th [illegible] ver in relation to troops on field service [illegible] point to be considered. We remember t [illegible] officer some years ago called attention [illegible] period of incubation in the cases of sold [illegible] campaign where enteric fever was epide [illegible] was often of a very prolonged kind in those attacked, and he cited numerous examples that had fallen within his experience. Turning to [illegible] dealing with Egypt an [illegible] seem to be [illegible] er attention. The ta [illegible] veen the development o [illegible] ta of the return of the [illegible] in those cases which occurred amongst troops previously serving with the Khartoum Expeditionary Force.

Number of Cases of Enteric Fever occurring—

Stations.	Within first week after return.	Within second week after return.	Within third week after return.	Within fourth week after return.	Within fifth week after return.	Within sixth week after return.	Within seventh week after return.	Within eighth week after return.
Alexandria	14	19	49	31	12	3	1	—
Cairo	31	39	31	29	6	15	10	1
Cyprus	—	—	—	—	—	—	—	1
Total	45	58	80	60	18	18	11	2

Return of Cases of Enteric Fever occurring in Soldiers more than eight weeks after their Return from the Khartoum Expedition, 1898.

Date o return from the Soudan.	Date of admission to hospital.	No. of cases.
Sept. 15th, 1898	Nov. 23rd, 1898	7
" " "	Dec. 7th, "	
" " "	" 18th, "	
" " "	Nov. 27th, "	
" " "	" 22th, "	
" 24th "	Dec. 9th, "	
" " "	" 27th, "	

It might, of course, be said that such cases caught it from one another after return from field service or that they were really suffering from the disease during longer and more variable periods than was supposed.

So far as our present experience extends—for we must await the official publication of the statistical results obtained during the present war before arriving at any [illegible] lusion—it does not seem that the practice of [illegible] as a safeguard against typhoid fever has been attended with that amount of success which had been hoped.

THE WAR IN SOUTH AFRICA.

IT is easy to sum up the war news of the week in a sentence. Pretoria is in our possession and the Union Jack now flies where the flag of the Transvaal Republic has flown for nearly 20 years. The entry of the British force into the capital of the Transvaal under Lord Roberts is an epoch-making event in history and the importance of the success which has been achieved has probably not even yet been thoroughly appreciated; but everybody recognises that with the fall of Pretoria the back of the Boer rebellion has been broken and that a long and painful chapter in the annals of our South African Dominion has been closed.

Although the war is not over we may confidently hope that a new and better era has been opened for all concerned with South Africa, not excluding the Boers themselves, for when the political settlement and arrangements have been made the same political freedom and equality of opportunity will be extended to all alike. But as we have said the war is not yet over. There remains a large body of discontented Boers scattered over the country who may still be expected to retain and exhibit signs of vitality and separate and independent action for some time to come, for their troops have usually succeeded in their encounters with us in effecting their retreat and in [illegible] have no longer [illegible] their power to [illegible] brave, when opposed to a trained [illegible] intelligently conducted.

There is still a large amount of enteric fever among the British troops in South Africa and the sufferings undergone by these unf [illegible] all the circums [illegible] be transported [illegible] the rear where n [illegible] on. Although su [illegible] cal comforts ha [illegible] the Government [illegible] ply [illegible] ly reason [illegible] ng down [illegible] lean and [illegible] so much [illegible] in war as the sick—those suffering from enteric fever, dysentery, [illegible] ffections. Their hardships, sufferings, [illegible] up in the aggregate a terrible total, [illegible] recognise, the many unavoidable con- [illegible] eld service are so unfavourable and [illegible] s nature. [illegible] anry Base and Field Hospitals are [illegible] accommodation in consequence of the large number of cases of enteric fever and kindred diseases [illegible] is being sent out as rapidly as possible, [illegible] nurses have left within the past few days. The field hospital and the bearer company have left Bloemfontein for the front.

Major-General the Hon. Herbert Heaton, the hon. secretary of the Portland Hospital, has received a letter from Surgeon-Major C. R. Kilkelly, R.A.M.C., commandant of the hospital, showing that from Jan. 8th to May 11th 92 officers and 613 non-commissioned officers and men were admitted into the hospital. When the letter was despatched 25 officers and 95 men still remained under treatment. Of the others 97 officers and men had been discharged for duty,

SICK AND WOUNDED OFFICERS' SURGICAL AND MEDICAL AID COM

[illegible]

[illegible] suggestion, th [illegible] the professior [illegible] allocation of [illegible] and hotels wh [illegible] deputed to a [illegible] of the [illegible] Hon. [illegible] Lieute [illegible] Staepo [illegible] invalid [illegible] Surge [illegible] F. A. [illegible]

The President reported that since the last meeting the [illegible] com- [illegible] Mr. [illegible] nzie [illegible] Davison, [illegible] Knocker, A.A.G., [illegible] R.A.M.C., [illegible] D.A.A.G., [illegible]

In addi [illegible] physicians [illegible] hospitality in private houses and from hotels (either gratuitously or on reduced terms) have been received either directly or have been transmitted to the committee by the War Office.

Many officers have already availed themselves of these invitations, though the chief demand upon them is likely to arise at a later date. The cooperation of the Countess of Dudley in arrangements for the wives or other relatives [illegible] has been very grate- [illegible] ave already been assisted [illegible] while others either [illegible] tances, or through the [illegible] uring their voyage home, [illegible] have not required the [illegible] officers are at the preser [illegible] England, of whom a large [illegible] the committee's help; and th [illegible] the resolution passed at a pro [illegible] physicians who were cons [illegible] receive a letter signed by a [illegible] mittee. The cases which [illegible] [illegible] from memoranda [illegible] surgical homes, two for wounds of the knee involving [illegible] or nerves or both, one for *arterio-venous aneurysm of the* femoral, one for severe fracture of the femur, two for loose cartilages in the knee-joint, *one* for appendicitis, and one patient has had fragments of lead removed from the thigh and scrotum, while three cases of amputation of the leg with stumps not healed, two cases of perforating wound of the chest and lung, and *one* case of gunshot fracture of the humerus with injury of [illegible] One patient recovered after rec [illegible] which penetrated the abdomen. [illegible] bullets, one of which fractured the left femur high up. He [illegible] In the majority of cases of severe [illegible] nock have been marked and [illegible] so long as to require rest [illegible] ld be undertaken. Cases of [illegible] greatly under massage and [illegible]

VITAL STATISTICS.

[illegible] births and 3951 [illegible] ling June 2nd. [illegible] ns, which had [illegible] three preceding weeks, declined again to 17·7 last week. In London the death-rate was 17·0 per 1000, while it averaged 18·2 in the 32 provinc [illegible] towns were 1 [illegible] Brighton, and [illegible] in Blackburn, [illegible] Plymouth, Th [illegible] which were [illegible] against 431 an [illegible] 142 resulted from [illegible] 77 from diphtheria, 34 from diarrhœa, 29 from scarlet fever, and 26 from "fever" (principally enteric). No fatal cases of any of these diseases occurred last week in Norwich or in [illegible] the lowest d [illegible] and Halifax, [illegible] Leicester, D [illegible] proportional [illegible] Cardiff, Dert [illegible] fever in Burn [illegible] Salford, Old [illegible] Swansea; an [illegible] from diphthe [illegible] nine in Sheffield [illegible] pool. No fatal case of small-pox was registered last week in any of the 33 towns. There were seven small-pox patients under treatment on Saturday last, June 2nd, in the Metropolitan Asylums Hospitals, and four new cases were admitted during the week. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 1759, against numbers increasing from 1647 to 1784 on the five preceding Saturdays; 194 new cases were admitted during the week, against 203, 221, and 216 in the three preceding weeks. Influenza was certified as the primary cause of 14 deaths in London. The deaths referred to diseases of the respiratory organs in London, which had declined from 417 to 269 in the four preceding weeks, further declined to 266 last week, and were 15 below the corrected average. The causes of 36, or 0·9 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Nottingham, Leicester, Salford, Leeds, Newcastle, and in 12 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Halifax, Hull, and Sunderland.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 17·7, 19·5, and 19·6 per 1000 in the three preceding weeks, declined again to 18·6 during the week ending June 2nd, but exceeded by 0·9 per 1000 the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 12·6 in Leith and 14·9 in Aberdeen to 20·7 in Glasgow and 23·6 in Perth. The 575 deaths in these towns included 25 which were referred to whooping-cough, 25 to diarrhœa, 16 to measles, four to diphtheria, one to small-pox, one to scarlet fever, and one to "fever." In all 73 deaths resulted from these principal zymotic diseases, against 85 and 76 in the two preceding weeks. These 73 deaths were equal to an annual rate of 2·4 per 1000, which was 0·5 per 1000 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of whooping-cough, which had risen from 22 to 36 in the three preceding weeks, declined again last week to 25, of which 21 occurred in Glasgow, two in Aberdeen, and two in Perth. The deaths from diarrhœa, which had been nine, 15, and 19 in the three preceding weeks, further rose to 25 last week, and included 13 in Glasgow, four in Dundee, three in Aberdeen, and two in Edinburgh. The fatal cases of measles, which had been 19 and 10 in the two preceding weeks, rose again last week to 16, of which 14 were registered in Glasgow. The deaths from diphtheria, which had been seven and five in the

two preceding weeks, further declined to four last week and included three in Glasgow, where the fatal case of small-pox was also registered. The deaths referred to diseases of the respiratory organs in these towns, which had been 84 and 94 in the two preceding weeks, further rose to 104 last week, but were slightly below the number [illegible] period of last year. The causes of 4 [illegible] cent., of the deaths in these eight tow[illegible] certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which [illegible] per 1000 in [illegible] 21·9 during [illegible] four weeks the death-rate in the cit[illegible] 1000, the rate during the same [illegible] London and 18 5 in Edinburgh. Th[illegible] to Dublin registered durir[illegible] were 22 less than the number in [illegible] included three which were referred [illegible] diseases, against nine and five in the two preceding weeks; of these, one resulted from scarlet fever, one from "fever," one from diarrhœa, [illegible] from small-pox, measles, diphtheria, [illegible] these three deaths were equal to an annual rate of 0·4 per 1000, the zymotic death-rate during the same period being 2·0 in London and 0 5 in Edinburgh. The fatal case of scarlet fever was the only one registered during the last 10 weeks. The deaths from "fever," which had been three and two in the two preceding weeks, further declined to one last week. The mortality from diarrhœa showed a decline from that recorded in recent weeks. The 147 deaths in Dublin last week included 29 of infants under one year of age and 36 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons showed a decline from the number in the preceding week. Five inquest cases and five deaths from violence were registered; and 62, or more than a third, of the deaths occurred in public institutions. The causes of seven, or nearly 5 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Deputy Inspector of Hospitals and Fleets E. R. H. Pollard to the *Victoria and Albert*. Surgeon S. T. Reid to the *Pembroke*.

VOLUNTEER CORPS.

Rifle: 4th Volunteer Battalion the Queen's Own (Royal West Kent Regiment): The undermentioned gentlemen to be Surgeon-Lieutenants: William Watson, Arthur Tresco Franklyn Brown, and Herbert James Bryan. 1st Herefordshire: Surgeon-Lieutenant James Neil Macmullan resigns his commission and is appointed Second Lieutenant (supernumerary). 2nd Volunteer Battalion the East Lancashire Regiment: Surgeon-Captain A. A. Watson to be Surgeon-Major and to remain supernumerary. 1st Volunteer Battalion, the Lincolnshire Regiment: Surgeon-Lieutenant-Colonel H. Wright is borne as supernumerary whilst serving with the Royal Army Medical Corps in South Africa. 19th Middlesex: Surgeon-Lieutenant J. J. Clarke resigns his commission.

VOLUNTEER MEDICAL STAFF CORPS.

The London Companies: Horace Stansfield Collier to be Surgeon-Lieutenant.

TRANSVAAL WAR NOTES.

The following officers were discharged from hospital to duty for the week which ended May 20th:—Royal Army Medical Corps: Major T. G. Lavie, Lieutenant C. S. Smith, Lieutenant M. H. G. Fell, Civil Surgeon Wynter, and Civil Surgeon Ashford. The following officers were discharged from hospital to duty for the week which ended May 18th:—Royal Army Medical Corps: Major A. Baird, Major R. Kirkpatrick, and Captain W. A. Ward.

A new infectious diseases block is being constructed in the grounds of the Military Hospital, Devonport, so that the whole of the existing blocks may be available for the wounded soldiers from South Africa.

Princess Christian will open a naval and military bazaar at Olympia on June 19th Mr. Goschen, M.P., will perform an opening ceremony on June 20th, and the Marchioness of Lansdowne on the third (the closing) day. Among the patrons of the bazaar, which is in aid of the Princess Christian's Home for Disabled Soldiers and Sailors, are Her Majesty the Queen and the Princess of Wales.

The Princess Christian Hospital, which has been presented to the Natal Government by Mr. Alfred Mosely, a Bristolian, was formally opened at Pinetown on May 18th by Colonel Morris, the military commandant. The Bishop of Natal (Dr. Baynes) was also present. The hospital, which is only for military purposes, has received patients since the commencement of April and contains 200 beds, all of which are now occupied. Mr. Mosely maintains the hospital at his own expense for four months, the estimated cost of this being £25,000.

The s s *Cephalonia* arrived at Southampton from South Africa on the 3rd inst. She carried 418 invalids, who were admitted to the Royal Victoria Hospital.

TRANSVAAL WAR CASUALTIES.

LORD ROBERTS'S ADVANCE.

The following casualties are reported:—At Ladysmith, May 26th, Civil Surgeon Robert Irvine, from enteric fever; at Kheis, May 28th, Surgeon-Captain Dun, 5th Company Imperial Yeomanry, slightly wounded in leg; at Florida, May 29th, Lieutenant A. H. Benson, R.A.M.C., attached to Gordon Highlanders, slightly wounded.

ARMY MEDICAL SCHOOL, NETLEY.

[illegible] A.M.S. a special [illegible] Medical School, Netley, on May 29th, when the following surgeons-on-probation for the Royal Army Medical Corps were found duly qualified and were recommended for commissions as Lieutenants. They left Netley for Aldershot on Monday, June 4th: Mr. C. H. Carr, Mr. E. Bennett, Mr. F. P. Lauder, Mr. H. E. Weston, Mr. J. Tobin, Mr. A. C. Adderley, and Mr. G. E. Leary.

Correspondence.

"Audi alteram partem."

INDURATED LYMPHATIC CORDS.

To the Editors of THE LANCET.

SIRS,—In his interesting lecture on Primary Syphilitic Chancres Mr. Jonathan Hutchinson, jun.,[1] draws attention to the occurrence of indurated lymphatic cords in from 40 to 50 per cent. of cases of primary syphilis, the importance of which "is not mentioned in any published description." The frequency of these, associated with chancres at the furrow or at the inner aspect of the prepuce, is noted, while their diagnostic importance is questioned. Apart from these valuable statistics and observations may I point out that the late Mr. Henry Lee[2] devoted especial attention to the subject? He described mainly two conditions:—1. The suppurating non-infecting syphilitic sore, from which the poison may be traced to the suppurating bubo, "in the clearest way" along the absorbent vessels and which may inoculate them, producing a fresh inoculable sore or occasionally a small abscess. 2. "A similar series of phenomena may be observed in the affections of the lymphatic vessels accompanying an indurated primary syphilitic sore .. . noticed by Hunter in which a lymphatic vessel leading from the chancre appears like a cord extending along the back of the penis. Sometimes these arise from thickening of the prepuce in cases of gonorrhœa. In such cases, however, the prepuce is generally excoriated. ..... The cord can be easily pinched up between the finger and thumb. ..... The lymphatics in such cases arise from an excoriated and inflamed internal prepuce. ..... We have here an account of the specific adhesive inflammation as it affects the lymphatic vessels, and although mixed up in Hunter's description with the suppurating form of the disease yet has he given the distinctive characters of each

[1] THE LANCET, June 2nd, 1900, p. 1575.

[2] Lectures on Syphilis (Lymphatic Absorption), Lecture IV., second edition, 1862. Hunterian and Lettsomian Lectures, Ibid., Lectures VII. and X., 1870.

is often
gland
after i
of the patient being syphilitic" or, in less marked form, subject of re-infection.

I am, Sirs, yours faithfully,

Grosvenor street, W., June 5th. JOHN A. SHAW-MACKENZIE

"THE RÔLE OF EDUCATION IN THE PREVENTION OF TUBERCULOSIS."

To the Editors of THE LANCET.

SIRS,—In my letter in THE L
the Rôle of Education in the Pr
p. 1814, line 6, in the second
should be "mankind." Mr. A
moral "duties" the inculcation of the laws of public and personal hygiene to children under the headings (*a*) duty to one's (physical, emotional, and intellectual) self—e.g., cleanliness, temperance, and chastity, &c.; ice, charity, &c.; and (*c*) *parental and filial ties, &c.* uch instruction in physical well-being is called for, as an aid to morality. Practical illustrations of the effect of foul air might be shown with advantage to education and other authorities. This might bring the desired pressure to bear, as wished by the National Association.—I am, Sirs,

Honorary Secretary,
Prevention of Consumption.

Plymouth, June 5th, 1900

THE LATE DR. G. F. CROOKE.

To the Editors of THE LANCET.

SIRS,—Will you kindly allow us room to state what has been done regarding the Crooke Fund? The total amount subscribed is £219 14s. 6*d*. This we are handing over to Mr. J. T. J. Morrison—who was fellow-resident with Crooke at Guy's—and Mr. Arthur H. Foster, solicitor, of this city, who was his personal friend as well as legal adviser. They have consented to act as trustees, and we have not thought it wise to limit their powers except by the general instruction that the money was subscribed on the understanding that it would be used for the nurture and education of Crooke's only child—a little boy.

We are, Sirs, yours faithfully,
(Signed) A. FOXWELL, Treasurer of the Fund.
GILBERT BARLING, J. T. J. MORRISON, } Secretaries

Birmingham, June 4th, 1900

"DEATHS UNDER CHLOROFORM."

To the Editors of THE LANCET.

SIRS,—I have no intention of continuing this discussion. I beg to call attention to the fact that every point raised by Dr. Edmunds is fully dealt with in my report except the *questions of albumin and sugar*, both of which *were absent*.

I am, Sirs, yours faithfully,
Wigan, June 1st, 1900. GEO. MOWAT.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Plague and Cholera.—Official Indian Reports.—Increase of the Famine.

THE plague epidemic is subsiding throughout India. The returns for the week ending May 5th show the total plague deaths at 1771, compared with 2493 in the previous seven days. The plague mortality has dropped in Bombay city from 448 to 350 (these are the official figures and serve for comparison, but they are very wide of the mark); in Karachi 252; and in the Bengal Mofussil otwithstanding the importation s satisfactory to note that the s of Madras and Rangoon have so far escaped. present year has shown a remarkable diffusion of epidemic. For the present a lull in the storm may be s to a further development y of the previous epidemics years that it is too much to will terminate this year, ence and it caused no less Ahmedabad. It is raging districts. The "normal" average for Calcutta is over 100 a week and for the whole of India half a million lives have often been lost in one year. The figures for plague look very small when ravages of this disease are noted. Enteric fever is prevalent in Rangoon. A committee of inquiry is it to be appointed. It will probably consist of the ee private medical the Public Works

the plague in the It was compiled ain Condon, I.S.C. treatment of ishing feature of some of these Government reports consists in the appointment of the editors. In this case at least one would have expected to see the name of a medical man rather than that of an officer in the Indian Staff Corps. Such a report would probably be best produced under the joint editorship of a plague expert and an experienced administrative officer. Apart from the expected report of the English Plague Commission it is time that the numerous reports from all parts of India were consolidated. There is now an immense waste of paper, while important observations get hidden away in small volumes.

The number of persons on famine relief continues to rise and now amounts to 5,600,000, being an increase of 123,000 on the returns of the previous week. The Central Provinces and Bombay Presidency are in the worst plight. The loss of human life has been extraordinarily small but the stock of cattle in some districts has been almost wiped out. An attempt is being made to transfer cattle from other areas, and 5000 have been ordered by the Bombay Government. The stock of wagons on the railways is so insufficient for the ordinary demands of trade that some difficulty will probably be found in conveying them. The present famine is far greater than any of its predecessors. This year water and fodder have failed as well as the crops, and over a wide area in the Punjab and Rajputana fodder has been absolutely unobtainable. Horses have been taken to other districts, but the cattle have been left to die and they have simply perished by hundreds of thousands.

May 10th.

PLAGUE IN AUSTRALIA.

(FROM A SPECIAL CORRESPONDENT.)

THE returns of plague in Sydney for the week ending April 21st show the following figures: remaining at the beginning of the week, 62; *admitted*, 19; *died*, *eight*; *remaining* at the end of the week, 70. The totals were as follows: admitted, 129; died, 48; discharged recovered, 13. Total "contacts" isolated, 719; cases among "contacts," five (see ante).[1]

The fall in new cases from the 23, 29, and 29 of the three preceding weeks to 16 during that under review has vastly cheered the popular mind and has even been the occasion of congratulatory paragraphs in the public press. This decline may stimulate to fresh exertions, and the role of Cassandra persistently played is not without its dangers for the impersonator. It is quite plain, however, that the disease continues to occur solely in relation to diseased rats, that the latter are far from having been killed off yet, and that cases come from localities further and further from

[1] THE LANCET, May 26th, 1900, p. 1[illegible]

the original focus—which, notwithstanding the clean [illegible] still furnishes some. As Simond has said, the disease spreads like a sp[illegible] five cases the patient, infec[illegible] distance—in one case 140 m[illegible] the remainder in [illegible] rences have bee[illegible] of course, were i[illegible] to appear that the medical officer of health i[illegible] anyone when the disease is not merely communicable directly but also originates with one kind of animal and spreads by the agency of anot[illegible] may not and must not, derive c[illegible] notwithstanding all that has been said and done in recent years epidemic plague has everywhere pursued its course, and has hardly been interfered with by the most strenuous [illegible] solitary villages furnish the sole [illegible]

at first, it ir[illegible] admission to h[illegible] applied. Were [illegible] out further ded[illegible] of admission) [illegible] For this result [illegible] to some extent [illegible] patients has b[illegible] lives have bee[illegible] minim doses of [illegible] beneath the skin; these he repeats every hour, two hours, or less often, till the imminent danger of death from failure of [illegible] out treatment on this [illegible] must be ever at han[illegible] ments of Yersin serum [illegible] Institute and another [illegible] Messina (Dr. Terni and Dr. Bandi). They will be welcome, but the usefulness o[illegible] judged only from the [illegible] nothing in the presen[illegible] individual experiences. Plague is [illegible] diseases. There is no member of [illegible] not had to admit again and aga[illegible] recovered whom he thought certain t[illegible] and that others whom he thought in [illegible] within a few hours of his forming tha[illegible] Calmette and Salimbeni [illegible] of the same sort as a warning not to [illegible] serum with a view to saving it for more urgent cases, [illegible] t be distinguished with any certainty. [illegible] trial therefore is necessary.

[illegible] conference, after holding three m[illegible] concluded their deliberations at a fourth meeting held in Sydney. New South Wales could not, of course, be officially represented under these circumstances, but the meeting was held at the Department of Public Health and the chief medical officer of the Government was present by invitation. The members spent much time in the laboratories, visited the hospital, and visited quarantined areas in the city in order to make acquaintance with the methods of cleansing employed. This is a considerable business, estimated to cost not less than £30,000 a month in wages and material. The public gauge the return for this expenditure in loads of refuse removed and the like; they have not yet learned that it should be expressed in terms of rats. Nevertheless, rats are being killed in greater numbers than heretofore.

April 24th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Medical Benevolent Society.

THE seventy-eighth annual meeting of this society was held on May 23rd under the presidency of Mr. D. C. Lloyd Owen. The report read is of a very satisfactory kind and indicates the zeal and interest displayed in the society by the local officials. The invested [illegible] £5,437, of which £6869 are invested [illegible] bonds and stocks. 16 annuitants were on the books at the beginning of the year. £467 had been expended in annual grants which ranged from £15 to £40. The number of members was then 384, 24 having been admitted during the year. The various officers were appointed and stress was laid upon the fact that so few members o[illegible] Midlands had joined the s[illegible] were so manifest. A dinner was subsequently held, [illegible] number of members and friends were present, and [illegible] evening was spent.

University of Birmingham.

The first meeting of the Court of Governors of the new university was held on May 1st. Mr. Chamberlain, as [illegible], presided. The Lord Mayor, Alderman Beale, [illegible] d vice-chancellor and Alderman Clayton pro-vice-chancellor and treasurer. The first official act of the new chancellor was to invite the Court of Governors assembled under the authority of a Charter granted by the Queen to approve a loyal message congratulating Her Majesty upon the occupation of Johannesburg and Pretoria. The latter was a little premature, but subsequent events have realised the [illegible] the present Cabinet now hol[illegible] university. The energy and influence which Mr. Chamberlain has exercised in promoting [illegible] gone f[illegible] [illegible] ow an [illegible] [illegible] at £327,468. Although this sum exceeds the amount originally asked for it is now stated to be much below what is actually required, and another quarter of a million is sought. Time will show how far this great enterprise is to be a local or a national one, but if the hopes of its founders are to be realised a great and almost revolutionary model will be established to associate the progress of civil life with the industrial enterprise of a vast working community.

The Consultative Institution.

THE LANCET has already dealt in the issue of June 2nd with this subject in so far as it bears upon the medical profession and it remains to be seen how far the experiment will [illegible] ul or otherwise. The promoters express themselves [illegible] l with the working of the first week and flatter [illegible] as to its ultimate result. The reasons adduced for the support of such a proceeding certainly do not appear sufficient to render it a justifiable one from a professional point of view. It is stated, for instance, that the class of people whom it is intended to benefit desire to have as a right what the profession would accord only as a favour, that is, in the diminution of a consulting fee to the sum of half-a-guinea. The questions of continued treatment, of operations, and of specialties, will become features which will involve much deliberation and care on the part of the promoters; the one medical gentleman who presides over the whole range of diseases and complications may find his position by no means an easy one.

June 5th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Horse Ambulances.

A DEPUTATION from the Medical Charities Committee of the city attended the meeting of the Watch Committee of the Manchester Corporation on May 24th to give reasons for the provision of horse ambulances. Mr. Alfred Simpson, chairman of the House Committee of the infirmary, said that in January last, on the advice of Professor D. J. Leech, the question was brought before the members of the Red Cross Society and a resolution was passed inviting the municipal authorities to provide horse ambulances and the resolution had been approved by the Sanitary Association of Manchester and Salford. Liverpool and other places in this country and various towns in America are far better provided as regards ambulance service than is Manchester. Mr. Alderman Rawson, chairman of the committee, assured the deputation that the committee were in sympathy with them and that a special sub-committee was already in existence for the purpose of considering the whole question. We may therefore hope that before long Manchester will not be thought lagging behind in the matter.

Manchester Water-supply.

At a meeting of the Waterworks Committee of the Manchester Corporation held on May 24th there was a discussion on the water-supply. The drought of last summer

put a considerable strain on the department. There has been no great rainfall since, and the demand for water increases so r[illegible] forcing itself [illegible] tional pipe tw[illegible] flood water wh[illegible] but that will [illegible] The committee, therefore, have decided to put before the Council the question of laying a second pipe from Thirlmere to Manchester. The cost is estimated at between £400,000 and £500,000.

Pollution of the Manchester Ship Canal.

The people of Grappenhall, through their parish council, have been praying the Cheshire County Council to deliver them from the grievous n[illegible] ts waters. The Mersey [illegible] been working for nine years with little apparent result, though it may be conceded that in some directions progress has been made—s[illegible] cinders and other solids are now kept out of the [illegible] in the work of p[illegible] was, of course, the [illegible] the corporation was taken into court and Manchester was fined and promised "to amend its ways." The Rivers Committee of the [illegible] but it has n[illegible] ment Board, and the [illegible] definite reply from the corporation "as to the steps they [illegible] Canal and its tributaries [illegible] find a great reduction in [illegible] Grappenhall Parish Coun[illegible] marvel that smells so strong and so vile can be produced, and a still greater marvel that they can be endured and that *they kill so slowly.*

June 1st.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Royal Southern Hospital: Appointment of an Honorary Physician.

THE vacancy in the honorary staff of the Royal Southern Hospital caused by the retirement of Dr. John Cameron, the senior physician, has been filled by the appointment of Dr. Charles J. Macalister, physician to the Stanley Hospital. The elections to the honorary medical and surgical posts at the Royal Southern Hospital are carried out under the system which formerly prevailed at the Royal Infirmary and the Northern Hospital, where the electors comprised all subscribe[illegible] In the case of the Royal [illegible] Election committees, varying [illegible] from the subscribers at the annual meetings, have been established at the latter two hospitals and have been found to work in a most satisfactory manner. It is somewhat surprising that the Royal Southern Hospital has not followed the examples set by the Royal Infirmary and the Northern Hospital, where the old system was found to be both unwieldy and involving unnecessary expense to intending candidates. During the recent contest many subscribers to the funds of the Royal Southern Hospital took exception to being canvassed on behalf of the candidates, urging as a reason that they were not qualified to judge of the merits of the respective candidates and that the election ought to be in the hands of a special committee appointed by the subscribers for the purpose. I am informed that the electorate at the Royal Southern Hospital consists of about 1200 subscribers.

The Select Vestry and the Joint Committee on Tuberculosis.

At the last meeting of the select vestry four members were selected to serve until April 30th, 1901, on the joint committee for the provision, fitting up, furnishing, and maintenance of a hospital for the treatment of paupers suffering from tuberculosis pursuant to the order of the Local Government Board of April 5th, 1900. Miss Thorburn, one of the lady members of the select vestry, drew attention to the fact that as half the patients in the proposed hospital would be females the experiment would not be carried out under the most favourable circumstances unless the ladies were permitted to assist in the management of the hospital. She was not, however, now prepared to move an amendment to the proposed names inasmuch a [illegible] months wo[illegible] matters in [illegible] assistance. [illegible] of a vacanc[illegible] proposed. The lady members of the select vestry have performed their duties as guardians of the poor in an unobtrusive and exemplary manner and it would appear that Miss Thorburn's request is a reasonable one to which no valid objection can be offered.

The Adulteration of Margarine and Cream with Boric Acid: Prosecutions at the Police Court.

The Liverpool stipendiary [illegible] £20 and £5 5s. costs upon a [illegible] margarine with boric acid. On behalf of the prosecution Professor Boyce of University College said, that the only interpretation he could put upon the quantity of boric acid used in the present case, which amounted to 0·73 per cent., or 51 grains to the pound, was that it was used to mask rancidity. Three medical gentlemen, together with Mr. Davies, an analyst, gave evidence for the defence to the effect that boric acid was not injurious to health, a theory which was strongly controverted by Professor Boyce, who had found from experiments upon kittens at boric acid when added to milk had produced in the imals violent diarrhœa and had caused emaciation. Mr. ewart, in giving his decision, said it was sufficient for him at the introduction of boric acid was contrary to law. was to the interest of the public to obtain a pure article, ld it should not be possible to put on the market an ticle which otherwise could not be sold. Two other tradesmen were fined 20s. and costs each for adding boric acid to cream. In all three cases notices of appeal were given.

The Foul Atmosphere of the City Police-court.

The vitiated atmosphere of the Dale-street Police-court has been a constant source of complaint by magistrates and solicitors whose duties compel them to remain in the court for hours. Last week Mr. S Quilliam, a solicitor practising in the court, addressed the bench on the subject and described the atmosphere as simply poisonous. The late Mr. T. Stamford Raffles, who had filled the post of stipendiary magistrate for a considerable number of years, [illegible] complained of the foul air which he was compelled [illegible] : be seriously [illegible] oncerned, as [illegible] ep the place [illegible]

A Liverpool Surgeon Wounded in South Africa.

Intelligence [illegible] R. Craig Dun[illegible] the honorary [illegible] nfirmary, who volunteered for the [illegible] e 2nd Battalion of the Imperial Yeomanry as one of their medical officers, had been wounded at Draghoender, near Pricska. Happily, the wound received in the leg by Dr. Dun is not serious. His friends in Liverpool will be pleased to hear that the latest intelligence reports him to be progressing satisfactorily.

June 5th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Legacy to the Edinburgh Royal Infirmary.

THE late Mr. David Tinalle of Costerton, Mid Lothian, has by his will left the residue of his estate, after paying a few personal legacies, to his trustees to accumulate for 15 years, and thereafter to build, endow, and maintain with the

money a convalescent home in connexion with the Edinburgh Royal Infirmary. The residue of the estate, it is expected, will be worth between £200,000 and £300,000. He directs that the home should be named the "Astley-Ainslie Institution", in memory of his late nephew Mr. John Astley-Ainslie, son of the late Mr. John Ainslie of Huntington, East Lothian. The trustees are empowered to buy ground to an extent suitable for the hospital, with garden, policies, and recreation ground around it. It is also stipulated that the deeds necessary for the carrying out of this purpose shall be prepared by, or in the sight of, such person or persons as the judges of the Court of Session in either of its divisions shall appoint, and the deed has also to be submitted to, and approved of by, the Court.

Health and Sanitary Condition of Aberdeenshire.

The report for the year 1899, which has just been issued by Dr. James P. Watt, medical officer of the county of Aberdeen, shows that the total number of births registered in the eight districts of the county was 3431, or 28·3 of the estimated population (excluding burghs) of 121,260, while the total number of deaths reported was 1653, or 13 6 per 1000. The death rate in the different districts, when calculated out, varied as follows:—Deer district, 15 1 per 1000; Ellon, 9 8; Garioch, 15 3; Deeside, 12·4; Turriff, 17 3; Aberdeen, 13 9; Alford, 12 8; and Huntly, 10 2. The mean temperature at the different meteorological stations, it may be mentioned, ranged from 43 5° to 47·0° F., and the rainfall for the year from 20 87 inches to 35 56 inches. During the year 814 cases were intimated under the Infectious Diseases (Notification) Act, 1889, as against 1019 for the previous year—viz: diphtheria, 122; erysipelas, 166; scarlet fever, 412; and enteric fever, 114. Of the 814 cases 300 were removed to hospital, there being now accommodation in all the districts. Of the 412 cases of scarlet fever reported (229 fewer than in the previous year) only three died, and there was no extensive outbreak of enteric fever, the cases happening either singly or in small groups. The drainage and waterworks of all the villages are reported to be "good" or "fair," and scavenging has improved in all the districts except Aboyne, Torphins, and Braemar, where "nothing has as yet been done."

University of Aberdeen.

The Senatus having inquired into certain riotous proceedings by medical and other students at Marischal College on May 21st, during which Herr Hein, lecturer on German, was assaulted on account of supposed pro-Boer opinions, have reprimanded 16 students altogether, two of whom have also been fined 5 guineas each and three others 3 guineas each. The committee of the Senatus report that they strongly condemn the conduct of the students in their attack on a teacher of the University as being disgraceful and incapable of justification, and that such conduct should not be passed over without due punishment. At the same time the committee record their "desire to bear in mind that the students were actuated by a strong feeling of loyalty which made them resent in their own way what they regarded as an insult to Her Majesty, and that this feeling had been much intensified by recent events." Further, the Senatus, "having regard to the disorderly conduct of certain students at the recent graduation ceremony, has imposed modified fines of two guineas and one guinea on two students who were convicted of such conduct and of giving false names" The Senatus, it should be mentioned, disapproved of Herr Hein's conduct in the exhibition to his class of a cartoon disrespectful to the Queen. The general body of students have subscribed the fines imposed.

June 4th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Surgeons in Ireland.

OWING to recent circumstances in connexion with the election of President the annual meeting for the choice of the new officers of the Royal College of Surgeons which took place on June 4th was viewed with more than usual interest Mr T. Myles was elected President without opposition. Mr L. H. Ormsby, surgeon to the Meath Hospital, and Mr. F. T. Heuston contested the vice-presidency, for which the former was elected by a considerable majority. The following is a list of the other officers of the College:—Honorary Secretary: Sir Charles Cameron, C.B. Council: Dr. A. H. Jacob, Sir Philip Smyly, Sir William Stokes, Mr. H. R. Swanzy, Mr. E. H. Bennett, Sir Charles Cameron, C.B., Dr. A. Meldon, D.L., Mr. C. B. Ball, Mr. R L. Swan, Sir William Thomson, Mr. J. B. Story, Mr. J. Lentaigne, Mr. A. Chance, Mr. J. J. Cranny, Mr. R. D. Purefoy, Mr. H. G. Sherlock, Mr. R. B. McCausland, Mr. G. Stoker, and Mr. F. Conway Dwyer. It will be noted that some changes have taken place in the *personnel* of the Council. Mr. Graves Stoker is a new member of Council. Mr. William Stoker, who was a member of Council last year, recently accepted the post of Examiner in Surgery, while Mr. Conway Dwyer, who filled that examinership last session, has now become a member of Council.

Royal Medical Benevolent Fund Society of Ireland.

The annual meeting of the Royal Medical Benevolent Fund Society of Ireland was held on June 4th at the Royal College of Physicians, Kildare-street. The chair was occupied by the President of the College, Sir John W. Moore, and there was a representative attendance to whom the report was submitted.

The Able-bodied Pauper.

One of the great blemishes of the Irish Poor-law system is the number of paupers all quite able to earn their own livelihood who crowd the workhouses. Some time ago it was decided to have a parade of able-bodied paupers residing in the Belfast workhouse, when it was found 600 were on the roll; now these have been reduced to 75, through the influence of the guardians getting them remunerative employment, and in part owing to the war. The number now are not sufficient to do the duties about the place, and it is proposed to give each man volunteering to work two ounces of tobacco weekly.

The Ulster (Benn) Eye, Ear, and Throat Hospital.

The twenty-ninth annual meeting of the supporters of this hospital was held in the board-room of that institution in Belfast on May 30th. In the report submitted it was stated that in 1899 there were 1704 patients treated in the hospital, and of these 286 were intern cases. The total receipts of the [illegible] sources amounted to £729 15*s.* 2*d*, and [illegible] £791 17*s.* 1*d.*, so that there is a loss on the working of the hospital for the year of £62 1*s.* 11*d.* The committee have decided to increase the charge per week for intern patients from 10*s.* to 15*s.* Were it not for the Benn endowment and building funds, which amounted to £8000, it would be impossible to keep the hospital going under an additional expense of £300 or £400 a year, so that the greatest care is taken to keep down expenditure in every department of the hospital.

The Typhoid Fever Epidemic in Belfast.

I regret to report the continued prevalence of typhoid fever in Belfast. It may for convenience be called an epidemic, but it is really simply an exaggerated condition of what unfortunately is now a normal condition in Belfast. Between April 22nd and May 19th 177 cases of typhoid fever were notified. As to the cause of the present outbreak it is most difficult to say. It would appear that the largest number of cases occurred in the neighbourhood of the Crumlin and Shankhill-roads (No. 3 and No. 10 districts), though the houses are comparatively recently built, generally in good sanitary condition on an elevated site, and the streets are wide and airy. The districts in Belfast which are most free from the disease are No. 1 and No. 5 (the Dock and Brown-square districts), and in these are some of the worst alleys and oldest houses in the city. This would seem to show that absence of fresh air and the presence of old and badly constructed houses have nothing to do with the present epidemic. Then, again, on the theory that the disease is water-borne it does seem strange why certain parts of the city are affected and not others supplied from the same source Thus 19 out of the 57 cases notified last week occurred in Shankhill Ward. No wonder it was stated in the city corporation that the Public Health Department "was at its wit's end to find the cause of the outbreak of typhoid." Further, the state of the rivers and dams in the district is blamed by some as the cause of the outbreak and steps are being taken to make them clean. For the four weeks ending May 19th there were 64 deaths from zymotic disease, while in the corresponding period of last year there were 52. The death rate from zymotic diseases was 2 3,

while the mortality from the same cause was for the corresponding period of 1899 only 1 9 per 1000. Scarlet fever is still prevalent, but as showing the mildness of this zymotic there have been no deaths! One of the Belfast papers calls special attention to the fact that the public officer of health reports that for the four weeks ending May 19th six cases of puerperal fever were notified. At the last weekly meeting of the Belfast Board of Guardians Dr. E. Coey Bigger, physician to the Fever Hospital, applied for additional temporary nurses, to cope with the increased number of typhoid fever patients who have recently been admitted. The present staff are overworked.

The Milk-Supply of the City of Belfast.

the United Kingdom, America, and on the continent, particularly in regard to pasteurisation, &c., and that this information when collected be printed and furnished to the members of the council. There can be no question that in reference to the supervision of the milk-supplies of cities in the United Kingdom we are, with few exceptions, very much behind the municipalities on the continent and in America. There is here really no adequate supervision of the production of milk by boards of health such as prevails now in the majority of the States of North America, where authority is exercised in stamping out infectious disease prevalent among cows and in inducing a better management of cowhouses and dairies. In very few cities in the United Kingdom can certified milk be procured —that is, milk obtained from dairies where a committee consisting of physicians, pathologists, veterinary surgeons, and chemists certify after careful examination as to the general condition of th [illegible] cities in being [illegible] proportions to [illegible] infancy. Sir [illegible]

Irish Boards of Guardians and their Medical Officers.

The friction between the boards of guardians in Ireland and their officers—the dispensary doctors—still continues. Here are two recent cases:—Mr. J. J. Todd applied to the Omagh Board of Guardians for £3 3s. for acting as locum-tenens for Mr. C. Hunter of Carrickmore who was subpœnaed [illegible] . The board had refused to [illegible] r medical officer should pay [illegible] ter is now left to the Local Government Board to settle. At the meeting of the Omagh Guardians on June 2nd the chairman said he thought Mr. Todd was entitled to his money, but he alleged that an irregularity was committed by Mr. Hunter going off without any permission from the board of guardians or sanction of the Local Government Board. Mr. Hunter, however, replied that he acted strictly in accordance with the rules of the Local Government Board because in the face of a summons which said, "Fail not on your peril," it was not necessary to apply to the guardians. He had simply to apply to the relieving officer and he it was who appointed a substitute to do the work. It was decided to call the attention of the Local Government Board to the action of Mr. Hunter in leaving the district without the permission of the guardians. Again, in Ballymena, Mr. R Currie, medical officer of health, applied to the guardians on June 2nd for leave of absence for seven days, nominating as his substitute Dr. W. R Davison. Mr. Currie stated that he intended to apply for holidays later in the season The guardians unanimously agreed that their board do not allow more than seven days as holidays to their dispensary medical officers in the year. Further, they decided to let Mr. Currie have the seven days on the understanding that these were all the holidays which they would give him this year unless he provided a substitute at his own expense, and they would only pay Dr. Davison at the rate of 2 guineas per week. All this unfortunate friction has arisen through the Local Government Board making a rule so ambiguous that its interpretation was doubtful. It is rumoured that in the course of the next ten days they will issue a new set of rules and in doing so they might remember a dictum laid down by the hero of Mafeking in his book "Aids to Scouting," which is as follows: "The secret of getting successful work out of your trained men lies in one nutshell—in the clearness of the instructions they receive." If the Local Governm[illegible] what is the length of the holid[illegible] officers and what is the payment [illegible] wrangle will cease. It is incumbent on them to make their rules clear and devoid of all ambiguity alike in the interests of the guardians and of their medical officers.

Charitable Bequests.

By the will of Mr. G. Washington Charters, who for a long time resided in Belfast, £5000 have been left to the endowment fund of the Royal Victoria Hospital and £1000 have been bequeathed to the Belfast Hospital for Sick Children.

June 5th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Solidarité Universitaire.

THERE has recently been founded, under the name of "Solidarité Universitaire Société d'Assistance Mutuelle des Étudiants Français et Étrangers," an association the aim of which is to assist students both past and present who have studied at higher educational establishments both in France and abroad but who are resident in Paris. The society proposes to find for its clients work suited to their particular form of study, such as translations, analyses of various works, bibliographical researches, *précis*, and similar work. The society comprises four classes of members—active members, givers of donations, founders, and honorary members. It is an interesting association and deserves encouragement.

Opening of the Pasteur Hospital.

A new hospital has just been opened in Paris under conditions which make a real landmark in the medical world. The actual official opening of the hospital has not taken place, for at present only one of the two blocks is in working order, but it is hoped that the other block will be ready by the month of July and that the foreign medical men attending the various Medical Congresses will be able to admire the hospital as a whole. The hospital is devised upon an altogether new plan and apparently is a realisation of the most perfect type of this kind of building at present existing. The funds necessary for its erection were offered to Pasteur some days before his death by an anonymous benefactor, and one of the last joys of that great man was to learn that a dream of his life was about to be fulfilled. The hospital stands in the rue Vaugirard, No. 213, upon a large plot of land facing the Pasteur Institute. That portion of the site which looks on to the rue Dutot is occupied by the great Institute of Biological Chemistry which was built out of a legacy left by the Baroness Hirsch and which is presided over by Professor Duclaux. The buildings of the new hospital are characterised by a feature all too uncommon in France—namely, a special fitness for the purpose for which they are intended. The architect is M. Florent Martin, a brother of Dr. Martin, assistant director of the Pasteur Institute, who, together with Dr. Roux, has given the minutest attention to all the details. The buildings consist of a number of isolated blocks connected by underground corridors. In the part looking on the rue de Vaugirard there is to the right a consultation block containing also quarters for the staff; to the right again is a small block destined for the lodging of the medical superintendent In the middle of the site are two large blocks, identical in aspect, connected by a winter garden and a garden for the use of the patients. On the left the whole length of the site is occupied by a large block given over to general wards and disinfection rooms, while to the right at the back of the wards is an anatomical theatre When a patient applies for entry to the hospital he goes through the consulting room into one of the six isolation rooms on the ground floor where he is examined by the medical officer who decides as to whether the malady is infectious or not. If it is the patient is shown into a special room called the *chambre d'entrée* and the isolation room out of which he goes is promptly disinfected. In the *chambre d'entrée* he strips completely and has a bath or a douche if there be no indication to the contrary. He then puts on hospital clothing and is put to bed in a bed which is wheeled or taken in a lift to another isolation room

in the block allotted to contagious cases. The *chambre d'entrée* is then disinfected and the patient's clothes are stoved. Each block contains 24 rooms with one bed, two wards for convalescents with 12 beds, and five wards with two beds each for such cases as where, for instance, the mother of a diphtheritic patient is unable to leave her child. In all, therefore, there are 58 beds. The floor of each ward is paved with stoneware tiles (*gré ceram*) and the walls also are covered to a height of 10 feet with tiles. The upper portions are glazed except on one side where the wall is double and contains all the pipes necessary for the supply of hot and cold water, hot air, ventilating tubes, gas pipes, and those in which the wires for the electric light run. By this means all the pipes can be easily got at while they do not show within the room. To each room there are two doors, one of which opens on to a central corridor and the other on to a balcony. By the latter the patient's wants are supplied when he is isolated completely. The furniture is very simple and comprises an iron bedstead and an iron table with a marble top. The air space of each room is 39 cubic metres instead of the regulation 30. If the patient is not considered infectious on his admission he goes to the usual consulting-rooms which comprise a medical officer's room, a room for surgical dressings, a bathroom, and three rooms with one bed each. There is also a little laboratory for clinical, chemical, and bacteriological examinations of urine, false membranes, and the like. As a whole the new hospital unites the isolation of the patient in its greatest degree with the greatest simplicity of procedure. The staff consists of one medical superintendent, one resident medical officer (*interne*), 17 sisters, a steward, and a manciple who looks after the catering. The medical superintendent, Dr Martin, is, for the first time in a French hospital, supreme, except that he has once a year to send a report to the committee. Owing to this fact it is hoped that the usual differences of opinion between the medical officer and the director will no longer exist. The hospital will treat patients whether rich or poor gratuitously, they being admitted in the order of their applications as soon as there is a vacant bed. No serum therapy will be employed except with such sera as have already been established as of use. At present in the one block which is open only diphtheritic patients will be treated and persons bitten by mad animals who cannot be treated outside either because they are too poor or because they have developed hydrophobia during treatment. The opening ceremony was private, there being only present Madame Pasteur, the medical officers of the institute, the architects, and the workmen. After a luncheon the representatives of the press were conducted through the buildings and an oration was delivered by M. Duclaux.

Anti-alcoholic Measures in the Navy.

The Naval Minister has just decided to follow the example set by the Minister of War who, as I said in a previous letter, has absolutely forbidden the sale of drinks in barracks. M. Lanessan, however, has not been bold enough to go so far and instead of forbidding the sale of drink has contented himself with issuing edicts for its regulation. He recommends that all commanding officers should get rid of all drinks which are known to be harmful, such as absinthe and liquor known to be of inferior brands. The daily consumption is not to be above a certain maximum which will depend upon the number of the men on board and especially upon the number of time-expired men who have re-enlisted. These regulations are simply a farce and will produce no effect. The Minister has merely shirked his responsibility in face of the outcry of the Academy of Medicine and of those whom the enormous development of alcoholism in France rightly makes uneasy. Commanding officers cannot possibly brand any particular kind of drink as inferior without laying themselves open to an action for damages by the manufacturers. Finally, the recognition of the right of an old hand to toleration in this matter because he has contracted drinking habits abroad is ludicrous.

Treatment of Pneumonia by Brewers' Yeast.

Brewers' yeast which has given such good results in the treatment of furunculosis is undergoing the lot of all valuable drugs and is being gradually recommended for every disease. It is now many years ago that in France Dr. Backer, putting into practice the theories of Pasteur as regards infection by fermentation, brought forward what he called the medicine of ferments, and treated a great number of diseases by injecting under the skin pure cultures of brewers' yeast. According to him diabetes, cancer, and even tuberculosis were all amenable to this remedy. The researches of M. Brocq, which confirm those of many of the older physicians in the north of France, have shown that in brewers' yeast there exists a substance which exerts a specific influence upon tuberculosis, while M. Thiercelin has met with great success by its employment in the "green diarrhœa" of infants. Other trials have been made with this substance in the treatment of diabetes. At the meeting of the Hospitals Medical Society held on May 18th M. Marie related many successful instances of the employment of yeast in cases of ordinary pneumonia. He was led to try it owing to no preconceived theory, but purely empirically. M. Marie had under his care an old man, aged 68 years, who was not only suffering from a severe attack of pneumonia, but also from very grievous boils. To cure these last M. Marie prescribed yeast and was surprised to see that the pneumonia which he had thought would prove fatal immediately began to resolve. Thinking that this was a simple coincidence M. Marie treated seven other cases of pneumonia with yeast, and they all terminated favourably, the same result being obtained whether the pneumonia was lobar or lobular. M. Marie, however, considers that eight cases are not enough to form an opinion as to the value of the method since the disease in which it was tried often gets well of itself, and in any case the mortality is under 10 per cent. He considers, however, that the results are worthy of attention, for in four of the cases the prognosis was most grave, and there certainly seems to be something more than a simple coincidence.

June 5th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

Trachoma in Switzerland.

DR. C. BAUER, Professor Haab's clinical assistant at Zurich, has written a report upon this disease, which is very rare in Switzerland. Out of 65,000 ophthalmic cases registered from 1862 to 1899 he could only find 153 cases. As 137 of these were foreigners, and those mostly Italians, there were only 16 cases of Swiss patients, some of whom had imported the illness. Owing to the influx of Italian workmen in the last few years to Zurich there were annually some 20 cases under treatment, as the 9000 Italian workmen formed a good percentage of the inhabitants of the town of Zürich, the population of which town was 165,000. The fact that these men congregate together and mix very little with the German-Swiss population explains why the cases of trachoma among the inhabitants have not increased. Prophylactic measures are, however, to be put into action to prevent any possible spread of this dangerous affection.

Iodine Preparations.

[illegible] aceutics at the Zurich [illegible] on this subject. He [illegible] Courtois in 1811 and [illegible] the treatment of goitre. [illegible] specially promoted the [illegible] Acute iodism which occurs in 10 per cent. of all cases can sometimes be averted or the attack shortened by a daily dose of up to half an ounce of bicarbonate of soda. Professor Goll mentions the newest iodine preparations [illegible] the slightest risk of iodism— [illegible] a 14 to 20 per cent. of iodine [illegible] iodalbacid" of Dr. Gans of [illegible] the "iodipin" of Dr. Winternitz (Prague), an oily solution of execrable taste but of prompt action and therefore recommended for gluteal injections which are reported to be painless. In cases of tapeworm he advises a solution of three grains of iodine in 50 grains of iodide of potassium and four ounces of water in doses of from four to five tablespoonfuls a day.

School Hygiene.

The first meeting of the newly founded society for school hygiene, which counts many medical men among its members, will be held at Zürich on June 9th and 10th in connexion with a hygienic exhibition. There will be some

interesting lectures by competent medical men, sociologists, and hygienists on Destitution from a Medical Point of View, the Construction of Floors, Walls, and Ceilings in Schoolhouses, and the Results of Holiday Outings in the Mountains for Weakly School-children.

Zurich, May 30th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Mosquitoes and Malaria in Arabia.

Dr. Armand Ruffer and Dr. Innes have just returned from an excursion to Mount Sinai and in passing Wady Ferran to the north of Sinai the latter found the larvæ of an undetermined kind of anopheles which strictly resembles some previously found in malarial parts of Egypt. He heard from the Bedouin that many of the inhabitants of this Wady suffered from fever and he saw some of them with enlarged spleens. Moreover, the Bedouin told him that the mortality [illegible] had only become great since 20 years [illegible] This [illegible] e ceme- [illegible] rved at [illegible] singularly free from pl[illegible] tion was achieved, whic[illegible] lizards, birds, and small [illegible]

Plague in 1853 and in 1900.

It has always been a wonder how it was that plague suddenly died out of Egypt in 1844 after being present every spring for 20 years. A thesis dated 1853 which has just f[illegible]

[illegible]

The people buried their [illegible] mosques, or churches, and [illegible] itself the quarantine measures [illegible] the sanitary officials. It appears that Dr. Rossi at this time was dismissed from the Viceroy's service because he had reported a sporadic case of plague near Cairo, and this was by no means a unique case. Whether the disease existed in Egypt after 1853 I do not know, but there is at present no evidence of even sporadic cases between 1853 and 1898. Customs have now happily changed and the sanitary department of to-day is always reminding its officials that in the springtime plague must never be forgotten. At Port Said the total number of cases to date has been 30, of which [illegible] dria there have so far [illegible] eaths. The consular [illegible] well with the sanitary [illegible] y no obstruction among [illegible] whom go willingly to hospital. Another satisfactory sign is that for some days there have been no deaths occurring outside the hospital and everything tends to show that the Port Said outbreak is being cleverly kept in check. The rubbish of all of the dirty houses in Port Said is being carted away in sacks to be burnt with petroleum, and an interesting proof of the value of this precaution has just occurred. One of the men in charge of the destructor, in spite of warnings, insisted on working with naked feet and legs. In a few days he was admitted to the plague hospital with typical inguinal buboes, apparently contracted directly from the rubbish. There have been some suspected patients in other parts of Egypt, but none have borne the test of examination. The three bacteriologists, Bitter, Symmers, and Gottschlich, are all busily employed in testing doubtful cases.

[illegible] olera, [illegible] The [illegible] gue is [illegible] cutta, [illegible] o, and [illegible] nsible [illegible] ayana, Santos, Mexico, and Brazil. Of the returning pilgrims from the Hed[illegible] e Tor Hospital, of whom [illegible] and 184 were cured. [illegible]

Vaccination Institute.

The experiment tried for the first time this spring of re-vaccinating the adult population has succeeded well and crowds of natives have swarmed to the various sanitary officers to be protected from a disease which they all know and fear. More than 200,000 people have been operated on, mostly in Cairo. The institute continues to improve and to supply excellent lymph. The latter is now mixed in the following proportions—lymph, one part; glycerine, two parts; and water two parts. Better results have been attained since the pulp is passed twice through the crushing machine and since the tubes are regularly kept at a temperature of 60° F. Each buffalo calf provides sufficient lymph with economical management for vaccinations varying in number from 12,000 to 22,000.

Cairo, May 21st.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Plague.

IN Sydney the plague has become firmly established and the number of persons attacked continues daily to increase in spite of vigorous measures on the part of the health authorities. The total number of cases of plague reported up to April 27th was 151, and 53 patients have died. Of those who succumbed 13 died at their own homes, nine in the metropolitan hospitals, and the remainder in the quarantine hospital. All were interred in the quarantine grounds with due precautions. At the quarantine station are also isolated 262 persons who have been "in contact" with [illegible] Stuart in a lecture [illegible] plague would continu[illegible] at least. It is stated [illegible] Government in dealing with the plague amounts to approximately £30,000 a month. The work of prevention and extermination consists in quarantining areas in the city wherever [illegible] and then emp[illegible] the filth that [illegible] The dwellings [illegible] stly by the "formalin" process, and all persons in any way associated with plague cases are detained in quarantine for five days. The Government distributes free a special rat poison to all householders and sends round men to remove dead rats from premises free of charge. Many houses have been condemned and pulled down. A special hospital has been equipped at the quarantine station and placed under the charge of Dr. A. E. Salter, formerly health officer at Thursday Island. The Government has also appointed Dr. Har[illegible] a medical officer of the Peninsular and Orie[illegible] had [illegible] tion reward is given for rats and an [illegible] been destroyed. In connexion with the mode of transmission of the disease Dr. Tidswell, the bacteriologist of the New South Wales Health Department, has confirmed the observations of Simond as to the part played by fleas, and has demonstrated the existence of plague bacilli in the alimentary canal of fleas taken from plague-affected rats. In all the colonies extermination of rats is being carried

on most vigorously. In Victoria steps are also taken to prevent the introduction of rats from other ports in vessels. Every vessel must be kept four feet away from the wharf and all pipes, ports, and scuttles closed. All gangways and ropes, &c., by which rats might get ashore are to be kept in a sticky condition with tar and a constant supervision maintained by special watchmen. A special staff is employed in inspecting and seeing that regulations are carried out, consisting of Dr. Elkington, two inspectors, and three assistant inspectors. Inoculations with Haffkine's serum are being freely employed. In Victoria two cases of plague have occurred, both on a vessel arriving from Sydney. The vessel was quarantined for 12 days and the patients were placed in tents at the station, under the charge of Dr. Bull, of the Public Health Department. Plans have been prepared for hospital buildings to be erected at Coode Island for the reception of possible plague patients, consisting of two wards for ten [illegible] necessary administrative buildings [illegible] tory, &c., and accommodation [illegible] "suspects," all isolated. The estimated cost is £19,000, and the Government is not prepared at present to sanction so large an outlay for buildings that may never be required. Dr. D. A. Gresswell, however, the President of the Victorian Board of Health, is of opinion that the plague is sure to break out in Victoria and that the buildings are wanted. Several cases have occurred at Fremantle in West Australia, and there has been one case at Rockhampton in Queensland. The precautions taken in all the colonies are practically the same. The Premier of Victoria convened a conference of health officials to draw up regulations for the prevention of the spread of the plague. The following were appointed members of the conference:—Dr. Gresswell (chairman); Dr. Ramsay Smith, President of the Central Board of Health, South Australia; Dr. Black, Government medical officer, Western Australia; Mr. Mault, secretary of the Central Board of Health, Tasmania, advised by Dr. G. Sprott and Dr. Holmes; and Dr. W. W. R. Love, secretary of the Board of Health, and Mr. C. J. H. Wray, Government quarantine medical officer for Queensland. The sittings commenced in Melbourne and extended over three days there, and then, as New South Wales was concerned in any decision which might be arrived at, the conference adjourned to Sydney.

The Sydney and Prince Alfred Hospitals.

A deputation representing the committees of management of the Sydney and Prince Alfred Hospitals waited on the New South Wales Treasurer recently to ask for further financial assistance. Both institutions were in debt. The public subscriptions were stationary, but the expenditure had increased, chiefly owing to increased cost of provisions. Each bed cost the hospitals 28*s.* per week, and the Government only allowed £1 per bed for Government patients. The Minister said he would lay the matter before his colleagues in such a way that he felt sure provision for the hospitals' requirements would be made in the estimates.

Victorian Branch of the British Medical Association.

A special meeting of the Victorian Branch of the British Medical Association has been held for the purpose of filling the vacancies on the council caused by the resignation of that body as previously reported. The attendance was very small. The following office-bearers were elected:—President: Dr. Neild. Vice President: Mr. F. M. Harricks: Honorary treasurer: Dr. Mullen. Honorary secretary: Dr. W. B. Vance Local editor: Dr. L Henry. Council: Mr. F. G. Hamilton, Mr. G. Cuscaden, Mr. J. Cox, Dr. W. Macansh, Dr. T. R. H. Willis, Dr. C. P. W. Dyring, and Dr. R. E. Weigall.

Memorial Portrait of the late Sir Anthony Brownless, M.D.

On April 25th His Excellency the Lieutenant-Governor performed the ceremony of unveiling a memorial portrait of the late Sir Anthony Brownless at the Wilson Hall, Melbourne University. Few men have devoted themselves so unselfishly to the University as did Sir A. Brownless, who was connected with it for 42 years, first as Vice-Chancellor and afterwards as Chancellor, and was practically the founder of its medical school, and, as the governor said: "If any school in the University had done greater and more important service than another it was the medical school." The portrait represents Sir Anthony Brownless in his Chancellor's robes and is an admirable likeness.

April 28th.

Obituary.

CORRADO TOMMASI-CRUDELI.

(FROM AN ITALIAN CORRESPONDENT.)

AN eminent patriot and man of science has just been lost to Italy. The Senator Tommasi-Crudeli died on May 30th at his residence in Rome in his sixty-seventh year. Born at Pieve Santo Stefano, in the province of Arezzo, he devoted himself to the study of medicine first at Pisa, then at Florence, and finally at Paris, where he attended the cliniques of the great Parisian consultants, Trousseau and Léon Colin, till the outbreak of hostilities with Austria in 1859. He saw a good deal of active service with the "Cacciatori delle Alpi," a corps in which he was surgeon-lieutenant, and on the conclusion of peace returned to Florence, where he was appointed assistant lecturer in pathological anatomy at the Istituto di Studi Superiori. Next year (1860) witnessed Garibaldi's descent on Sicily and young Tommasi-Crudeli joined the expedition that followed it at the head of 800 Tuscan volunteers whom he had helped to organise. At Palermo he was nominated "capitano medico"; at Milazzo he was wounded, and at Faro di Messina, where he was by this time promoted major, he was again wounded at the head of his battalion. On the annexation of the Two Sicilies he resumed his professional work at Florence, retaining the rank of honorary major in the 77th Infantry and holding the medal for military valour. Three years thereafter (1863) he was nominated Extraordinary Professor of Pathological Anatomy at Florence (the chair to which he had acted as assistant) and in 1865, as the result of a competitive examination, he was appointed professor of the same subject in the University of Palermo. In the following year, memorable in Sicily for the cholera visitation and the popular tumults that accompanied it, he commanded a select corps of the National Guard of Palermo and helped to restore order while working fearlessly and effectively in combating the epidemic. On this he compiled a report embodying acute and independent views on the etiology and the favouring conditions of cholera—a document which was reprinted 18 years afterwards on the return of the epidemic in 1884. By this time his fame as a pathologist was well established and at the instance of the great mathematician, then Minister of Public Instruction, Francesco Brioschi, he was in 1870 called to Rome to start the Istituto Fisiologico e Patologico in connexion with the new university. This he shortly after converted into the Istituto A[illegible]th its seat on the Viminal Hill, and [illegible] standard of efficiency it has since [illegible]s a demonstrator in the laboratory [illegible] classes an[illegible] of the "Consiglio Super[illegible] 1874 he was returned to [illegible] Cortona; was re-elected [illegible] and in the fifteenth of th[illegible] tion of the salt tax in a [illegible] one of the most powerful [illegible] State Hygiene as a facto[illegible] duties in Parliament, however, never interfered with his work in the Anatomico-Physiological Institute. Well known and appreciated in Germany, where he had many friends, he followed up his researches [illegible]tly with Huster of Greifswald, by [illegible] laborate studies on malaria, this tim[illegible] klebs of Prague These, which were [illegible]e of the Royal Academy of [illegible] lution of the prot[illegible] and the French [illegible] ared the yet further advance made in that direction by Laveran in France, by Golgi in Italy, and more recently by Manson and Ross in Great Britain, to say nothing of Grassi, Bignami, Dionisi, and others of his compatriots. His work on the Climate of Rome, which was reviewed in THE LANCET of Oct. 9th, 1886, p. 674, though requiring supplement as to its views on the etiology and propagation of malaria, is still consulted for its admirable account of the distributi on of subsoil water in the Campagna and for its demonstration of how malaria was practically non-existent in the second

century A D. owing to the enlightened system of drainage and cultivation under the Antonines.

Other works still in repute among his compatriots are his "Istituzioni di Anatomia Patologica" and his "Preservazione dell' Uomo nei Paesi di Malaria colla Cura Arsenicale." In 1892 he was nominated Senator of the Kingdom of Italy, in which capacity he continued in the Upper Chamber the enlightened advocacy of State hygiene that won him so much respect and authority in the Lower. Of late years, though (comparatively speaking) by no means an old man, his work, scientific and legislative, sensibly slackened, the cause being a steady, if slow, failure of physical power due to the intense and often imprudent energy of his early manhood and middle age. For some months past he was seen by few except his intimate friends, and medical colleagues till the end came on the evening of May 30th.

JAMES GROSVENOR MACKINLAY, F.R.C.S. EDIN.

MR. J. G. MACKINLAY, who died on May 24th at his residence, 15, Stratford-place, W., was born in 1844 at Isleworth. He was the eldest son of Dr. John Mackinlay, a surgeon in the Honourable East India Company's service from 1824 to 1834, and afterwards in practice at Isleworth for many years. He was educated at Epsom College and studied at Charing-cross Hospital, subsequently becoming house surgeon and for a few months holding the post of resident medical officer. On the somewhat sudden death of his father, in July, 1866, young Mackinlay was hastily called to give up his hospital appointment and take up the work thus vacated.
and in the knowledge of his
great kindliness of heart and [illegible]
enabled him to build up a capital practice and greatly endeared him to his patients. To the poorer classes he was a warm friend as well as a skilled adviser, and when a very serious attack of acute lung mischief compelled him hastily to throw up his practice in 1874 and (under the advice of the late Sir Andrew Clark and other medical friends) seek a doubtful restoration in the Antipodes his loss was greatly and truly mourned. Two years later, in much restored health, he re commenced practice, but exchanged the wear-and-tear of general work for the study of the eye, which had had great attractions for him in his student days (he had been house surgeon to the Royal Westminster Ophthalmic Hospital in 1865). After filling the offices of registrar and clinical assistant to the last-named hospital he was appointed surgeon to the Western Ophthalmic Hospital, which post he held for five years. In 1879 he was elected ophthalmic surgeon to the Royal Eye Hospital and in 1881 to the Royal Free Hospital, both which appointments he held at the time of his decease. He was an Original Fellow and early a Member of Council of the Ophthalmological Society, to the Transactions of which he made numerous contributions, and for many years he was a member of the British Medical Association. His health had failed considerably during the past three or four years and for the last 12 months he had only on rare occasions been able to attend to any public or private work. By those who knew him intimately his memory will always be greatly cherished and his premature death sincerely mourned. He leaves a widow to deplore her loss.

AYLMER ELLIS HAYES, D.S.O., M.R.C.S. ENG., L.R.C.P. EDIN.

LIEUTENANT-COLONEL, ROYAL ARMY MEDICAL CORPS.

LIEUTENANT-COLONEL AYLMER HAYES was the son of the late Captain Hayes of the 83rd Regiment. He entered St. Mary's Hospital as a student in 1865 and took the diploma of M.R.C.S. Eng. in 1871. After a short experience of general practice he joined the Army Medical Staff, becoming surgeon in 1877, surgeon-major in 1889, and lieutenant-colonel in 1897. He saw much hard service in India and in Egypt, going through the whole of the Afghan war in 1878-80 for which he was granted the medal. In the Soudan war of 1888-89 he was principal medical officer on the staff of the then Sirdar, Sir Francis Grenfell. He was twice mentioned in despatches for his gallant conduct in this campaign and in August, 1890, was invested by Her Majesty at Osborne with the D S.O. for distinguished service before the enemy. He also gained the Egyptian medal with two clasps, the Khedive's star, and the 3rd Class of the Medjidie. He was afterwards registrar and secretary to the Surgeon-General at Netley Hospital, and from 1893 to 1895 was in command of the 2nd Station Hospital at Aldershot. His next term of service was at Hong-Kong, and in September, 1897, he retired from the active list. He was a distinguished student of Oriental languages, passing the higher standard of Persian and gaining the prize in Arabic open to officers of the army. When the present war broke out he rejoined the army in command of the Connaught Hospital, Aldershot, where he had the care of some hundreds of invalids from South Africa.

About February in this year he began to fail in health and in March there was no concealing from him that he was suffering from malignant disease of the oesophagus and that his end was near. He elected to continue his work, which became the more arduous as the number of invalids from South Africa increased and as day by day his powers of taking nourishment diminished. On May 14th, after discharging his duties for the last time, he came to London in too serious a condition to return and [illegible] He was buried at Aldershot [illegible] honours. Among those present [illegible] A.M.S., commanding [illegible] Leyden, Major James, Major G. Hale, D S O., Mr. Ernest Lane, and Dr. Sidney Phillips, who with Mr. Edmund Owen had attended him in his last illness. Lieutenant-Colonel Hayes was a born soldier and was devoted to the army and to his profession. He was an able surgeon, as already mentioned, an accomplished musician and an Oriental scholar. He had a [illegible] presence, and there were, for [illegible] ability, and vivacity. His courage on the [illegible] with public [illegible] acknowledgment but it was not greater than the fortitude [illegible] him the nature [illegible] ibing strength [illegible] his post.

JAMES FENTON STAMPER, M.D. ST ANDS, M.R.C.S. ENG., L.S.A., J.P.

DR. JAMES FENTON STAMPER died at his residence at Pembroke Dock on May 22nd. The deceased, who had been for many years in practice at Pembroke Dock, received his medical education at Guy's Hospital. He took the qualifications of M.R.C.S. Eng. and L.S.A. in 1861 and graduated as M.D. at the University of St. Andrews in 1862. Dr. Stamper was consulting physician to the Pembrokeshire and Haverfordwest Infirmary and surgeon to the Pembroke Dispensary. He held several other appointments, being also Admiralty surgeon and agent. He was a justice of the peace for the borough of Pembroke. The funeral, which took place on May 26th, was attended by the mayor and corporation of Pembroke, the magistrates, ministers of religion, the members of the medical profession, and representatives of several public bodies.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—The annual general meeting of this society was held on May 30th, at 5 P.M., Mr. Christopher Heath was elected President, and he took the chair. Mr. W. H. Bennett and Mr. Manley Sims were elected Vice-presidents, and Mr. Borlase Hicks, Mr. Simmonds, Mr. L. Read, Mr. Julian Willis, Mr. Milburn, Dr. Buzzard, and Dr. Morison, to fill the vacancies in the Court of Directors; the other officers were re elected. From the report read by the secretary it was shown that the grants during the year had amounted to £3007 10s., while the expenses were £243 3s. 1d. The receipts available for payment had been £3353 7s. 7d., and the grants and expenses £3250 13s. 1d., leaving a balance of £102 14s. 6d. No legacy had been received during the year. 14 new members had been elected, 10 had died, and one had resigned. Three widows had been placed on the funds and two orphans, four widows had died and one orphan had become ineligible for further grants, leaving 42 widows and 11 orphans in receipt of grants. The death of Sir James Paget, President, was [illegible] Vice-president. A grant of £20 [illegible] to a widow. A vote of thanks to [illegible] journals for their kind advocacy of the interests of the society was passed. Mr. Christopher Heath returned thanks for his election as President and the meeting closed.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

WEDNESDAY, MAY 30TH.

THE Council met again to-day, Sir WILLIAM [illegible] presiding.

Advertising by Medical Aid Associations.

Mr. BROWN moved:—

That the Registrar be instructed to send a [illegible] of [illegible] the [illegible]

when practitioners were brought before the Council [illegible] charges they very often pleaded ignorance of the [illegible] of the Council. He was very unwilling that any practitioner should be in ignorance as to the opinion of the Council with regard to this system of touting and canvassing.

Mr. HORSLEY seconded the motion.

Dr. HERON WATSON: Has Mr. Brown made any calculation as to what the cost of this will be?

The PRESIDENT: Have you looked into that matter, Mr. Brown?

Mr. BROWN: Perhaps the Registrar can give us some information.

The REGISTRAR (Mr. Allen) said th[illegible] ordinary circumstances would cost £112, [illegible] would be sending out circulars next yea[illegible] and 8000 persons, the extra cost would be about £84.

The PRESIDENT explained to the Council that on more than one occasion this resolution had been sent out to individuals as a warning and information.

Dr. MCVAIL did not think the issue of this resolution would do much good. If the resolution had been stronger, if the Council had made up its mind to say that such conduct was infamous in a professional respect, then the case would have been different, but this was simply beating the air.

Mr. BRYANT said he did not think the Council would be prepared to go the length [illegible] nduct was infamous conduct in a [illegible] they might so regard particular cases.

Mr. BROWN insisted that this was a very pressing and important matter. He had just received a letter from the General Medical Practitioners' Union of Birmingham enclosing a copy of a pamphlet now in circulation, not touting for general practitioners, but touting for consulting practitioners. In this pamplet it was said that the ordinary medical man was only capable of dealing with the lesser ills of humanity.

The PRESIDENT said that the documents connected with this matter had reached the office of the Council and would be considered officially in due course; Mr. Brown might rest assured upon that point.

Mr. BROWN said he was glad to hear the statement of the President because he felt that the case was one which demanded consideration.

Sir JOHN BATTY TUKE suggested that Mr. Brown would gain his object by withdrawing his motion now and bringing up another one next session declaring these practices to be infamous conduct in a professional respect.

This suggestion was adopted by Mr. Brown and the motion consequently was withdrawn.

The Examinations of the Apothecaries' Hall of Dublin.

Sir DYCE DUCKWORTH presented reports from the Examination Committee on the examinations of the Apothecaries' Hall of Dublin held in October, 1899, January, 1900, and April, 1900. In the first report the committee said that the inspector reported that the examinations were in every way sufficient and he expressed his conviction that the body was doing its utmost to render them worthy of the confidence of the General Medical Council. In the second report the committee said the inspector reported that the examinations were in all respects sufficient. Speaking of the reports generally Sir Dyce Duckworth said they went to show that the examinations of the Hall were excellent. The inspector was satisfied with the con- [illegible] them in all respects and made no adverse [illegible] upon them. [illegible] Examination Committee said they [illegible] attention of the Council to the fact that most of the candidates coming up for examination to this board had already passed the whole or parts of their previous examinations even in single subjects before other boards, sometimes in other divisions of the kingdom, and appeared either to choose or to seek by this piecemeal system admission to the Medical Register. This, of course, could not be regarded as satisfactory.

Mr. TICHBORNE took exception to this statement and asked Sir Dyce Duckworth as chairman of the committee to delete part of it.

Sir JOHN BATTY TUKE thought the whole statement should be deleted. The only point this Council had to consider was the statement that the examinations were in every respect sufficient.

Sir DYCE DUCKWORTH reminded members that this examination was the particular child of the Council and said [illegible] tee had been anxious to give the Council as much [illegible] as possible about it.

The Council by a majority decided to strike out the whole statement.

On the motion of Sir DYCE DUCKWORTH, seconded by Sir JOHN BATTY TUKE, it was agreed:—

That the Registrar be [illegible] boards what evidence [illegible] claim to be exempted f[illegible] ground that they had already passed in these subjects before other licensing bodies.

The Inspection of the Final Examinations.

Sir DYCE DUCKWORTH: [illegible] ommendation from the Exa[illegible]

The Examination Commit[illegible] the General Medical Council that [illegible] final examinations of the several [illegible] boards should be begun during the present year.

No inspection, he said, had been held for some seven years and it was thought by the committee that the time had come when they should begin another cycle of inspection. The committee had no proposal to make as to the division of the kingdom in which the inspection should begin. On the last occasion the arrangements were left in the hands of the Executive Committee. They would have to appoint an inspector and probably it would not be possible to get to work during the present year.

The PRESIDENT said it would take the Executive Committee some time to work out the details of the scheme.

Sir DYCE DUCKWORTH moved that the recommendation be received and entered on the minutes.

Dr. MCVAIL, seconding this motion, said it was about seven years since the last cycle of inspection ended. It began about 1887 or 1888 and it took five or six years for its completion. Under the Act they were supposed to be constantly inspecting the examinations and he quite thought the time had come when they should begin a new cycle of the final examinations.

Mr. HORSLEY: What is the probable cost

Sir DYCE DUCKWORTH: The average cost is about £360 a year.

Dr. GLOVER said he was disappointed with Sir Dyce Duckworth's way of putting this subject before the Council. The Council was not very flush of money just now and there was every reason why they should not spend money unnecessarily. If Sir Dyce Duckworth had shown any reason for believing that the effects of the last inspection had failed, or that there was anything seriously wrong in the way the examinations were conducted, or that a sufficient number of men were not being arrested by the examinations, he should not have offered any opposition; but in the absence of any such proof, or even an attempt to prove, that the effect of the last supervision had passed away and that they were drifting into a loose or careless system of examination for admission to the Register, he could not think that any harm would be done by the postponement of this measure for

another year at least. He moved that there be a postponement for a year.

Dr. BRUCE seconded the proposal.

Dr. MACALISTER said that one reason for starting now was that it would be some time before the scheme could be got into working order. They could hardly get the first reports until 1901, which would be ten years after the last cycle was instituted. Another reason was that he regarded
but rather as a stock-
uncil should from time to
He had no doubt that
this cycle of eat
improvement
The motion its
entry in the r eed
to.

Sir DYCE DUCKWORTH, seconded by Mr. BRYANT,

The proposal of Dr. Glover was put as an amendment and rejected by the Council by a large majority. Thereafter the motion of Sir DYCE DUCKWORTH was agreed to.

The Admission of Foreign Students to Examinations.

Sir JOHN BATTY TUKE presented the following report by the Education Committee on a motion seconded by Mr. HORSLEY, viz.:—

On Dec. 5th, 1899, it was moved by Mr. Horsley, seconded by Mr. Tomes, and agreed to:—

That the Education Committee be requested to consider the circum-

reproduce the statements therein made.

jects has been brought
Should any such repre-
e committee they are
g the complaint to the
orting on the question

The report was received, entered in the minutes, and adopted.

Diplomas in Public Health.

Mr. TEALE read the following interim report from the Public Health Committee dated May 28th:—

question should again
the November session
N TEALE, Chairman.

On the motion of Mr. TEALE, seconded by Dr. MCVAIL, this report was received and entered on the minutes, and the recommendation contained in it was approved of.

Registration of Students.

Sir DYCE DUCKWORTH presented a report from the Students' Registration Committee and moved that it be received and entered on the minutes and adopted. He remarked that the various cases mentioned in it had been very carefully considered. The decisions arrived at had been in most cases based on precedent and special consideration had been given to such cases as presented any special difficulty.

Dr. BENNETT seconded and the motion was agreed to.

Companies Act Amendment Bill.

Mr. TOMES gave in a report from the Committee on the Companies Act Amendment Bill. This informed the Council that Clause 3 of the measure now before Parliament dealt with the practice of medicine and dentistry by companies. The Bill had repeatedly stood on the order paper for second reading, but no further progress had been made with it, and it now seemed doubtful whether the Government intended to proceed with it during the present session.

The report was received and entered on the minutes, the motion acted upon being made by Mr. TOMES and seconded by Mr. HORSLEY.

An Application for Registration.

On the motion of Sir DYCE DUCKWORTH, seconded by Dr. MACALISTER, it was resolved to adopt a recommendation by the English Branch Council to enter on the Medical Register the name of Mr. William Raitt Scroggie, who holds the qualifications of Mem. R. Coll. Surg. Eng. 1882, Lic. R. Coll. Phys. Edin. 1882, Lic. Midwif. R. C. Coll. Phys. Irel. 1882, a practitioner entitled to be registered under the Medical Act 1858, but who neglected to effect such registration until after the coming into operation of the Medical Act 1886.

Penal Clauses of Medical and Dentists Acts.

Dr. GLOVER asked leave to withdraw the following notice of motion which he had put upon the programme of

He (Dr. Glover) said that the necessity for this motion had ceased because it had been anticipated by the action of the Executive Committee.

Dr. PAYNE, who had agreed to second the motion, assented, and leave was given to withdraw the notice.

Advertising by Dentists.

Sir DYCE DUCKWORTH moved that a copy of the following resolution in respect of advertising adopted by the General Medical Council on May 20th, 1894, be issued from the Council's office to every dentist whose name is on the Dentists Register:—

In support of his proposal Sir Dyce Duckworth said that he had been moved to recommend this course to the Council because during the present session they had been told by persons who had been before the Council that they were really not aware of what the Council had done and therefore it seemed absolutely necessary to send their resolution of 1894 to every practitioner on the Dentists Register so that there might be no mistake in the future.

Mr. TOMES seconded the motion.

Dr. LOMBE ATTHILL said that the resolution seemed to sanction advertising generally and the Council disapproved of that. The four words "of an objectionable character" ought to be left out.

Dr. MACALISTER: That is the resolution.

Dr. LOMBE ATTHILL: Well, it will be brought up as a clear proof that advertising is sanctioned by this Council because it is only advertising of an objectionable character that we seem to disapprove of. I understood that we were to put down all advertising.

Dr. MACALISTER. I do not think that unobjectionable advertising could be called infamous conduct.

Mr. HORSLEY: That is not the point. Can we not amend the resolution as suggested by Dr. Lombe Atthill?

Mr. BROWN: That could scarcely be done without rescinding the resolution of 1894 and passing a new resolution.

The PRESIDENT reminded the Council that it was six years since the resolution was passed. He remembered very well the discussion which took place in connexion with it. The general opinion at the time was that the Council could not pass a resolution forbidding all forms of advertising and so the words "of an objectionable character" were inserted so as to show that there was a certain class of advertising

be registered as a medical or dental student who has not attained the age of 16 years; and for the purpose of ensuring the observance of this regulation every applicant for registration in the Students Registers shall be required to produce satisfactory evidence that this age has been attained.

Sir JOHN BATTY TUKE, seconded by Dr. MACALISTER, moved the adoption of the second recommendation.

Mr. HORSLEY wished to know if the existing list of examinations was to be absolutely abrogated if the committee were authorised to carry the new scheme into effect. He could not see how the scheme was to be carried out without considerable expense, for after two years' time he took it that the Council would have to employ the experts as inspectors. He took it that the Council had full confidence in the committee to carry out the scheme. The recommendations of the experts fell short, he thought, of what they might expect. They were governed by serious limitations in the narrative which went to show that the experts themselves felt that there were great difficulties in making the recommendations and that there would be difficulties in carrying them out. He was sent to the Council to speak in favour of a much higher examination and he should always do so. But if the Education Committee said, "Have confidence in us and let us try this scheme for two years or so," he could not very well see how the Council could refuse.

Dr. PAYNE pointed out that, broadly speaking, the higher class school life of this country did not end till the pupils were 18 years and he wished their intending medical students could remain at school until that age. In Germany and France the age for intending medical students leaving school was from 18 to 19, and in his view the standard of general education for the medical profession was consequently higher than in this country. If, however, they made the "senior" examination the necessary standard they would not be fixing an educational standard but a social and financial standard. They would be laying down the opinion that intending medical students should be able to afford school till the age of 18 years. He really doubted if that would be possible generally. There was an average of quite two years' difference between the "junior" and the "senior" examinations. With a five years' medical curriculum it would be difficult to go beyond 16 years as the minimum age limit, and that was another difficulty in the way of making pupils looking forward to enter upon medical studies stay at school until 18 years of age. If the scheme now put forward were adopted he was sure that Oxford and Cambridge would do what they could to meet the views of the Council. But the Council would hardly expect them to alter their whole scheme of examination to do that. At one time he was of the opinion that all the Council needed to do to secure the raising of the standard was to pass a resolution abolishing all the junior examinations, but he had come to the conclusion that the amount of reform now offered was the utmost which at the present moment could be satisfactorily carried out.

Dr. MACALISTER believed that he was expressing the feeling of the Education Committee when he said they were gratified that their labours, which had not been light, had been so well received by the Council. With regard to the expense in giving effect to the scheme the Council at the last meeting had made a grant of £100 in connexion with the work of the experts, and the committee hoped that a great deal more could be done without more money. What remained of the £100 was practically sufficient for at any rate the preliminary work. There was nothing secret or mysterious about the confidential documents or anything to be ashamed of. Those who furnished them desired that the details of their examinations should not be made public in any way simply because they would get to the ears of students and teachers who would prepare up to a certain standard and no higher. The committee and experts would be breaking faith if they made the documents public.

Dr. MCVAIL called attention to the fact that in one part of their joint report the experts expressed this conclusion: "Such examinations are comparatively worthless as tests or a good preliminary education." He asked if there were many and recognised examinations to which that could be applied.

Dr. MACALISTER explained that there were only one or two, and even in connexion with these the conclusion was explainable. It referred to languages only; that books should not be prescribed. It was solely with reference to the question of set books or not set books. It did not speak of examinations as a whole. As to the experts' series of recommendations it would be of no use considering these one by one. They must be taken as a whole or left altogether alone. It would not do to take some and leave others.

Sir CHRISTOPHER NIXON had no doubt that quite a number of bodies would not accept the experts' recommendations, but if the Council could secure the fixing of a minimum standard of examination below which they would not allow a youth to be registered as a medical student, and do that without any revolutionary measures, it would be a decided gain, and for that reason he strongly urged the Council to pass these recommendations.

Dr. MCVAIL had hoped they would have got more than the committee and the experts offered, and he thought that the Council, while agreeing to what was presented, might indicate that the time would come very shortly when they would demand a much higher standard. The committee should at once set to work to furnish a list of the bodies with whose examinations the Council could be entirely satisfied. The present list was not quite reliable because it took men from anywhere and everywhere.

The motion proposed by Sir JOHN BATTY TUKE was agreed to. Accordingly, the Education Committee were authorised by the Council to take all needful steps to give effect to the recommendations and suggestions for the improvement of preliminary examinations contained in the joint report of the expert advisers and to report from time to time to the Council thereupon.

Sir JOHN BATTY TUKE moved a vote of thanks to Mr. Sharpe, Dr. McGrath, and Professor McCormick for the valuable assistance whi[illegible] in relation to the question [illegible]

Dr. MACALISTER seconded the motion.

The PRESIDENT said that having had the opportunity of knowing perfectly the great labours that these gentlemen had given to the consideration of the matter in question, and also knowing what fee was placed at the disposal of the Education Committee, he should like to say that these gentlemen had done a great deal more work than they had been paid for in money, therefore he thought the Council should record their thanks for the work they had done.

Dr. LITTLE asked if it was becoming on the General Medical Council to employ three experts and not pay them properly. He would rather propose that they should receive an addition to their honorarium. He did not know them at all.

The PRESIDENT said that these gentlemen undertook the duty, not in view of a money payment, but rather from a desire to help the Council in this branch of their work.

The motion was agreed to.

The Pharmacopœia.

Dr MACALISTER, deputy chairman, in the absence of Dr. Leech owing to illness, presented the following report by the Pharmacopœia Committee:—

The Pharmacopœia Committee desire to record their regret at the [illegible] chairman, Dr. Leech, and enforced [illegible] manner in which he has [illegible] their last meeting.

[illegible] report that 31,500 copies of the British [illegible] passed into circulation,

A communication from [illegible] addressed to the Secret[illegible] Minister, on the subje[illegible] limited to drugs of a drastic nature, has been referred to this committee by the Executive Committee. The [illegible] Council to reply that, should an interna[illegible] subject in question be arranged, the Cou[illegible] appoint representatives to participate in it and to authorise the President to appoint one or more members to act as delegates.

Another meeting of the conference of members of the Pharmacopœia Committee with representatives of the Pharmaceutical Society of Great Britain and the Pharmaceutical Society of Ireland has been held, and on its recommendation certain questions of a pharmacological and pharmaceutical nature have been referred to experts for further investigation and report.

Communications have been opened with the United States authorities with a view to bringing about greater uniformity in the official preparations contained in the British Pharmacopœia and the United States Pharmacopœia respectively, and it is hoped that, by mutual concessions, important approximations and assimilations in the contents of the two works may be ultimately secured.

Further communications have been received with reference to the Indian and Colonial addendum and important suggestions from Canada have been considered by the committee in detail. A report on progress has been prepared by the editor and is hereto annexed. It is hoped that a final draft of the addendum may be presented to the Council at the November meeting and that the addendum itself may be authorised for issue by the end of the year.

By the assiduous efforts of Dr. Leech a valuable collection of British

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Mr.
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to it by members of the Council
already deposited has been printed and will be sent to m
Council, and a card catalogue prepared under Dr Leech's direction is placed with the collection in the committee room.

On the motion of Dr. MACALISTER, seconded by Dr. LOMBE ATTHILL, this report was received, entered on the minutes, and adopted, and the Council recorded cordial thanks to Dr. Leech, Mr. Bryant, Mr. Ekin, and Mr. Walter Hills for the important contributions they had secured for the *Pharmacopœia Library*.

The Council adjourned.

THURSDAY, MAY 31ST.

The Council met again to-day, Sir WILLIAM TURNER being in the chair.

The Council and the English Royal Colleges.

On the motion of Dr. MACALISTER the following report was received and entered on the minutes, viz.:—

REPORT BY THE
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with reference to
students, which communications
of the President.

"The licensing bodies should
and girls were not intended
institutions at which the first of
the Council should

this manner of dealing
to objection"

The regulation, which came into force on Jan. 1st, 1900, read as

he has passed a pre-
Medical Council and
school of medicine or
licensing bodies and

of the Committee of Management has now been adopted by the Royal Colleges and constitutes their answer to the Council.

Three questions appear to arise for the consideration of the

the powers of the Council
regulations under which a
preliminary

school education should be
curriculum is entered upon.
uestion is the simplest prac-
erefore recommend that the

the committee recommend
viser be obtained before the
next session of the Council.

III.—With regard to the
which have been received by
cannot be dealt with by hi
mittee recommend that they
Committee as exceptional cases to be dealt with on their individual merits.

Dr. MACALISTER, in moving the adoption of the first recommendation of the co
memorandum prepared
received. They were mar
be circulated among the members of the Council so far as they would go. He understood that the memorandum had been prepared for the information of the Colleges. Reference was made to a legal opinion obtained by the Colleges, but the legal opinion was not given, and therefore as a member of this Council he could not state what line it took.

Mr. HORSLEY asked whether it would not be well to defer

should not have a copy of the memorandum given to him now.

Mr. HORSLEY declined to vote upon the question before he had had an adequate opportunity of studying the memorandum.

Dr. MACALISTER, after explaining that it was only yesterday he obtained permission to circulate the memorandum, said that practically the memorandum decided the question which had to be discussed by the Council. The Royal Colleges had taken up the position apparently that the Council had no legal right to lay down such conditions as they had laid down for the registration of medical students. By doing so they confused the issue. The registration of students was a matter for this Council. With regard to the
must have gone th
bodies, that was a
had no legal powe
the sense in which the word was used by the Royal Colleges. If they (the Council) were dissatisfied with the actual course of study which the licensing bodies had prescribed and required they could represent the matter to the Privy Council, and that was the limit of their control over the actual course of study pursued by any of the licensing bodies. He asked the Council to distinguish clearly between the two things—the registration of students and the course of study. The whole argument of the Royal Colleges was addressed to the second of these, and the Council had to address itself to the first. The Council asked of students that they
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of these things.
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sufficient pre-
medical studies.
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ey had pointed
ss six months
of their period of medical study in higher elementary schools they were to this extent diminishing the medical curriculum; the Council had long protested against what might be called half-timers in respect of medical study. The Students Register was the creation of this Council, and he for one held that they had a right to state what were the conditions for entering a man's name upon it. If the Council still took the view that medical half-timers were not to be admitted to the Students Register then they must adhere to the conditions they had laid down—it was the only way to stop the growth of the practice. The Council did not dictate what conditions the Colleges should accept, but they said what conditions they (the Council) should accept. All the bodies except the two Royal Colleges in England had accepted the

regulations of the Council as they stood. Many of them declined to recognise this elementary or public school medical education at all. They protested very strongly against it being recognised by this Council and he thought they had a right so to protest. Yet if the Council accepted the suggestion of the Royal Colleges and put everyone on the Register whom they desired to be put on the other bodies would be so far coerced and controlled. The Royal Colleges therefore asked not only to control the Council but also to control all the other licensing authorities. That was a position which he thought the Council ought strenuously to resist. The Students Register was not a statutory obligation upon the Council. It was a creation of the Council—a piece of mechanism for carrying out the purposes of the Act. It was not statutory but it was not *ultra vires* and it was not illegal.

Dr. PAYNE, seconding the first recommendation, defended the regulations of the Council and spoke of the system of the Royal Colleges as bad in its immediate results and bad in its tendencies.

Sir HUGH BEEVOR expressed the opinion that an incentive to a boy to occupy his last school year with medical study would be a bad thing for education.

Sir PHILIP SMYLY said that this subject was first brought to the notice of the Council by the Irish College of Surgeons who complained that the period of professional study was being cut down from five to four years. The question here was a question of competition downwards. It was also a pecuniary question, because parents were anxious to know where they could get the cheapest education for their sons. Mr. Bryant had told them that they had required the preliminary subjects to be taken before the five years began and they had stopped it because the Royal Colleges found it would not pay.

Dr. PETTIGREW said he regretted exceedingly that the Royal Colleges had put themselves in this position, which he considered an entirely false one. The effect of the action of the Council had been to screw up the schools to give better education, and it would, in his opinion, be unfair to those schools if this Council recognised secondary education.

Sir CHRISTOPHER NIXON expressed his concurrence in the recommendation of the committee. The Royal Colleges maintained, he said, that the Council were alone an administrative body, that they had no constructive or legislative powers, and that they had no right to make rules or regulations or any form of requirement. In other words, they held that the Council had all along been acting upon a false assumption of authority. In such circumstances he saw nothing for it but to follow the recommendations of the committee and take the opinion of their legal advisers. As for the representatives of the two Colleges he did not think their action was perfectly consistent. While they denied the right of the Council to interfere in this matter they claimed for the Council the right to inspect, not only the final examinations of the Apothecaries' Hall of Dublin, but also the earlier examinations of that body.

Mr. BRYANT said he did not propose now to discuss the report of the committee. No doubt it was a most interesting document and drawn up with a view to support a certain resolution of the Council. He felt that the Council could not be in the right position to come to a proper decision on the matter until they had had an opportunity of studying the memorandum of the Royal Colleges. In this memorandum the case of the Royal Colleges was stated. He was sorry the document had not been printed as an appendix to the report. The committee were supplied with copies and more copies could easily have been furnished for the other members of the Council. In the peculiar circumstances of the situation he moved the adjournment of the debate until the November session.

Dr. MCVAIL objected to this. This question affected all the bodies throughout the country and adjournment only meant that the two Royal Colleges in England were to go on for another six months in the way they had been doing. If the Council were going to play with this question he saw no reason why the other bodies should not follow the example of the English Colleges.

Mr. BROWN thought the Council should have both sides clearly before them before they decided this important question.

Mr. HORSLEY said that adjournment of the debate would not impair the position which the Council almost unanimously took up last session.

Sir WILLIAM GAIRDNER said he had no objection to these preliminary subjects being taught in schools so long as there was no interference with the medical curriculum.

The motion for the adjournment of the debate was then put and agreed to.

Mr. BRYANT explained that he had got up several times during the debate to move the adjournment, but had not had an opportunity of speaking.

Mr. HORSLEY asked whether the Royal College of Physicians of London would furnish the Council with the opinion of their standing counsel.

Sir DYCE DUCKWORTH said he would consult the College upon that point. For himself he thought the memorandum gave all the information that was necessary.

The PRESIDENT said that if the Council would give him leave he would ask Mr. Muir Mackenzie to state his opinion on the whole question. He thought that it would be a good thing for Mr. Muir Mackenzie to see the legal opinion which had been given to the Royal Colleges and such of the other documents as might be necessary.

Dr. MCVAIL: Very good.

Dr. MACALISTER moved that the memorandum of the two Colleges be entered in the minutes as an appendix to the report of the Education Committee.

Mr. BRYANT said he had no objection to this being done.

The motion was agreed to by the Council.

On the suggestion of Dr. MACALISTER the third recommendation of the committee was agreed to. In this connexion Dr. MACALISTER gave the assurance that no disputed questions would be raised.

The University of Birmingham.

On the recommendation of the Education Committee the proposed Matriculation Examination of the University of Birmingham was added to the list of recognised Preliminary Examinations.

Medical Act for Jersey.

The Education Committee presented a report with comments on an Act passed this year by the states of Jersey dealing with the practice of medicine and surgery in that island. The President was requested to forward the comments to the Lord President of the Privy Council.

Restorations to the Dentists Register.

The Executive Committee reported that the prescribed conditions in each case having been duly fulfilled the names of the under-mentioned persons had been restored to the Dentists Register, from which they had been erased in conformity with the provisions of Section 12 of the Dentists Act:—Herbert George Blackmore, Hamersley Campbell, Victor Massey-Crosse, William James O'Hara, and William Henry Smith.

The Society of Apothecaries Title.

Mr. BRYANT presented a report from the special committee appointed to consider letters from Mr. James R. Upton, clerk to the Society of Apothecaries of London, on the subject of the use of the titles physician and surgeon. The committee reported that—

> They are not prepared to recommend that the funds of the General Council should be employed to guarantee, in conjunction with the Society of Apothecaries, the expenses of the plaintiff and defendant respectively in a test case to determine, by the Court of Appeal or the House of Lords, whether a Licentiate of the Society of Apothecaries is entitled to describe himself as physician or surgeon.

Seconded by Mr. HORSLEY, Mr. BRYANT moved that the report be received and entered on the minutes and that the recommendation contained in it be adopted.

Sir HUGH BEEVOR remarked that the Society of Apothecaries would have been pleased if this question could have been taken on the higher plane of the General Medical Council assisting in obtaining a decision, but in this instance they would be content to take their own course.

The motion was passed.

The Pharmacopœia.

The Council ordered strangers to withdraw so that they might receive *in camerâ* an opinion by the Council's legal adviser on the question of the copyright of the British Pharmacopœia.

Appointment of Solicitor.

The Council also sat *in camerâ* to receive a report from the Executive Committee in regard to the appointment of a standing solicitor to the Council in the room of Mr. F. W. Farrer, resigned. They appointed Mr. W. H. Winterbotham, official solicitor to the Supreme Court.

Acknowledgment of Mr. Farrer's Services.

On the motion of Sir DYCE DUCKWORTH, seconded by Mr. BRYANT, the following resolution was agreed to:—

The Council desires to record its warm appreciation of the services rendered to it for so many years by Mr. F. W. Farrer, in his capacity as standing solicitor and to express its regret that the state of his health no longer permits him to assist the Council.

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ncil that under the
eral registrar was an
Mr. H. W. Allen till
01.

Appointment of Committees.

The Council's committees were re-arranged as follows:—

Executive Committee.—Sir Dyce Duckworth, Mr. Bryant, Dr. MacAlister, Dr. Glover,
Gairdner, Dr. Lombe Atthi
William Turner, the Presid
member.

Penal
Glover,
Nixon,

Exam
English
and Mr. Teale; nominated by the Scottish Branch Council: Dr. Heron Watson, Dr. Pettigrew, and Dr. McVail; nominated by the Irish Branch Council: Sir Philip Smyly, Sir William Thomson, and Dr. Little.

Education Committee.—Members nominated by the English Branch Council: Dr. MacAlister, Dr. Glover, and Dr. Payne; nominated by the Scottish Branch Council: Sir John Batty Tuke, Sir William Gairdner, and Dr. Reid; nominated by the Irish Branch Council: Sir Christopher Nixon, Sir William Thomson, and Dr. Bennett.

nominated by the
Mr. Teale, and Dr.
h Branch Council:
Dr. Bruce, Dr. McVail, and Dr. Hector Cameron; nominated by the Irish Branch Council: Sir Philip Smyly, Dr. Bennett, and Mr. Tichborne.

Pharmacopœia Committee.—Dr. Leech, Sir Dyce Duckworth, Dr. Lombe Atthill, Dr. MacAlister, Sir John Batty Tuke, Mr. Tichborne, Dr. Payne, and Dr. McVail.

Dental Committee.—Sir William Turner, Sir Dyce Duckworth, Dr. Heron Watson, Mr. Tomes, and Sir Philip Smyly.

Dental Education and Examination Committee.—Mr. Bryant, Dr. Reid, Mr. Brown, Sir Philip Smyly, Dr. Hector Cameron, and Mr. Tomes.

Students Registration Committee.—Sir Dyce Duckworth, Dr. Cameron, Dr. MacAlister, Sir Batty Tuke, and Sir

1, Mr. Bryant,

as scrutineers
e and the Penal

The Finances of the Council.

Mr. BRYANT submitte
mittee on income and
comparison with former y

there is a deficit of £261 13s. 6d. This is due to the fact that for the year the solicitor's account for law expenses has been included as a liability for the year in which it was incurred, and therefore two years' law expenses are included in one year, which will not occur again. Had it not been for this there would have been a surplus of £350 4s.

current year.

The items of increased expenditure will be found on Table B, and amongst these may be specified the following:—

(a) An increase of £115 5s. 6d. for various committees' fees and expenses, chiefly caused by the fees, £94 10s., paid to the experts who assisted the Education Committee. Omitting this item, which, however will appear again this year, the increase would have been only £18s. 16s. 6d.

(b) An increase of £135 15s. 7d. in miscellaneous printing, which is more than balanced by the decrease in General Council and Executive Committee Printing.

(c) An increase of £752 18s. for law expenses, which is explained above. Had the liability for 1899 been, as usual, omitted, the increase would have been £149 13s. 6d.

(d) An increase of £43 10s. for interest on the mortgage, due to the amount spent on the recent alterations.

(e) An increase of £215 12s. 6d. for the sinking fund, an item which will occur for 49 more years.

d Executive Committee,

tion fees which is the chief source of income

Council up to March 31st,
interest on mortgage, £696
£215 12s. 6d., the total of the
the rent which the Council
deducted £250, the rent received for the flat
net total £661 16s 6d. In 43 years from now the Council will be living rent free.

With regard
drawn up, show
hand. The net
as in future th
that as the Council has now
shall no longer be treated as income, but placed to the credit of the Pharmacopœia account, in order, as far as possible, to avoid drawing on the funds of the Branch Councils when a new Pharmacopœia is in

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Mr. BRYANT moved that this report be received, entered on the minutes, and adopted.

Sir DYCE DUCKWORTH seconded the motion.

Mr. HONSELLY said that as the Council's resolution to grant £500 to the Irish Branch Council had been published in the minutes he begged to repeat to the Council what he had said in the committee—namely, that he entered his public protest against this expenditure. With regard to the report of the Finance Committee he did not propose any amendment, but it was scarcely possible to read a more awful report—a more terrifying report—because it showed that the Council's finances were in a hopeless state of confusion. At the present moment the Council did not know what their exact financial position was. That financial position

seemed to him to be without legal basis, for the Council were spending capital to the amount of over £600 a year. One of the tables accompanying the report showed that while the income in late years had remained stationary the expenditure had increased, the law expenditure as much as 108 per cent. during last year. With such . . . could this be called financ . . . by moving in accordance with a notice standing in his name on the paper.

The PRESIDENT pointed out that as the proposed motion was not in the nature of an amendment to the motion for the adoption of the report he thought the latter should be put to the Council before any new proposal was made.

The motion was then unanimously passed.

Mr. HORSLEY moved:—

That the whole question of the medical and dental funds of the General Medical Council and of the Branch Councils is again referred to the Finance Committee, together with the Trustees, whether members of the Council or not, and to report to the next session of the Council.

He said that the Council last session received alarming intelligence in regard to the finances and appointed a committee, such as he had mentioned in his motion, in order that the whole finance of th . . . be considered and a report . . . n. He did not know why that committee had not carried out the instructions given to it, but had contented itself by granting £500 to the Irish Branch Council as a provisional measure. All he now asked was the re-appointment of the committee and that it should carry out its instructions. They could not discuss the matter unless they had a full detailed report from the committee and he hoped that would be forthcoming in November.

The PRESIDENT thought the Council should have a little more guidance. The motion was of the very widest kind. The whole medical and dental funds—their investments, capital, and income, and the various sources from which the income was derived—were brought within its scope, and he should like the treasurers to speak on the matter. If he had to carry out this proposal he should be slightly puzzled as to how to proceed.

Dr. BRUCE, who seconded the motion, said that the Council ought to know whether their financial position was improving or the opposite.

Mr. BRYANT, chairman of the Finance Committee, reminded the Council that their accounts were of necessity drawn up in a certain definite way because they were told by the Acts of Parliament how to divide their expenditure and show the different portions which were put out to the different Branches. Accordingly they had not a free hand. It was not a question of trouble at all, but he could not quite see how the Finance Committee could present more lucid statements than they did in present circumstances. However they might try to do better and make the accounts more clear, he was afraid that they should never succeed. They were certainly spending more than they received, but happily they had something to fall back upon, and the extra expenditure they had recently been incurring would, he thought, very shortly cease.

Dr. MACALISTER said that it was very difficult to know what particular questions had to be answered. He, also, should like a little more light thrown upon the meaning of the proposal and the matters that it was desired should be investigated. He thought that inquiry into the question what should be done with the Irish Branch Council was all that the committee had been asked to do. Whatever was wanted should be expressed.

Sir DYCE DUCKWORTH said it was quite clear that members of the Council did not study the tables of accounts. Some of the points which had been referred to in the discussion were set out on one of these tables, that giving a comparative statement of income and expenditure for the last three years. He thought it was forgotten that all the expenditure which had been incurred was expenditure which the Council had sanctioned. Of course, they had been spending a great deal more than in the former years when they sat in confined and insanitary premises. Then they were spending more on prosecutions, and legal expenses must and did mount up; but, after all, these sums of money represented very great activity, and if the Council were to do their duty their expenditure was Mr. HORSLEY to decrease. No doubt that for fitting up the not impair ended premises would come to an end, and they mously took ly to have any such outlay for a while again. of course were extremely complicated, but he did not see what was to be done under the terms of the motion. . . . put the committee would do their . . . in to the intelligence of those who wished to be informed.

Mr. HORSLEY said that he could not . . . ment at the speeches which he had just . . . been no attempt whatever on the part . . . dissipate the idea that the Council were in a financially unsound state. They could not dissipate that, for it came out in their own report. As to making the position better, there was no suggestion whatever, while there was not a particle of information afforded as to the exact position. What was wanted was a full statement of that position.

After some further discussion,

Dr. GLOVER hoped that the Financial Committee would accept the motion and accompany it with some suggestion for the adjustment of the income and expenditure. There was . . . and if a suggestion was furnished by th . . . orm a basis for such a discussion as Mr. Horsley wanted. No member of the Finance Committee would argue that the present position was a satisfactory one, and therefore he supported the motion.

The PRESIDENT, while not objecting to the motion, remarked that he considered it was too general and he would like . . . ite that the committee would know what . . . upon. He was very anxious to arrive a . . . they could unanimously agree upon.

With the approval of his seconder Mr. HORSLEY consented to his motion being unanimously passed in the following terms:—

That the special . . . equested to consider and report on (1) the . . . General Council and its branches as regards . . . the relation of the income and expenditure of the Council and its branches for the last ten years; and (3) the measures that appear to be desirable to place the finances on a satisfactory basis.

The session terminated with a vote of thanks to Sir William Turner, which was moved by Dr. GLOVER, seconded by Mr. BRYANT, and acknowledged.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen having passed the necessary examinations have been admitted Members of the College and have received their Diplomas:—

Rudolph . . .
Hospita . . .
Bertran . . .
Shaw Arbuthnot, New York, Edinburgh, and St. Bartholo- . . . ham Arthur Bailey, University College . . . Liverpool; Eric George Battiscombe, . . . arles Thomas Baxter, Middlesex Hospital, . . . Bell, University College Hospital; Guy . . . Hospital; Herbert Blackmore and Charles . . . Owens College and Royal Infirmary, . . . Arthur Hastings Bostock, St. Bartholomew's Hospital, John Bradford and Arthur Edmund Carver, Cambridge University and St George's Hospital, Charles Henry Bullen, Mason University College and Queen's and General Hospitals, Birmingham, Hewlett Breton, John Beresford Christian, and Sidney d'Alton Corbett, St. George's Hospital; John Brocas Chambers Brockwell and Edward Cohen, Guy's Hospital; Thomas Burfield, Cambridge University and St. Thomas's Hospital; Edward Revely Clarke, Cambridge University and St. Mary's Hospital; Arthur Cubley, General Infirmary, Sheffield, and University College . . .
Ekins, . . .
Charles . . .
John M . . .
Dougla . . .
and Sa . . .
St. Cla . . .
Hospital; Charles Hy. Fennell, Oxford University and Charing-cross Hospital; Charles York Flewitt and Horace Wilberforce Freer, Mason College and Queen's and General Hospitals, Birmingham; Matthias Frederick Foulds, Owens College and Royal Infirmary, Manchester, Hugh Watson Fox and Edwin Wallace Goble, Guy's Hospital, Walter Burgess Fry, St. Thomas's Hospital; Shridhar Bheekaji Gadgil, Universities of Bombay and Calcutta and University College Hospital, Joseph Marcus Garman, London Hospital, Francisco Jose Gomez, King's College Hospital; William Ernest Gribbell, St. Mary's Hospital, Leslie Haden Guest, Owens College and Royal Infirmary, Manchester, and London Hospital; Ernest Cuthiffe Hadley, Mason University College and Queen's and General Hospitals, Birmingham, Donald George Hall, Cambridge and Edinburgh Universities; James Eder Harper, Durham, Birmingham, Guy's, London, and Westminster Hospitals; Sydney George Harrison, Charing-cross Hospital, Arthur Charles Haslam, St. Thomas's Hospital; Colin Sadler Hawes, Francis

Royal Infirmary, Newcastle-on-Tyne, Richard John Morri
Queen's
Robert
Oxford
Neave,
Nitch,
College
and Ed
and Q
Panckri
Bruce
Reaney
College
Hospita
Univer
Owens
Hospit
mew's
John
Selous,
College
Simpso
Hospit
Londor
Univer
John
Taylor,
and H
Upwar
Peter
White,
Colleg
Univer
University College and Royal Infirmary, Liverpool.

UNIVERSITY OF LONDON.—At the M.B. Examination held in May the following candidates were successful —

Hospital, Sydney
Douglas Turner, Guy's Hospital, and Lewis Augustus Walker, St Barth lmew's Hospital

ROYAL COLLEGE OF SURGEONS IN IRELAND.—At a meeting of the Fellows held on June 4th the following were elected for the ensuing year.—*President*: Mr. T. Myles. Vice-President: Mr L. H. Ormsby. Honorary Secretary: Sir Charles Cameron, C B. Council: Mr. A. H. Jacob, Sir Philip Smyly, Sir William Stokes, Mr. H. R. Swanzy, Mr. E. H. Bennett Sir Charles Cameron, C.B, Dr. A. Meldon, D.L, Mr C. B Ball, Mr R L. Swan Sir William Thomson, Mr. J B. Story, Mr. J. Lentaigne, Mr. A. Chance, Mr. J. J. Cranny, Mr. R. D. Purefoy, Mr. H. G. Sherlock, Mr. R. B. McCausland, Mr. Graves Stoker, and Mr. F. Conway Dwyer.

UNIVERSITY COLLEGE, BRISTOL.—A laboratory has been established in connexion with the bacteriological department in which the examination of all kinds of morbid material is undertaken for medical men. Arrangements have also been made for medical men and others personally to undertake experiments in the laboratory.

DEATH FROM THE STING OF A BEE.—Mr. Greenaway, "bee expert" to the Monmouthshire County Council, and his niece were visiting the stock of bees belonging to a clergyman near Chepstow on May 21st, when the young lady
half an hour
death resulted
and at the inqu

PRESENTATION TO A MEDICAL MAN.—Mr. David Thomas, F.R C S. Eng., L.R.C.P. Lond., of Manly, Sydney, New South Wales, prior to his leaving in January last for some months on account of ill-health, was presented with a testimonial and a purse containing 195 sovereigns to be expended in London on the purchase of a suitable gift the "people of Manly." He was also the recipient of oker's companion from his club patients.

THE CHARING-CROSS HOSPITAL EXHIBITS AT EARL'S COURT.—In connexion with the article on the Charing-cross Hospital Exhibits at Earl's Court which appeared in THE LANCET of
right to add a few words of
assistance rendered by Mr.
61, Old Broad street, E.C.,
hospital, who undertook the organisation and architectural arrangements of the exhibits.

A QUESTION OF VACCINATION.—At the Taunton police-court on May 26th a medical practitioner of the town was charged with having signed a certificate stating that a child was successfully vaccinated, such certificate being false. The board of guardians prosecuted and two of the district medical officers proved that the child was not successfully vaccinated. The defendant pleaded guilty and was fined £3 10*s*. He said that he had vaccinated the child but owing to illness could not see if the operation was successful and so he gave the certificate on the statement of the mother.

TH THE LATE MR. G J the president of the Roy g was held at the rooms of the society on Thursday afternoon, May 31st, to consider the question of a memorial of the late Mr. G. J. Symons, F.R.S., the distinguished meteorologist and founder of the British Rainfall Organisation It was resolved unanimously that the memorial should take the form of a gold medal,
Council of the
work in connex
appointed an
societies with which Mr. Symons was associated to take the necessary steps to raise a fund for that purpose. Contributions will be received by the assistant secretary, Mr. W. Marriott, 70, Victoria-street, Westminster.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ADAMS, A J B, L.R.C.P. M.R.C.S., has been appointed Clinical Assistant in the Special Department for Diseases of the Throat at St Thomas's Hospital.

ASH, THOMAS LINNINGTON, L.R.C.P. Edin., M.R.C.S. L.S.A., J.P., has been appointed a Member of the Examining Staff of the St. John's Ambulance Association.

ATKINS, SYDNEY BENEST, L.R.C.S. Irel., L.S.A. Lond., has been appointed Medical Officer of Health and Public Vaccinator for the North Lew District by the Okehampton (Devon) Board of Guardians.

BEALE, H. R., L.R.C.P., M.R.C.S., has been appointed House Physician to St. Thomas's Hospital.

BENNETT, F. T., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for the Ham and Coombe Sanitary Districts of the Kingston Union.

BERRY, T. P., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed Second Assistant Medical Officer of the St. Saviour's Infirmary, East Dulwich-grove, vice J. W. Pridmore, resigned.

BEVAN, A., L.R.C.P., M.R.C.S., has been appointed Senior Obstetric House Physician to St. Thomas's Hospital.

BLACK, G., L.R.C.P., M.R.C.S., has been appointed a Clinical Assistant in the Special Department for Diseases of the Skin at St. Thomas's Hospital.

BOURDAS, E. C., L.R.C.P., M.R.C.S., has been appointed House Surgeon to St. Thomas's Hospital.

CAVENAGH-MAINWARING, W. R., M.B., Ch.B. Adel., has been appointed Honorary Assistant Surgeon, also Honorary Joint Pathologist, of the Adelaide Hospital, South Australia.

COSTELLO, M. J. B., M.B., B.Ch. Irel., has been appointed Medical Officer for the Workhouse and Dispensary District of Glenamaddy.

COURT, E. P., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for the Sanitary District of Hambledon, Droxford Union, vice J. W. Jeram, resigned.

CUNNINGHAM, J. F., L.R.C.P., M.R.C.S., has been appointed Assistant House Surgeon to St. Thomas's Hospital.

DALLEY, W. C., M.R.C.S., has been re-appointed Medical Officer and Public Vaccinator for the Syston Sanitary District of the Barrow-upon-Soar Union.

DUDGEON, L. S., L.R.C.P., M.R.C.S., has been appointed House Physician to St. Thomas's Hospital.

EVE, F. C., B.A., M.B., B.C. Cantab., has been appointed House Physician to St. Thomas's Hospital.

GATES, E. A., L.R.C.P., M.R.C.S., has been appointed House Surgeon to St. Thomas's Hospital.

GILES, W. A., M.B., Ch.M. Edin., has been appointed Honorary Surgeon of the Adelaide Hospital, South Australia.

GIMSON, K. C., M.B., B.C. Camb., has been appointed Medical Officer *pro tem.* by the Witham Urban District Council.

HABBIJUM, E. T., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Second Sanitary District of the Parish of St. George-in-the-East, London, vice E. M. Thuresson, resigned.

HARWOOD, H. M., M.A., M.B., B.C. Cantab., has been appointed Assistant House Physician to St. Thomas's Hospital.

HAMILTON, A. A., M.B., Ch.B. Dubl., has been appointed Honorary Assistant Physician of the Adelaide Hospital, South Australia.

HAMILTON, J. A. G., M.B. Dubl., L.R.C.S. Edin., has been appointed Honorary Assistant Gynæcologist, Adelaide Hospital, South Australia.

HAWKINS, C. L., M.A., M.B., B.C. Cantab., L.R.C.P. M.R.C.S., has been appointed Assistant House Surgeon to St. Thomas's Hospital.

HAY, T. W., M.B., C.M. Glasg., has been appointed Medical Officer for the No. 5 Sanitary District of the Newcastle Union, vice T. Scotland.

HAYWARD, W. F., L.K.Q.C.P. Irel., M.R.C.S., has been appointed Honorary Physician of the Adelaide Hospital, South Australia.

HEDLEY, E. W., M.A., M.B., B.C. Cantab., has been appointed House Physician to St. Thomas's Hospital.

HOWLETT, B. F., L.R.C.P., M.R.C.S., has been appointed Junior Obstetric House Physician to St. Thomas's Hospital.

JAY, M. R. H., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Assistant Surgeon of the Adelaide Hospital, South Australia.

JONES, A. WEBB, L.R.C.P., M.R.C.S., has been appointed House Surgeon to St. Thomas's Hospital.

KELSON, W. H., M.D., B.S. Lond., F.R.C.S., has been appointed Honorary Surgeon in Charge of the Throat, Nose, and Ear Department, City Dispensary, London.

KING, J., L.R.C.P. Edin., M.R [illegible] Medical Officer of Health by the Bude an[illegible] Council.

KINLOCH, R. B., L.R.C.P., [illegible] Second House Physician to St. Thomas's Hospital [illegible] Bethnal

KNOWLES, BEATRICE, M.B., B.S. Lond., has [illegible] M.R.C.S., has been Assistant Medical Officer for the [illegible] Thomas's Hospital.

NITCH, C. A. R., L.R.C.P., [illegible] has been appointed a Clinical Assistant in the Special Department for Diseases of the Skin at St. Thomas's Hospital.

POMFRET, H. W., M.D. Vict., F.R.C.S. Eng., has been appointed Medical Officer for the Eighth Sanitary District of the Ashton-under-Lyne Union.

POULTON, B., M.D. Melb., M.R.C.S., has been appointed Honorary Surgeon of the Adelaide Hospital, South Australia.

PRIESTLEY, C. E., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Workhouse of the Thingoe Union, vice C. S. Kilner, resigned.

ROBERTS, J. LLOYD, M.D., B.S., B.A., B.Sc. Lond., F.R.C.S., has been appointed Honorary Physician to the Liverpool Stanley Hospital, vice R. J. Richardson.

SELOUS, C. F., L.R.C.P., M.R.C.S., has been appointed a Clinical Assistant in the Special Department for Diseases of the Throat at St. Thomas's Hospital.

SMITH, ALFRED CHARLES FESTING, L.R.C.P. & S. Edin., L.F.P.S. Glasg., Civil Surgeon, has been appointed *pro tem.* to the Medical Charge of Troops at Bull Point, Plymouth.

STACK, M. T., M.B., C.M. Glasg., has been appointed Medical Officer for the Wavertree Sanitary District of the West Derby Union, vice R. Wearing, deceased.

STREET, A. F., M.D. Camb., M.R.C.S., D.P.H., has been appointed Medical Officer for the Children's Home at Westgate-on-Sea.

SWIFT, H., M.D. Cantab., M.R.C.S., has been appointed Honorary Assistant Physician of the Adelaide Hospital, South Australia.

SYMONS, M. J., M.D., Ch.M. Edin., has been appointed Honorary Ophthalmologist of the Adelaide Hospital, South Australia.

TAKAKI, Y., L.R.C.P., M.R.C.S., has been appointed Assistant House Surgeon to St. Thomas's Hospital.

TOMLINSON, W. R., L.K.Q.C.P. Irel., L.R.C.S., has been re-appointed Medical Officer of the Moree Hospital, New South Wales.

UNSWORTH, N., L.R.C.P., M.R.C.S., has been appointed House Surgeon to St. Thomas's Hospital.

VERCO, J. C., M.D. Lond., F.R.C.S. Eng., has been appointed Honorary Physician of the Adelaide Hospital, South Australia.

WAY, E. W., M.B. Edin., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Gynæcologist to the Adelaide Hospital, South Australia.

WYCHE, E. M., L.R.C.P. Lond., M.R.C.S., D.P.H., has been appointed Medical Officer for the Haddenham Sanitary District of the Ely Union, vice B. H. Andrew, resigned.

Vacancies.

For further Information regarding each vacancy reference should made to the advertisement (see Index).

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL, Woodchurch-road, Birkenhead.—House Surgeon for twelve months. Salary £100 per annum, with board, residence, and laundry.

BIRMINGHAM CITY ASYLUM, Rubery-hill, Barnt-green, S.O., Worcestershire.—Senior Assistant Medical Officer.

BEDFORD COUNTY HOSPITAL.—Senior House Surgeon for one year. Salary £100, with apartments, board, and washing.

BOROUGH OF BOOTLE, HOSPITAL FOR INFECTIOUS DISEASES.—Resident Medical Superintendent, unmarried. Sa[illegible] board, washing, and apartments in the [illegible] be addressed to the Chairman of the Hospital [illegible] hall, Bootle.

BOROUGH HOSPITAL, Birkenhead.—Resident Junior House Surgeon. Salary £75 a year, with certain fees usually obtained.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House Surgeon. Salary £120 per annum, with rooms and attendance (not board).

CARLISLE DISPENSARY (not Provident).—Resident Surgeon, unmarried. Salary £150 per annum, with apartments (not board).

CARMARTHEN UNION.—Medical Officer and Public Vaccinator, to reside at Conwil, for the Conwil (a Welsh) District. Salary £60, with certain extra medical fees. Applications to the Clerk, 7, Hall street, Carmarthen.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Pathologist Tenable, subject to annual re-appointment, for not more than three years.

COUNTY ASYLUM, Whittingham, Lancashire.—Junior Assistant Medical Officer, unmarried. Salary commencing at £125 per annum increasing conditionally to £250, with furnished apartments, board attendance, and washing.

CORPORATION OF BIRMINGHAM—CITY HOSPITAL, Lodge-road.—Assistant Medical Officer. Salary £120 per annum, with board, residence, &c.

COTSWOLD SANATORIUM FOR THE OPEN-AIR TREATMENT OF TUBERCULOSIS.—Assistant Medical Officer. Salary to commence at £120 per annum and all found. Apply to Dr. S. T. Pruen, Sherborn Lodge, Cheltenham.

COUNTY ASYLUM, Rainhill, near Liverpool.—Assistant Medical Officer unmarried. Salary commences at £125 per annum, with prospect of increase to £250, with furnished apartments, board, attendance and washing.

CRAIGLEITH POORHOUSE AND HOSPITAL, Edinburgh.—Medical Officer resident. Salary £100 per annum, with board and apartments. Apply to the Clerk, Parish Council Chambers, Castle-terrace Edinburgh.

DENBIGHSHIRE INFIRMARY, Denbigh.—House Surgeon for 12 months Salary £80, with board, residence, and washing.

DEVONSHIRE HOSPITAL, Buxton, Derbyshire.—House Surgeon and Assistant House Surgeon for twelve months. Salary of House [illegible] apartments, board, and washing. Assistant House.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY, Dumfries.—House Surgeon. Salary £50 per annum, with board and washing.

GENERAL HOSPITAL, Birmingham.—Pathologist, subject to annual re-election for five years. Salary £100 per annum, with board and residence.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, London.—House Physician for six months. Salary at the rate of £60 per annum, and board, lodging, and washing in the hospital. Also Junior House Physician, for six months. Salary at the rate of £30 per annum, and board, lodging, and washing in the hospital.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians for six months, with an honorarium of £25.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, Bloomsbury, London.—House Surgeon for six months, unmarried. Salary £20, with board and residence in the hospital. Also House Physician for six months, unmarried. Salary £20, with board and residence in the hospital.

KENSINGTON DISPENSARY.—Resident Medical Officer, unmarried, Salary £125 per annum, with furnished apartments, coals, gas, and attendance. Applications to the Honorary Secretary, 56, Bedford-gardens, Campden-hill, Kensington, W.

LIVERPOOL STANLEY HOSPITAL.—Junior House Surgeon. Salary £70, with board, lodging, and washing.

LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY, Loughborough.—Resident House Surgeon. Salary £100 per annum, with furnished rooms, attendance, and board.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Junior Medical Officer for six months. Salary £60 per annum, with board, attendance, and washing.

NORFOLK AND NORWICH HOSPITAL, Norwich.—Assistant House Surgeon for six months. Honorarium £20, and board, lodging, and washing.

NORTHAMPTON GENERAL INFIRMARY.—House Surgeon, unmarried. Salary £125 per annum, with furnished apartments, board, attendance, and washing. Also Assistant to the House Surgeon for six months. Board, lodging, and washing provided, and an honorarium of £25 given.

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Fulham Palace-road, W., for six months. Salary £60 per annum, with board, furnished apartments, and washing.

QUEEN'S HOSPITAL, Birmingham.—House Physician and House Surgeon for twelve months. Salary £50 per annum, with board, lodging, and washing.

ROY

ROY.

board, lodging, and wash-

married.

OSPITAL),

House Surgeon for six months. Salary at the rate of £40 per annum, with board and

honorary Anæsthetist

Resident Surgeon.
eet, S.W.
ildren's Home, "The
er annum, subject to
he Guardians, Union

STROUD GENERAL HOSPITAL.—House Surgeon. Salary £60 per annum, with board, lodging, and washing.

SWANSEA GENERAL AND EYE HOSPITAL.—House Physician for twelve months. Salary £50 per annum, with board, apartment, washing, and attendance.

TEIGNMOUTH HOSPITAL, South Devon.—House Surgeon. Salary £50 a year, with board, lodging, and washing. £6 per annum, given in

GENERAL HOSPITAL.—House
oard, lodging, and washing.
Officer, unmarried. Salary
attendance.

Births, Marriages, and Deaths.

BIRTHS.

fe of Harold
short time.
ife of Harry

Westcombe-
a daughter,
the wife of

Acquaintance District, Marylebone, ...

MARRIAGES.

rinity, Bath, Albert Baker
of the late Henry Hance, of

lles's Cathedral, Edinburgh,
Navy, Chatham Dockyard,
late Otto T. Leyde, R.S.A.,

the parish church, Solihull,
Logan, M.R.C.S., of Ashby-

Chamberlain, of Leamington

SESSIONS—COLLINSON.—On June
Halifax, Frederick Leonard
Lond, of Ryesham, Worc., to
Collinson, of Halifax, Yorks.

SWAYNE—LYON.—On June 2nd,
Griffiths Swayne, M.A., M.B
Rita Ellen, widow of G. K.
of Warren Hastings D'Oyly.

WADE—GREGORY.—On June 2n
Lomards-on-Sea, Charles H
of Royal-terrace, Southend-on
the late Rev. A. T. Gregory, formerly rector of Trusham.

DEATHS.

FITZ-PATRICK.—On May 31st, at Sussex-gardens, Hyde Park, Thomas Fitz-Patrick, M.D., M.R.C.P.

MOGER.—About May 30th, suddenly, Frederick Slade Moger, M.R.C.S., L.R.C.P., of Finchley, aged 63 years.

STAMPER.—On May 22nd, at Pembroke-street, Pembroke Dock, South Wales, James Fenton Stamper, M.D., J.P., aged 72 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

WHERE MEDICAL ETIQUETTE IS IGNORED.

THE Bridgend and Cowbridge Board of Guardians have evidently *no great passion for medical etiquette*. The union covers a large area with two distinct classes of population. On the eastern side is the agricultural section, whilst the other district is maintained chiefly by collieries. They have a number of medical officers at various places, each having a prescribed district. At Maesteg Dr. John Davies is the medical officer for the union and his district adjoins that of the Tondu and Aberkenfig, where Dr. Jones acts as the medical officer. Dr. Jones is also the "works doctor" for the neighbouring

communication with each other. Some time ago a man employed at North's Collieries, Tondu, was injured. He was attended upon by Dr. Jones as the works medical officer. He resided at the extreme end of Dr. Davies's parish district. A protracted illness necessitated the injured man applying for the pittance doled out by the administrators of relief. He had a daughter at home whom the guardians in their wisdom thought should be in service, and as the case, so far as the guardians were concerned, was in Dr. Davies's district they instructed him to inquire whether she was not fit to earn her own living. Dr. Davies, knowing that Dr. Jones was attending, sent the inquiry on to him and he replied that she was not fit for service. When this report was read out at the meeting of the guardians a few weeks ago Dr. Davies was asked to explain why he had not made his own report on the case and was also told that he must attend a meeting of the guardians. Dr. Davies gave his reason for not attending personally on the case to the effect that as Dr. Jones was then attending at the house such a visit was hardly necessary. It was explained by one of the guardians that there was an arrangement between the two medical officers. Dr. Davies was also unable to be present at the meeting. This, however, did not appease the more precise members of the guardians and by a resolution of the members Dr. Davies was informed that if he had no better explanation to give the matter would be reported to the Local Government Board, and the chairman added to this that Dr. Davies must attend the first possible meeting of the board. This interview took place recently and the medical officer explained that he could not examine the girl himself knowing she was under treatment by Dr. Jones. Such a course would be highly improper for any medical man to do. The chairman of the board (Archdeacon Edmondes), however, did not agree with this and pointed out that whenever an order was sent to an officer of the board they expected him to comply with that order and not take the version of another medical man. Dr. Davies pointed out the difficulty which would arise and the friction which

in the same light by the board and although they accepted the medical officer's explanation in this case they gave him clearly to understand that the orders of the board were inexorable and they neither regarded the etiquette nor friction of the profession, but that their instructions must be rigidly observed.

"WORD BLINDNESS."

To the Editors of THE LANCET.

SIRS,—Could not raised type, or that used by the blind, be employed by sufferers from this deficiency? Might not experiments on these lines prove instructive? Possibly by these means the patients might be so much assisted as ultimately to learn to read in the ordinary way. For information as to whether *this* has *ever* been attempted I should be much obliged.

I am, Sirs, yours faithfully,

Upper Bedford place, W.C., June 2nd, 1900. C. G. G. MERITATIS.

THE CONCILIATION BOARD.

To the Editors of THE LANCET.

SIRS,—For the last few years letters have constantly appeared in the medical journals touching upon the question of club doctors and their pay. It is now, I believe, proposed that a conciliation board shall be constituted for the purpose of discussing the matter in conjunction with delegates from various friendly societies. What good will it do? Indeed, I would ask if there are not gentlemen upon the Council of the British Medical Association who themselves take club patients on the lowest possible terms of remuneration. If this is the case (and it certainly is in one instance) how can we wonder that man who do not hold such an exalted (?) position in the medical world should do the same? No, Sirs, the remedy is with the club doctor himself. Let him refuse to accept club patients on the terms dictated by the clubs and things, I am inclined to think, would soon be altered, but so long as club doctors take office in clubs as treasurers, committeemen, &c., and attend their annual dinners and

make speeches in which they express their pleasure at being allowed to hold the position of surgeon and generally lead the club members to think what a blessing such a position is, so long will the clubs pay what they do and at the same time be under the impression that such a payment is adequate. Last Christmas, owing to the amount of work done in the previous year, and also owing to the fact that farmers and their sons were members, I resigned two clubs with the result that most of the members, if not all, are now my private patients, and I have received from them in cash this year more than I should have received for the whole year had I still continued to doctor for the two clubs.

I am, Sirs, yours faithfully,

May 29th, 1900. X.Y.Z.

"THE CASE OF THE LATE MR. ALFRED BOURNE."

To the Editors of THE LANCET.

SIRS,—I am requested to thank you for the insertion in THE LANCET of May 26th (p. 1566) of the list of subscriptions to the above fund. I enclose a second list, and we shall be very grateful if we may again trespass on your valuable space and kindness.

We are, Sirs, yours faithfully,
G. YEOMAN,
pp. J. A. Hutchinson, M.D. Durh., and others.

Northallerton, May 30th, 1900.

	£.	s.	d.
Dr. P. Frank, London ...	3	3	0
Mr. Boville, Osmotherley	2	2	0
Mr. T. Yeoman, Osmotherley	2	2	0
Mr. T. Horsfall, Bedale ..	1	1	0
Mr. Walker Stead, Northallerton	1	1	0
Mr. R. D. Unthank, Appleton-Wiske	1	1	0
Dr. W. M. Yeoman, Stokesley...	1	1	0
Mrs. J. Yeoman, Northallerton	1	1	0
Mr. W. Brown, Northallerton	1	0	0
Mr. J. Vasey, Northallerton	1	0	0
Mr. C. Alexander, Northallerton	10	6	
Mr. J. W. Roberts, Knayton	10	0	
Miss A. Yeoman, Northallerton	10	0	
Mr. N. R. Wilson, Northallerton	5	0	
"Dat"	5	0	
"Anon."	5	0	
Mr. S. Jackson, Northallerton	5	0	
Mr. C Peacock, Northallerton	5	0	
Mr. H. Fairburn, Northallerton	5	0	
Mr. H. Ayre, Northallerton	5	0	

INTOLERANCE.

To the Editors of THE LANCET.

SIRS,—I shall be glad if you will give me your opinion and advice on the following case and if you will kindly insert my letter in your correspondence columns. A is the only qualified man residing in a certain village where there are a number of works, collieries, &c. He is in attendance for a considerable time on all of the employés. A section of the population belongs to a certain religious denomination of which A is not a member. They determine to have a man of their own creed and with this object introduce a qualified man B. Some of the leading officials are co-religionists of B's and they use all their influence to substitute B in place of A as medical attendant to the men employed in the collieries, &c, to which they (the officials) belong. Many of the men object to employ the newcomer as they have every confidence in A, and, also, they naturally argue that every man should be at liberty to employ the professional services of whomsoever he chooses. The adherents of A hold several meetings and requests are forwarded to the different works that A shall continue to receive the money periodically paid in for medical attendance on the men. The officials, friends of B, offer the men an ultimatum—that they shall transfer their subscriptions to B or else take a month's notice to leave their employment. Most of the men submit to the wishes of the officials, but many privately engage the services of A, refusing to be attended by B, to whom, nevertheless, they are still compelled to pay their subscriptions. Those who refuse to pay him are discharged from their employment. Having placed all the circumstances of the case before you I will now ask you, Sirs, firstly, is not such coercive action on the officials' part contrary to English law; is it not, in fact, a violation of the terms of the Truck Act? and, secondly, if such conduct is illegal to whom should complaint be made—the Board of Trade or the General Medical Council?

I am, Sirs, yours faithfully,

June 5th, 1900. VIGILANS.

* * The Truck Act prevents the practice of paying the wages of workmen in goods instead of money. We doubt if the action of the official is a violation of this Act, but only a lawyer can express an opinion. If legal confirmation of the view that the Truck Act has been violated is forthcoming the plaintiffs would have to be the workmen.—ED. L.

"DRUG HABITS."

To the Editors of THE LANCET.

SIRS,—A correspondent in THE LANCET of June 2nd, p. 1634, writes on the above subject: "Now the proper and humane treatment is to give the drug in gradually diminishing doses and not to totally withdraw it", and, again, "The medical man should think of the suffering and perhaps death that may follow its sudden withdrawal." This teaching seems to be a continuation of the old teaching of the late Dr. Watson who, writing of alcohol, says: "Give him a hair of the dog that bit him." The late Sir Andrew Clark used to teach that "alcohol and all drugs when they were taken in excess were all alike—poisons," and that they should be entirely and immediately withdrawn. I have acted on this advice for over 20 years and have never yet had reason to regret my action. Still, the sad fact remains that many still follow the old routine and, what is more, they believe in it, and certainly in alcoholic cases frequently take away the only chance of curing their patients. The view of your experienced readers would be very interesting.

I am, Sirs, yours faithfully,

Putney, S.W., June 5th, 1900. A. S. MORTON, M.D. Durh.

WE have a paper marked for insertion detailing a fatality to a woman in a laundry. Will the author kindly send his name and address, which have not been affixed to his manuscript?

Reformer.—The person is not a medical man, but in the present state of the Medical Acts no penalty attaches to his giving medical aid unless he pretends to be a medical man, and even then a prosecution might not result in a conviction. As he is not a member of the medical profession he of course cannot be prevented by the General Medical Council from advertising.

W. M.—The assistant should clearly not make such statements.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 7th, 1900.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation Vacuo.	Maximum Temp Shade	Min Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
June 1	30·14	N.	...	64	55	49	49	50	Raining
" 2	30·03	N.E.	0·10	102	64	49	52	53	Overcast
" 3	29·95	N.E.	...	107	68	52	57	60	Fine
" 4	29·88	N.E.	...	124	79	53	57	63	Hazy
" 5	29·95	N.E.	...	110	64	49	50	54	Cloudy
" 6	29·96	N.W.	...	111	77	50	51	56	Hazy
" 7	29·85	W.	0·04	107	67	55	55	57	Showery

During the week marked copies of the following newspapers have been received: *Redditch Indicator, Sussex Daily News, Newcastle Daily Chronicle, Alliance News (Manchester), Westminster Budget, Lancashire Daily Post, South Wales News, Sydney Daily Telegraph, Leeds Mercury, Glasgow Herald, Bolton Journal, Manchester Guardian, Birmingham Daily Post, West Morning News, Times of India, Pioneer Mail, Architect, Scotsman, Builder, Citizen, Liverpool Daily Post, Brighton Gazette, Grimsby News, Bristo Mercury, Madras Times, Yorkshire Post, South Eastern Gazette, Norfolk Daily Standard, Local Government Chronicle, Mining Journal, Hertfordshire Mercury, City Press, Reading Mercury, Drogheda Advertiser, Royal Cornwall Gazette, Horse Guards Gazette, Leicester Daily Post, Coventry Daily Telegraph, Builders' Journal, Warrington Observer, Surrey Advertiser, Walsall Observer, Local Government Journal, Essex Weekly News (Chelmsford), Australasian Medical Gazette, Ayrshire Post, Barking Advertiser, Buckingham Express, Sleaford Journal.*

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (13th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt.

[illegible] Central (2.30 P.M.), West-[illegible] P.M.), London Throat (2 P.M.),

[illegible] new's (1.30 P.M.), St. Thomas's P.M.), Charing-cross (3 P.M.), St. [illegible] King's College (2 P.M.); Middlesex Soho-square (2 P.M.), North-West [illegible], Gt. Northern Central (Gynæco-[illegible] 2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.).

FRIDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.); Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (16th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (11th).—ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (40, Leicester-square, W.C.).—7 P.M. Council Meeting. 8 P.M. Annual General Meeting. Mr. F. Eve will show a Patient with an unusually large Dental Cyst. Communication:—Mr. W. H. Head: A Case of Alveolar Abscess terminating Fatally. Casual Communication:—Mr. W. R. Humby. *President*. Valedictory Address.

TUESDAY (12th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Paper:—Mr. Rickman Godlee: On some of the Medical and Surgical Complications of Pyorrhœa Alveolaris.

THURSDAY (14th).—OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.—8 P.M. Cases and Card Specimens. 8.30 P.M. Papers:—Mr. W. H. Jessop: Embolism of both Central Arteries of the Retina.—Mr. C. Wray: The Development of Myopia.—Mr. S. Snell: (1) Congenital Papilloma of the Conjunctiva. (2) Periarteritis of the Central Artery of the Retina; (3) Work of Forest Scenery, illustrated from paintings by an amateur artist who had previously undergone cataract extraction.—Mr. S. Stephenson: A Case of Ophthalmitis associated with Basal Meningitis.

BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—Specimens will be shown by Dr. Elder and Mr. Furneaux Jordan. Discussion on Indications for the Removal of the Uterine Appendages.

FRIDAY (15th).—OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.—Mr. R. M. Gunn. On Visual Sensations. (Bowman Lecture).

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (11th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. Galloway: Consultation. (Skin.)

LONDON THROAT HOSPITAL (204, Gt. Portland-street, W.).—4.30 P.M. Dr. Cathcart: Impaired Movements of Vocal Cords. (Post-graduate Course.)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. Beddard: Food and Diet in Disease.

TUESDAY (12th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. Goodhart: Consultation. (Medical.)

WEDNESDAY (13th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Berry. Consultation. (Surgical.)

EVELINA HOSPITAL (Southwark-bridge-road, S.E.).—4.30 P.M. Mr. D. Pedley: Practical Hints on the Treatment of Carious Teeth. (Post-graduate Course.)

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Perkins: Mediastinal Growths.

THURSDAY (14th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Hutchinson: Consultation. (Surgical.)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. Beddard: Food and Diet in Disease.

CHARING-CROSS HOSPITAL.—4 P.M. Mr. Wallis: Surgical Cases. (Post-graduate Course.)

FRIDAY (15th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—2-3.30 P.M. Dr. H. Campbell: Class Clinical Consultation of the Nervous System. Demonstration V. 4 P.M. Mr. H. Spicer: Consultation. (Eye.)

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed exclusively "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE, OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

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Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

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An Address

ON

THE VALUE OF TUBERCULIN IN DIAGNOSIS AND TREATMENT.

Delivered at the Medical Graduates' College and Polyclinic on Feb 9th, 1900,

By T. [illegible] ASC
PROFESSOR OF [illegible] FACULTY

GENTLEMEN,—When the council of this institution did me the honour of inviting me to give a clinical lecture I had some difficulty in complying with their request because the clinical material at my disposal in Glasgow was not available and I had neither time nor opportunity in the midst of my work as examiner for the Army Medical Service to select on the spot cases suitable for my purpose But it occurred to me that, instead of complying with the letter of their request, I might deal with some subject of practical interest, and with their consent I now propose to refer shortly to the value of tuberculin in diagnosis and treatment—a therapeutic measure in which from the first I have taken a deep interest and of which I have had considerable experience

Most of us remember the intense enthusiasm with which Koch's great discovery was greeted and it was then the public—if not of the profession— [illegible] us disease were numbered The [illegible] pations, as might have been expected, was that this powerful agent was too often employed in a reckless and indiscriminate manner. Patients were dosed with it on wholesale principles, often without due reference to the suitability of their cases, and the amount administered was generally unduly high, or too frequently repeated, thus leading to inevitable disaster It is not surprising, therefore, that the extravagant laudation with which the discovery of Koch was hailed soon gave place to an equally absurd depreciation of its merits Indeed, I am probably within the mark when I say that there are very few medical men in this country at the present time who are in the habit of using tuberculin At all events, I can say that amongst the 40 medical officers attached to my own [illegible] it is not used by any of them After a pretty wide [illegible] which I [illegible] berculin [illegible] hagnosis [illegible] through [illegible] out this country on the means to be adopted for the prevention of tuberculosis, one of the points most insisted on was the necessity of preventing the sale of tuberculous meat, and, above all, of the milk [illegible] pra [illegible] tut [illegible] of [illegible] How is it, then, that the [illegible] tul [illegible] relied upon by veterinary [illegible] sur [illegible] erculosis in animals, while medical men who applaud the use of it in animals with rare [illegible] take advantage of it in human beings [illegible] Possibly it may be [illegible] n the case of animals [illegible] man, or that it would [illegible] But I can say that if [illegible] icient and safe in the [illegible] human subject I could give many illustrations of its value in diagnosis but two will suffice, the first, of which at the same time illustrates its curative power, though not quoted for that purpose

CASE 1 *Tuberculin as a diagnostic test* —A servant girl, aged 19 years, was admitted into the Western Infirmary of Glasgow on Jan. 15th, 1893 Her family history was excellent except that one brother, aged four years, was said to have died from tuberculous peritonitis With regard to the patient's history, two years before admission a small, dark red, almost livid spot appeared on the outside of the left [illegible] edges, the surface was dry and scaly and there was neither pain nor itching Shortly afterwards a similar patch appeared below the knee which ran a like course, but it had healed up before admission, a cicatrix, which was brown at the edges, being left Nine months before I saw her pustules formed in the centre and at the upper part of the first patch, which ended in ulceration The ulcerated surface continued to discharge a thick yellow pus and undermined the skin, which had a livid tint The diagnosis lay between hereditary syphilis and tuberculous disease. As I was inclined to think that it was probably tuberculous I determined to test the point with tuberculin The first injection of the old tuberculin was given on Jan 15th, but there was no decided reaction till the third dose of three cubic centimetres of a strength of 1 in 1000 was given on the 20th, which sent up the temperature to 100 4°F, while the fourth (same dose) on the 23rd sent it up nearly to 103°, thus leaving no doubt of the tuberculous character of the ulceration This treatment was therefore continued till the end of February, there having been 21 injections in all (the initial injection being 0 001 cubic centimetre and the largest 0 175 cubic centimetre), the total quantity used being nearly one cubic centimetre of the undiluted tuberculin The only other treatment was three ounces of cod liver oil daily and she was dismissed quite well on March 24th, the whole duration of the treatment being about two months (chart shown)

CASE 2 —On June 2nd, 1899, a lad, aged 11 years, came under my care in the Western Infirmary of Glasgow complaining of weakness and of a swelling of two months' duration on the left side of the neck His father and mother and nine of a family of 14 were alive, but one of these was suffering from "consumption of the bowels" and one from "decline" The five who died succumbed to chest complications in connexion with whooping-cough Two months before admission the patient, who had always been pale and delicate, fell off a wall, and immediately thereafter began to complain of pain in the left side of the neck where a distinct swelling made its appearance He was sick for a time after the fall, but in a few days the pain in the neck disappeared, the swelling, however, remained, although, according to the mother, it varied in size from day to day, and a week before he came to me it rapidly increased in size The patient, on admission, was emaciated, pale, and anæmic, the hæmoglobin was 45 per cent, and the corpuscles numbered 4,000 000, there being no excess of white corpuscles There was no fever, no œdema, and the urine was normal, but he complained of shortness of breath, palpitation, and pain across the abdomen on exertion, with occasional vertigo. The spleen w [illegible] could not be [illegible] the costal m [illegible] enlargement [illegible] glands The [illegible] forming a prominent mass in the left side of the neck, but the individual glands could not be distinguished This mass was painful, freely moveable, and firm He was sent to me as a case of lymphadenoma, but I suspected that the disease might be tuberculous and therefore tried tuberculin first four injections of ½ cubic centimetre, 1 in 1000, tuberculin sent the temperature up to 102 2°F, 102 8°, 6°, and 102 4°, while a subsequent injection of one cubic centimetre, 1 in 1000, produced a temperature of 104 6°. There being, therefore, no doubt as to the nature of the case he was transferred to the wards of one of my surgical colleagues (Chart shown)

It is a well known fact that while physical signs often indicate with precision the seat of disease there is frequently tuberculous deposit elsewhere unaccompanied by symptoms of any kind and therefore overlooked But here, again, with the aid of tuberculin we are able to ferret out and to localise unsuspected foci of disease, as in the following case

CASE 3 —A man, aged 28 years, was admitted in the second week of January, 1891 He had had five attacks of hæmoptysis within 13 months, occurring at intervals of two or three months, and he had two anal fistulæ of nine months' duration An examination of the chest showed entire absence of physical signs with the exception of weakened respiratory murmur at the right base He was treated with the old tuberculin, 13 injections were given in all, the first of 2 cubic centimetres of 1 in 1000 on Jan 16th and the last, 50 times stronger, on Feb 17th Before dismissal on March 13th the following report was made. "He

has had no hæmoptysis for six months and *râles which appeared along with much pain at the righ*[illegible] injection gradually disappeared within a fortnight and there are now no physical signs. Both fistulæ have completely healed. There has been great improvement in the general health with an increase in weight of nine and a quarter pounds."

Many other cases of a similar nature might be mentioned. For example, in a case of lupus of the face the injection of tuberculin not only inflamed the face but also lighted up pain, tenderness, and swelling of the right elbow-joint, which, however, disappeared after a few injections, and in a case of phthisis, soon to be referred to, there were no evidences of disease in the [illegible] treatment was commenced [illegible] of the size of a crown-piec[illegible] however, disappeared when [illegible] times. The curative power [illegible] by the two cases already mentioned, but [illegible] beneficial influence is af[illegible] first two being cases of [illegible] the treatment.

CASE 4.—A man, aged 34 years, was admitted into the Western Infirmary of Glasgow on Dec. 1st, 1897, on the recommendation of Dr. Serv[illegible] in the family history was [illegible] hæmoptysis at the age of [illegible] well since an attack of influ[illegible] years ago a short hacking cough set in, accompanied by a muco-purulent expectoration, in which he sometimes noticed blood. About this time also he began to lose flesh and during the last two years had lost two stones. For 18 months he had suffered from night sweats and during the last six had two attacks of hæmoptysis. For a few months, too, his strength had failed very much, and lately he had been almost unfit for work. Shortly before admission he was seen after a long interval by Dr. Service who wrote: "When I saw him I was greatly shocked at his appearance; he had the appearance of a dying man and came, as he said, that I might tell him the worst and how long he had to live." On admission he was found to be pale and emaciated, with no appetite, troubled with night-sweats and with much expectoration, in which tubercle bacilli were found in great abundance by Dr. A. R. Ferguson, but there was no fever. There were no physical signs in the right lung. Over the upper lobe of the left lung in front there were moderate flattening and defective movement, decided dulness, marked increase of vocal fremitus, and slighter of vocal resonance, whilst moist râles with tubular breathing were heard on deep inspiration. Tubular breathing was also detected in the supra-spinous region and moist râles between the scapula and the spine. At the base there were slight dulness and feeble breathing; indeed, there was no part of the lung which was altogether free from signs of disease. Dr. Service sent the patient to me with the view of having a course of tuberculin treatment, and although I did not consider the case a very hopeful one I decided to give him a chance with the new tuberculin, the only other treatment being cod-liver oil, up to three ounces per day. The first injection of $\frac{1}{1000}$th milligramme was given on Dec. 12th, 1897; the largest, two and a half milligrammes, on Feb. 26th, 1898; and the last of one milligramme on April 14th, the total amount used being about 31 milligrammes in 47 injections. From the time the treatment was commenced he improved steadily, more particularly as regards his general condition, and was dismissed at his own request on April 28th when the following report was taken; "The patient feels in good health; he can now read with comfort for hours whereas formerly his eyes soon got tired with reading; his appetite is completely restored; the night sweats have long disappeared; his cough and expectoration are almost gone; and he has gained about 1 st. 6 lb. in weight."

The after-history of the case is as follows. The last time I saw him was on July 14th when he visited me at my request. I found that he had not fallen off in any respect and that he had gained 7 lb. since dismissal, making a total gain of 2 st., his weight now being 12 st. 3 lb., which was his normal weight. He also stated that he could now do an ordinary day's work without fatigue. The improvement in the general was more marked than in the local condition. The expectoration showed that bacilli were still present, but in small numbers, and mostly found lying separately. The right lung remained healthy, while the condition of the left was as follows. The flattening, defective movement and dulness in front were not nearly so pronounced and the râles, though still present, were scanty; while between the scapula and spine they had entirely disappeared, only puerile breathing being heard. The dulness and feeble breathing at the base were hardly perceptible. In a letter which I received lately from Dr. Service he said: "When I saw him last at the beginning of this week he looked better than I have ever known him; he eats and sleeps well and has hardly any cough. I feel satisfied that, whatever his ultimate fate, he would now have been in his grave had it not been for the treatment which was followed. On my advice he is looking out for a situation abroad."

It will be observed that the tuberculin treatment was not steadily increased, owing partly to a change of assistant during its course and partly to the stock of tuberculin having temporarily run out. The full dose, too, was not reached, two and a half milligrammes being the largest injection instead of the maximum of 20 [illegible] patient felt so well as to desire to [illegible] ment, however, was so marked a [illegible] beneficial effect of the new tu[illegible] pretty advanced cases. (Chart shown.)

The following case may also be referred to, although it is still under observation.

CASE 5.—A young man, aged 17 years, was admitted on August 5th, 1899. The family history was satisfactory, although a maternal aunt died from consumption. He was never very robust, but enjoyed fair health until 14 months before I saw him, when he caught cold, and he has had a cough at intervals ever since. In the spring of last year his cough became aggravated, and was accompanied for the first time by expectoration, which was "tough and yellow," and on one occasion blood-stained; and about two months before admission he suffered for a few days from a stabbing pain over the left breast, aggravated on coughing or taking a deep breath. He had lost flesh and strength and colour, was easily tired, and had complained occasionally of night sweats and of palpitation and breathlessness on exertion. In the right infra-clavicular region there was some flattening, defective movement, dulness and crackling râles, which were also present over the upper two-thirds of the back. The expectoration was abundant, muco-purulent, and contained tubercle-bacilli in great abundance. There was no fever. He was put upon generous diet with three pints of milk and three ounces of cod-liver oil per day. He also had a subcutaneous injection of 10 minims of a saturated solution of picrotoxin at bedtime and was kept as much as possible in the open air. [illegible] he felt stronger, and [illegible] h all trace of râles had [illegible] still very decided behind. On Nov. [illegible] e of the old tuberculin was commenced and is being still continued. The last report was taken on Jan. 12th and is as follows: "There is still slight mucous expectoration, about one-eighth of what he had at first, containing tubercle bacilli, though in decreased numbers, but all trace of râles has disappeared and the physical examination of the chest reveals no definite physical signs. Since admission he has gained 1 st. 4½ lb., weighing 8 st. 12½ lb., being 9½ lb. above his normal weight before the commencement of his illness."

But the best class of cases for studyi[illegible] tuberculin treatment is that of external [illegible] we can see the results which ensue. One of my resident medical officers (Dr. John Aitken) has kindly at my request tabulated the particulars of 45 consecutive cases admitted into the Western Infirmary of Glasgow from April, 1889, to April, 1899, and without any preconceived opinions. The following is a summary of the results. Of these, 35 were illustrations of [illegible] of scrofuloderma; and three of lupus [illegible] were treated with the old tuberculin with the exception of one in which the new (T.R.) tuberculin was used, and the only other treatment consisted of generous diet and from two to three ounces of cod-liver oil daily.

Of the 35 cases of lupus vulgaris 23 were females and 12 were males. The oldest patient on admission was 59 years of age and the youngest 10 years, the average being 23 years. The age of the youngest patient when the disease commenced was seven years and that of the oldest 28 years, the average age at commencement being 13 years. The duration of the disease when the patient was admitted was in one case as low as five months, while in another it had been present for no less than 46 years, the

average duration being seven and a half years. In 32 of the 35 cases the face was involved, generally the nose prominently or exclusively, and, in several, other parts of the body or limbs were involved as well. In one case the right arm and neck were attacked alone, in one the left thigh and neck only, and in one the left leg was the part implicated. The

for four weeks. The average duration of the treatment was four months. In 33 of the 35 cases the result is thus tabulat improved, eight; four; well, 12; tot improvement was invariable, and the number of cases dismissed well would have been, much greater had we been able to induce so

two age, the years, age at years, the average age being fully 12 years. Its duration on admission varied from four to 13 years, the average being nearly nine years. The parts affected were: (1) the right leg and thigh (2) the thigh and buttocks, (3) the right and scrotum, (5) the right ankle, arm, and (7) the left side of the us be observed that while in lupus the face is almost always involved, in scrofuloderma it being erculin In a half results are, thus tabulated by Dr. Aitken—improved, one; almost well, one; and well, five.

The three cases of lupus erythematodes all occurred in females. The first of those patients was 31 years of age on admission, the nose and left cheek being involved for a period of 14 years; the second was 18 years old, and the *disease had implicated* the face, ears, hands, and arms for two years; while the third, aged 23 years, had suffered from it for three years, the cheeks, head, and knuckles being implicated. The duration of the tuberculin treatment was two and three-quarter months, two and a half months, and one and three-quarter months, and they were all dismissed well. In all of them the local and constitutional reactions were well marked. (Temperature charts handed round.) These results will be a surprise to many, and are even to myself, because I have not been equally fortunate in all the other cases of the same disease, but one positive outweighs many negative results.

From an early period of my professional life I have always taught that lupus vulgaris and lupus erythematodes were manifestations of the strumous *diathesis*, a view which was long rts At the present time, of lupus vulgaris is gene- erythematodes is almost ependent of the strumous diathesis. The main grounds for this opinion are that the tubercle bacillus has not been found in the latter affection and that tuberculin injections yield no reaction and do no good. The cases, therefor *of special interest* as erythematodes is a member

Now whether is tuberculin—as far as its therapeutical ght of a con- it produces the fever, the w its adminis- tration; but these are injurious rather than otherwise and the less we have of them the better. That it produces marked local *symptoms* we see in cases of external after each injection redness, nd crustation, accompanied by ne part, and I think it cannot be doubted that it is this inflammatory action which puts an attack of erysipelas of the face

tional vulnerability. From this it is obvious that, as we aim at permanent results, we must not rest content with injecting tuberculin only but must combine it with general treatment.

Some of my professional brethren who have carried out the tuberculin treatment on a considerable scale—especially in the case of external tuberculosis—agree with me as to the immediately beneficial results of such a course of treatment, but state that after the course is completed there is generally al to they are deprived of light, pure air, abundant food, and tonic treatment generally, a recrudescence of the disease is all but certain. For we must never forget that two factors have to be taken into account in dealing with tuberculous disease: (1) the tubercle bacillus; and (2) the soil favourable to its life and development. So that, in order to obtain permanent results, it is obvious that, in addition to the use of tuberculin, means must be taken simultaneously to change the soil upon which the micro-organism flourishes, such as good and abundant nourishment, living as much as possible in the open air, and the use of tonics, cod-liver oil, and other anti strumous remedies. This combined treatment, if judiciously carried out, has, in my experience, yielded excellent results and I commend it to you with confidence.

In view of economy of material, especially in reference to the more expensive T.R. tuberculin, the process of diluting the remedy so as to meet the requirements of varying doses is somewhat troublesome The following is the scheme which has been adopted in connexion with my department in the Western Infirmary of Glasgow and which perhaps may prove useful to others.

METHOD OF DILUTING TUBERCULIN ADOPTED IN PROFESSOR MCCALL ANDERSON'S WARDS IN THE WESTERN INFIRMARY OF GLASGOW.

(Drawn up by Dr. John Macewen, Resident Medical Officer.)

Doses of Old Tuberculin.

Make up with ½ per cent carbolic.

(*a*) Make up 5 cm. to 5 c c = 1·1000

Doses ½ c.c. = 1/10 c.c. = 1/10 c.c.
1 c.c. = 1/5 c.c. = 1/5 c.c.
1½ c.c. = 3/10 c.c. = 3/10 c.c.

(*b*) Make up 10 cm. to 5 c.c. = 1,500

Doses 1 c.c. = 1/15 c.c. = 1/15 c.c.
1½ c.c. = 1/10 c.c. = 1/100 c.c.

(*c*) Make up 20 cm to 5 c c = 1 250

Doses 1 c.c. = 1/20 c.c. = 1/20 c.c.
1½ c.c. = 3/40 c.c. = 3/80 c.c.
2 c.c. = 1/10 c.c. = 1/10 c.c.

(*d*) Make up 50 cm. to 5 c c. = 1·100

Doses 1 c.c. = 1/50 c.c. = 1/50 c.c.
1½ c.c. = 3/100 c.c. = 3/100 c.c.

(*e*) Make up 100 cm. to 5 c.c. = 1 50 (1/50 c.c.)

Doses 1 c.c. = 1/100 c.c. = 1/100 c.c.
1½ c.c. = 3/200 c.c. = 3/200 c.c.

(*f*) Make up 200 cm to 5 c c = 1 25

Doses 1 c.c. = 1/200 c.c. = 1/200 c.c.
1½ c.c. = 3/400 c.c. = 3/400 c.c.
2 c.c. = 1/100 c.c. = 1/100 c.c.

(*g*) Make up ½ c c to 5 c c. = 1 10

Dose 1 c.c. = 1/10 c.c. = 1/10 c.c. = maximum.

Doses of New Tuberculin.

Make up with 20 per cent. glycerine solution.

(*a*) Make up 1 cm to 5 c c = 1 5000

Doses 1 c.c. = 1/5000 mg. = 1/5000 mg. = 1/5000 mg.
1½ c.c. = 1/3333 c.c. = 1/3333 mg. = 1/3333 mg. = 1/3333 mg.

(*b*) Make up 2 cm to 5 c c = 1 2500

Doses 1 c.c. = 1/2500 mg. = 1/2500 mg. = 1/2500 mg.
1½ c.c. = 3/5000 c.c. = 3/5000 mg. = 3/5000 mg. = 3/5000 mg.
2 c.c. = 1/1250 c.c. = 1/1250 mg. = 1/1250 mg. = 1/1250 mg.

(*c*) Make up 5 cm. to 5 c c. = 1·1000

Doses 1 c.c. = 1/1000 c.c. = 1/1000 mg. = 1/1000 mg. = 1/1000 mg.
1½ c.c. = 3/2000 c.c. = 3/2000 mg. = 3/2000 mg. = 3/2000 mg.

(*d*) Make up 10 cm. to 5 c.c. = 1·500

Doses 1 c.c. = $\frac{2}{100}$ c.c. = $\frac{3}{100}$ mg. = $\frac{30}{1000}$ mg. = $\frac{1}{10}$ mg.
$1\frac{1}{2}$ c.c. = $\frac{3}{100}$ c.c. = $\frac{3}{10}$ mg. = $\frac{90}{1000}$ mg. = $\frac{3}{10}$ mg.

(*e*) Make up 20 cm. to 5 c.c. = 1·250

Doses 1 c.c. = $\frac{2}{100}$ c.c. = $\frac{2}{10}$ mg. = $\frac{10}{1000}$ mg. = $\frac{1}{100}$ mg.
$1\frac{1}{2}$ c.c. = $\frac{3}{100}$ c.c. = $\frac{3}{10}$ mg. = $\frac{30}{1000}$ mg. = $\frac{3}{10}$ mg.
2 c.c. = $\frac{4}{100}$ c.c. = $\frac{4}{10}$ mg. = $\frac{40}{1000}$ mg. = $\frac{2}{25}$ mg.

(*f*) Make up 50 cm. to 5 c.c. = 1·100

Doses 1 c.c. = $\frac{2}{100}$ c.c. = $\frac{2}{10}$ mg. = $\frac{100}{1000}$ mg. = $\frac{1}{10}$ mg.
$1\frac{1}{2}$ c.c. = $\frac{3}{100}$ c.c. = $\frac{3}{10}$ mg. = $\frac{150}{1000}$ mg. = $\frac{3}{20}$ mg.

(*g*) Make up 100 cm. ($\frac{1}{10}$ c.c.) to 5 c.c = 1·50

Doses 1 c.c. = $\frac{2}{100}$ c.c. = $\frac{2}{10}$ mg. = $\frac{200}{1000}$ mg. = $\frac{1}{5}$ mg.
$1\frac{1}{2}$ c.c. = $\frac{3}{100}$ c.c. = $\frac{3}{10}$ mg. = $\frac{300}{1000}$ mg. = $\frac{3}{10}$ mg.

(*h*) Make up 200 cm. ($\frac{1}{5}$ c.c.) to 5 c.c. = 1·25

Doses 1 c.c. = $\frac{2}{50}$ c.c. = $\frac{2}{5}$ mg. = $\frac{400}{1000}$ mg. = $\frac{2}{5}$ mg.
$1\frac{1}{2}$ c.c. = $\frac{3}{100}$ c.c. = $\frac{3}{10}$ mg. = $\frac{600}{1000}$ mg. = $\frac{3}{10}$ mg.
2 c.c. = $\frac{4}{100}$ c.c. = $\frac{4}{10}$ mg. = $\frac{800}{1000}$ mg. = $\frac{4}{5}$ mg.

(*i*) Make up $\frac{1}{2}$ c.c. to 5 c.c. = 1·10

Doses 1 c.c. = $\frac{2}{10}$ c.c. = 1 mg.
$1\frac{1}{2}$ c.c. = $\frac{3}{10}$ c.c. = $1\frac{1}{2}$ mg.

(*j*) Make up 1 c.c. to 5 c.c. = 1·5

Doses 1 c.c. = $\frac{2}{10}$ c.c. = 2 mg.
$1\frac{1}{2}$ c.c. = $\frac{3}{10}$ c.c. = 3 mg.

Note, in making up larger doses, that $\frac{1}{10}$ c.c. = 1 mg.

With regard to the preparation of tuberculin to be preferred I must speak with some reserve, for while I have had much experience in the use of the old I have necessarily had comparatively little of the new tuberculin. I am inclined to think, however, that the latter is the safer of the two, because, in appropriate doses, it produces much less reaction, but for that very reason it is not so reliable as the former as a diagnostic test; and a serious objection to the new tuberculin is its cost, particularly when the higher doses are reached, which precludes its use amongst the poor except in the case of those received into hospital. The initial dose of the old tuberculin is from half to one cubic centimetre of 1 in 1000, that of the new one cubic centimetre of 1 in 5000; while the final dose of the first is one cubic centimetre of 1 in 10, and of the second two cubic centimetres undiluted. Now the final full dose of the old tuberculin costs less than a penny, while that of the new is 17*s*., so that it is mainly a luxury for the rich. It is to be hoped, however, that the time is not far distant when it may be obtained at moderate rates.

DIFFERENTIATION IN DIABETES.

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ONE of the most striking features belonging to diabetes is its varied character in different cases, and anything that will assist in distinguishing one variety of the disease from another affords help in throwing light upon the prospect that may be looked for. In connexion with prognosis, therefore, the differentiation of cases is a matter of deep importance.

It has long been known that there is a class of case in which the eliminated sugar is solely derived from the food. It constitutes what has been appropriately named the "*alimentary*" form of diabetes. Without any theoretical consideration being involved it may be simply said that the carbohydrate matter of the food fails to be dealt with in the system in such a way as to be placed in a proper position for utilisation. As a consequence it becomes discoverable as sugar in the circulation and is thence discharged as waste material with the urine. Under normal circumstances it is conceded that neither the blood nor the urine is sensibly influenced by the food looked at in relation to carbohydrate matter. No matter what the nature of the food, there is a certain small amount of sugar uniformly existing in the blood, just as there is in the various solid structures of the body, and, moreover, this, as the result of recent investigation, I have found[1] not to consist exclusively of dextrose, as was formerly supposed, but, as in the case of the other component parts of the body, of a mixture of dextrose with a lower cupric oxide reducing sugar.

In the "*alimentary*" form of diabetes the erroneous state observed in connexion with the urine consists purely and simply of the abnormal presence of dextrose. As a result, when the urine is examined quantitatively by cupric oxide reduction and the polarimeter the figures given by the two methods stand in accord, or sufficiently so for the difference noted to fall within the limits of error of observation. There is nothing present in the urine to make them stand otherwise. It will be easily understood that for the object under consideration great accuracy of examination is required and that expert hands are needed. As a further point in connexion with this kind of urine it is found that when the dextrose has been removed by fermentation with yeast, and Fehling's solution no longer gives any reaction, the polarimeter also fails to afford any evidence of either right-handed or left-handed optical activity. Simply placing the urine aside in a warm situation for 24 hours with some broken-up German yeast ordinarily suffices for the complete removal of the dextrose. Yet another point to be noticed is that the urine belonging to the "*alimentary*" form of diabetes does not possess the abnormality which leads to the production of a colour reaction with ferric chloride.

In contrast to this simple form of diabetes we have the class of affection in which the dextrose in the urine is derived from a twofold source. As in the "*alimentary*" form of the disease, dextrose is present as a result of faulty carbohydrate assimilation. In addition it is present as a consequence of abnormal proteid disintegration. By faulty metabolism a tissue breaking-down occurs, attended with the production of sugar associated with other abnormal degradation products. Through this proteid disintegration consequences arise which do not follow the simple faulty assimilation of carbohydrate matter. Pernicious results, it is true, ensue from the sugar that reaches the system from mal-assimilated carbohydrate matter, but further and graver effects arise from the condition attended with the production of sugar from faulty degradation metabolism. It is to the toxicity of one or more of these products of disintegration accompanying the sugar that diabetic coma is attributable. Thus a form of danger is engendered which does not attend the abnormal existence of the sugar alone.

In defining this class of case the term "*grave*" has been made use of. This term, it must be admitted, expresses the truth from its associated point of view; but from the conception it gives rise to it does not felicitously fit in with what is desirable for general medical use. It seems to me that the term "*composite*" strictly meets the circumstances in relation to the condition existing and also stands appropriately in contrast to the "*alimentary*" or simple form of the complaint. I propose, therefore, to use it to distinguish the form of diabetes in which evidence is presented of tissue disintegration constituting a partial source of the dextrose eliminated from that in which the eliminated dextrose is derived solely from the food. It is, then, the presence in the urine, concurrently with the sugar, of the products of faulty tissue breaking-down that characterises the "*composite*" form of the disease.

The normal ultimate products of disintegration resulting from the oxidation going on in the body are ammonia, carbon dioxide, and water. With the faulty disintegration occurring in the "*composite*" form of diabetes a series of products not recognisable in healthy urine become discoverable. The chain in its successive stages of descent runs as follows: β-oxybutyric acid, diacetic, often called aceto-acetic, acid, and acetone. It is true that a traceable amount of the last-named principle is susceptible of being found in normal urine. Such is not the case, however, with the others. From this it would appear that the kind of degradation is not absolutely foreign to the healthy state, but its extent of occurrence must be very insignificant. It should also be mentioned that there are certain other morbid conditions, apart from diabetes, in which the same set of principles are met with in the urine, so that the line of retrograde metamorphosis at the foundation of their production is not, strictly speaking, peculiar to diabetes.

As I have said, traces of acetone are met with in normal urine, but the presence of the other principles may be regarded as pathological. They are indicative of abnormal proteid destruction and their amount may be taken as furnishing a measure of the extent of its occurrence. This is

[1] Journal of Physiology, 1899, vol. xxiv., p. 479.

an important point, as we are thus enabled to read off in a given case the magnitude of the morbid action in play in the direction in question.

I will proceed to show the manner in which the estimation can be effected by methods adapted for clinical application. It may first of all be mentioned that oxybutyric acid is not found except in association with diacetic acid and acetone, but the last two may be present in the absence of the first. The same position exists with regard to diacetic acid and acetone. With diacetic acid there is a co existence of acetone, but with acetone not necessarily a co-existence of diacetic acid. Indeed, what has been said about the normal state of things affords an exemplification of this. It seems as if the metamorphosis when occurring only to a small extent passes through to acetone without sufficient stoppage on the way to permit of the intermediate products reaching the urine. With an occurrence of the metamorphosis upon a larger scale, first diacetic acid and then both diacetic acid and oxybutyric acid become manifest.

It is the levo-rotatory β-oxybutyric acid that is found, and the effect of its presence is to neutralise, in proportion to its amount, the right-handed rotatory effect of dextrose. In the absence of oxybutyric acid the results given by estimation with cupric oxide reduction and the polarimeter should stand pretty closely in accord. It is to be understood that a certain amount of allowance, which should not exceed about one, or it may be from this to two, per 1000, must be made for a possible discordance occasioned by manipulative error. In the presence, on the other hand, of oxybutyric acid its levo-rotatory action takes away from the dextro-rotatory effect produced by dextrose and thus a reading is given it may be much below that which would have resulted if the dextrose had stood alone, and consequently correspondingly below the figures given by cupric oxide reduction. By the difference noticed an indication is afforded of the extent to which [illegible] by fermenting [illegible] the polarimeter. When the urine is thus treated the yeast—German yeast obtainable from a baker is the best to employ—only affects the dextrose, and in a warm situation this principle is usually found to have disappeared in 24 hours. Testing with Fehling's solution should be resorted to to ascertain if complete disappearance has occurred. The optical activity of the oxybutyric acid being now allowed to come into unopposed play a left-handed rotatory effect is shown by the polarimeter standing proportionate to the amount that is present. As I have previously mentioned, the urine belonging to the purely "*alimentary*" form of diabetes is optically inactive after the removal of its dextrose by fermentation.

Diacetic acid is susceptible of recognition by a simple method of chemical testing. Gerhardt of Berlin noticed as far back as 1865 that in some cases of diabetes and not in others a wine-red colourat[illegible] was produced on treating [illegible] first it was not known to [illegible] batable, but subsequently it was ascertained to be due to diacetic acid and the depth of colour produced serves as a measure of the amount present. From the facility with which the presence of diacetic acid is thus disclosed Gerhardt's reaction affords a ready means of revealing the abnormal proteid disintegration associated with the "*composite*" form of diabetes. The colouration is not absolutely distinctive, being open to production with more or less resemblance by agents reaching the system from an external source, but absence of colouration may be accepted as affording reliable information of a negative nature. The ferric chloride requires to be added [illegible] that is first pro- [illegible] ay be added and [illegible] eed exists to test [illegible] and diacetic acids [illegible] that is going on [illegible] non-nitrogenous principles derived from the abnormal proteid destruction that gives rise to a portion of the eliminated sugar in the "*composite*" form of diabetes. The matter, however, may also be looked at from the nitrogenous side of the disintegrating molecule by following the nitrogen to its exit with the urine. Under natural circumstances the quantity of ammonia, distinct from urea, eliminated by the kidney is quite small. It exists in combination with an acid and is reckoned to amount to about one gramme per diem on a meat, and to less than 0·5 gramme on a vegetable, diet. According to the view entertained by physiologists the nitrogen of the disintegrating proteid matter passes in the first instance into ammonia. This, as formed, combines with whatever acid is present to take it, and carbonic acid stands as the most notable. If the process of downward metamorphosis stopped here we should be having carbonate of ammonia conveyed in quantity to the kidney for elimination. Instead of so pungent and obnoxious an agent, however, being left by nature to be eliminated a further change ensues. By synthesis and dehydration the carbonate of ammonia becomes metamorphosed into the neutral and inactive principle urea, and the liver is the organ in which there are grounds for believing this synthetic process mainly occurs.

It is possible for some of the ammonia produced to enter into combination with an organic acid and still for the result that has been described to ensue. It happens in this way. Organic acids are susceptible of undergoing oxidation in the system. By this oxidation they give rise to carbonic acid which takes their place in combination with the ammonia and thus, secondarily, carbonate of ammonia is generated, which constitutes the forerunner of urea. In the case of mineral acids, however, the result is different. Should it happen that a mineral acid is present for the ammonia to attach itself to the combination fails to be in a position for the construction from it of urea; and, as a result, the ammonia passes undisturbed in its combined state into the urine instead of appearing there as urea. It is only the carbonate that can be synthesised into urea. The sulphate, phosphate, and chloride cannot be touched by the synthesising power, and such being the case ammonia escapes in proportion to the amount of available mineral acids present to combine with it and carry it off.

The fixed bases take precedence of ammonia in appropriating the mineral acids. Under ordinary circumstances the fixed bases and acids are so nearly balanced as to leave but little of the latter for entering into combination with ammonia, hence the small amount of ammonia finding its way into normal urine. With the active tissue breaking down occurring in the "*composite*" form of diabetes the sulphur and phosphorus of the disintegrating proteid becoming oxidised yield an extra amount of acid without a corresponding fixed base to combine with it. Hereby the conditions are supplied for the formation of an ammonia compound which passes in an unchanged state into the urine. It is in this way that the ammonia existing in the urine stands in relation to tissue disintegration. In fevers and other affections attended with increased tissue disintegration an increased amount of ammonia correspondingly appears in the urine.

It may be considered that the quantity of ammonia eliminated ought to be something under about one gramme per diem. More than this may be taken as meaning undue proteid disintegration, and in proportion to the extent of this disintegration the danger in diabetes increases of the occurrence of the coma belonging to the disease through the toxicity of one or other of the collateral products. Somewhat widely differing records of the amount of ammonia found to have been excreted by diabetics are given. Kulz's[2] maximum observed is a little over nine grammes per diem; Rumpf[3] has noticed five, six, and seven grammes per diem; and Naunyn[4] says that the amount rarely exceeds seven grammes per diem and that whenever the quantity reaches four grammes his experience teaches him that coma sooner or later occurs. He refers to Stadelmann's record of 11 grammes as standing in quite an isolated position. Threatening coma, Naunyn asserts, may often be warded off by the free administration of carbonate of soda to counteract the effect of the augmented acidosis by the supply of a fixed alkali to meet the increased production of acid, but it has not been shown that any permanently beneficial result has issued.

No easy method adapted for ordinary clinical use exists, it must be said, for the quantitative determination of ammonia as a constituent of urine. One great obstacle is the facility with which ammonia is generated from urea. Although, therefore, applicable as a measure of tissue disintegration manipulative difficulties stand in the way, except with suitable laboratory provision, of obtaining the information that is wanted. This is no great loss, however, as what is needed

[2] Klinische Erfahrungen über Diabetes Mellitus, Jena, 1899, p. 63.
[3] Quoted from Kulz, loc. cit., p. 59.
[4] Der Diabetes Mellitus, in Nothnagel's Specielle Pathologie und Therapie, Wien, 1898, p. 297.

is obtainable through the chain of non-nitrogenous products that I have referred to.

Looking, then, at a case that may happen to be before us, means exist, without bringing in the question of ammonia, for diagnosing whether it belongs to the "*alimentary*" or whether it has advanced into the "*composite*" form of diabetes. Upon this point may hinge the view to be taken with regard to the future prospects of the patient, a matter that must be looked upon as of supreme importance. With the foundation I have supplied to work upon I will proceed to consider separately the two forms of the complaint and will, in the first place, speak of the "*alimentary*" class of case.

(To be continued.)

CONTRIBUTION TO OUR KNOWLEDGE OF URIC ACID SALTS.

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IN chemical text-books two classes of uric acid ($\overline{U}$) salts are generally described—viz., the neutral ($(C_5H_2N_4O_3)$ M_2 or shortly $M_2\overline{U}$) and acid or biurates ($(C_5H_2N_4O_3)$ HM or $HM\overline{U}$).[1] We find, in addition to these in physiological and pathological works, a third class of urates mentioned, having the hypothetical composition of one molecule of biurate loosely combined with one molecule of uric acid, of the general formula $(C_5H_2N_4O_3$ HM). $(C_5H_4N_4O_3)$ or shortly $(MH\overline{U})$ $\overline{U}$. It is to this last-mentioned class of salts, the so-called quadriurates,[2] that we have more especially directed our attention. A very important rôle has been ascribed to these salts by Sir William Roberts who regarded them as being in a special sense the physiological salts of uric acid and as "constituting the only form in which uric acid subsists in the living body in the normal state."[3] Upon this assumption theories important both to the physiologist and physician have been built, but upon examining this subject critically it seemed to us that the actual existence of these salts was by no means established.

The quadriurate hypothesis rests upon results derived from the analysis of normal urinary deposits, and as these have further a wider physiological interest it seemed to us to be advisable to give shortly the history of the work previously done in this connexion.

HISTORY.

Berzelius was the first to observe the formation of crystals from amorphous urinary deposit under the influence of water.[4] These crystals he regarded as urate of ammonium. Heintz held the amorphous urinary deposit to consist of a mixture of the urates of ammonium, sodium, calcium, and occasionally potassium and magnesium.[5] He also pointed out that different sediments yielded different amounts of ash, varying from 2 98 to 8 02 per cent. He regarded the simultaneous precipitation of these three urates as the cause of their amorphous character and the calcium salt as an essential factor in the production of the same. Scherer, in criticising Heintz's paper, concludes that the sediment consists of a mixture of acid urates and free uric acid.[6] Lehmann confirmed the observation of Berzelius and identified the crystals set free by water as uric acid.[7] Scherer, in a later paper,[8] analysed four samples of urinary deposit and found that it was a complex mixture and that the amount of each of the bases and the sum of all of them were very variable. The next worker in this field was Bence Jones.[9] He analysed three urinary deposits obtaining different results in each case. He confirmed the important observation of Scherer in that he found in each sample the uric acid present in excess of the quantity required to form biurates with the bases. The excess of this non-combined uric acid was, however, not constant and in no apparent proportion to the amount of combined acid. The proportions were sample No. I. as 1: 1·72; No. II as 1: 0·46; No. III. as 1: 1·04. Although the proportions between the free and combined uric acids differed largely in the individual analyses it happened, by mere accident, that the average of free to combined in the three was as 1 : 1·1. Bence Jones subsequently proceeded to work out the proportion between the combined and free uric acid in the deposits analysed by Scherer. Viewed from this standpoint Scherer's figures gave discordant numbers, as follows:—Sample I., as 1 : 2·04; II., as 1 : 0·17; III., as 1 : 0·42; and IV., as 1 : 2·08. Bence Jones gives the average of these proportions as 1 : 1·1,[10] and does not seem to have attached any importance to this coincidence, but concludes: "It is very evident from these analyses that a mixture of different amounts of urates and uric acid constitutes the amorphous sediment of the urine." In spite of this, however, he seemed impressed that this proportion so "nearly approximated" (*sic*) to the "proportion hypothetically required by a salt whose molecule consisted of one molecule of uric acid combined with one molecule of acid urate." In pursuance of this idea he attempted to demonstrate the formation of such a salt under artificial conditions and succeeded in preparing compounds which were decomposed under the influence of water into biurate and uric acid. He produced, however, very slender evidence of the existence of a third class of uric acid salts, having the constitution of quadriurates, but in spite of this concludes "that quadriurates exist occasionally under natural conditions in amorphous urinary deposits, and can also be made artificially."

The subject remained in this condition until it was taken up by Sir William Roberts.[11] This observer, while acknowledging the inadequacy of the proof adduced by Bence Jones for the existence of quadriurates, endeavoured to prepare them himself by a modification of Bence Jones's methods. He was unable to demonstrate their presence in the natural amorphous urinary sediment but prepared amorphous urates, using human urine and various saline solutions as solvents for uric acid and to the compounds thus obtained ascribed the constitution of quadriurates. The analyses, however, upon which he relied as proving this composition are from the standpoint of the modern chemist inadequate, as will be shown later. Upon these insufficiently established data he proceeded to enunciate an elaborate hypothesis with regard to the presence and transformation of the so-called quadriurates in the tissues and blood. These views seem to have been more or less accepted and passed into many text-books,[12] although they have received no experimental confirmation.

The only experimental criticism which we have been able to find is by Pfeiffer[13] This observer points out that the substances upon which Roberts founded his quadriurate theory were either sediments (and as such pathological) or of artificial origin, also that in the pathological sediments the presence of quadriurates could not be demonstrated. He himself further demonstrated the presence of phosphates in some of the so-called quadriurates prepared according to Roberts and pointed out that the quadriurates could only *ex hypothesi* exist in distinctly acid media, which condition does not obtain in the juices and secretions of the body except in the case of the urine and sweat. Minkowski[14] regards the assumption that uric acid exists in the blood in the form of a quadriurate as "unwarranted." In a recent

[1] This nomenclature is misleading in so far as the reactions actually exhibited by the salts in question do not correspond to it. The neutral salts react strongly alkaline and the so-called acid salts, which so far have been accredited with a neutral reaction, have an alkaline one (vide infra).

[2] In an ear[illegible] Acid Solvent (THE LANCET, [illegible] we had not been able to convinc[illegible] ed quadriurates. This paper may be regarded as the outcome of further work in this direction.

[3] Croonian Lectures, 1892, p. 38.

[4] Lehrbuch der Chemie, vol. ix., 1840, p. 418.

[5] Annalen der Chemie und Pharmacie, 1845, p. 45. Muller's Archiv, 1845, p. 230.

[6] Cannstatt's Jahresberichte, 1845, p. 156.

[7] Lehrbuch der Physiologischen Chemie, vol. ii., p. 355.

[8] Cannstatt's Jahresberichte, 1849. We were unable to find this paper in the original; our analyses are quoted from Bence Jones (vide infra).

[9] Journal of the Chemical Society, 1862, vol. xv., p. 201.

[10] Upon re-calculation it will be found, however, that this proportion is as 1 : 1·8.

[11] Croonian Lectures, 1892.

[12] Neubauer and Vogel, Analyse des Harns, 1898; Halliburton, Text-book of Chemical Physiology and Pathology, 1891, p. 732; Allen, Chemistry of Urine, 1895, &c.

[13] Berliner Klinische Wochenschrift, 1894, 913, 934.

[14] Leyden's Handbuch der Ernährungstherapie, Band II.,

monograph on uric acid[15] Schreiber questions the explanatory value of the quadriurate theory as far as concerns the phenomena of gout.

For the sake of clearness we purpose dividing this paper as follows: I. Examination of Sir William Roberts's chemical methods and critical repetition of his experiments. II. Natural and artificial urinary sediments. III. Decomposition by water of substances containing uric acid and urates, and new method of preparing them. IV. Physico-chemical observations on uric acid and its salts and the significance of the same. V. Conclusions.

I.

Sir William Roberts for the analysis of his so-called quadriurates relies upon the following method, which he terms "water-analysis."[16] The dry deposit was heated to about the boiling point with about 1000 times its weight of distilled water. The uric acid which crystallised out after 48 hours, was filtered off and weighed, the quantity remaining dissolved in the liquid being taken in regard. The filtrate which contained the biurate was decomposed with hydrochloric acid and the uric acid estimated as above. This procedure is open to the following objections. The estimation of uric acid by means of precipitation with hydrochloric acid (Heintz's method) is now obsolete, its inaccuracy and absolute unreliability for scientific purposes having been shown by many investigators.[17] The quantity of uric acid kept in solution and estimated at 0·0055 gramme per 100 cubic centimetres, although added to the free uric acid—the uric acid separated from the mixture of uric acid and biurate by water—does not seem to have been subtracted from the uric acid kept in solution as biurate. As the weight of substance in 100 cubic centimetres was 0·1 gramme, the error incurred amounts to 5 5 per cent. It is obvious that this error would affect seriously the amount of uric acid calculated as biurate. Further, Sir William Roberts seems to have overlooked the fact that all uric acid salts deposited from solution and dried at 38° C. (this being the case in his experiments) contain varying quantities of water constitutionally bound, amounting in the case of the magnesium salt to 35 9 per cent. The analyses made by the Croonian lecturer refer to substances dried at blood-heat, and therefore containing (*vide infra*) relatively high percentages of water. This fact, together with the errors of method mentioned above, seemed in our opinion to necessitate a repetition of his experiments.

We attempted to prepare so-called quadriurates by working under exactly the same conditions as Sir William Roberts, and obtained what, according to him, should correspond to a quadriurate of the following bases: sodium, potassium, ammonium, magnesium, and calcium. The substances were all dried at 38° C. and subsequently submitted to quantitative analysis, which consisted in estimating the amounts of water, bases, and uric acid. The water was estimated by drying at a temperature of 100° C. (if not otherwise stated) till the weight was constant The bases were estimated in the usual manner. In order to obviate the errors by loss, &c., attendant upon the ordinary methods of uric acid estimation we determined its amount by nitrogen estimation (no other nitrogenous substances being present) and subsequent calculation. The nitrogen was estimated by Gunning's modification of Kjeldahl's method.[18] Each substance was examined microscopically with regard to the influence of water upon it.

SODIUM URATES.

According to Sir W. Roberts sodium quadriurate is formed from uric acid by the action of the acetates[19] and dimetallic phosphates[20] of this base. We prepared different samples by each method, using 3 per cent. and 5 per cent. solutions of the acetate of sodium, and 2 per cent. and 5 per cent. solutions of the phosphate.

A. Salts formed by the acetate method.—These salts were obtained in the following manner. The 3 per cent. and 5 per cent. solutions, as the case might be, were brought to the boiling point and then shaken up for a minute or so with an excess of uric acid, filtered hot, and the filtrate cooled rapidly on ice. A voluminous precipitate formed at once, the reaction of the liquid being slightly acid. The precipitate was filtered by the aid of a suction pump, washed with dilute and subsequently with absolute alcohol and ether and dried at blood temperature. These various manipulations were performed as quickly as possible. In the case of the 3 per cent. acetate solutions it was found that the water-free substances consisted almost entirely of uric acid. The first sample contained 99·41 per cent. uric acid to 0 59 per cent. sodium, the second sample contained 98 99 per cent. uric acid to 1 01 per cent. sodium. This fact has already been observed by Lipowitz who demonstrated *qualitatively* the nature of the precipitate.[21] In the case of the 5 per cent. acetate solutions the loss of water at 130° C. was estimated in the substance dried previously at 30° C. and found to be 8·08 per cent. (Table I).

The "calculated composition" of the substance at 130° C. was arrived at by the following method of reasoning. 5 23 per cent. of sodium requires 38 20 per cent. of uric acid to form sodium biurate. If this quantity be subtracted from the total amount of uric acid (90·71 per cent.) the remainder (52·51 per cent) represents the free uric acid. The amount of water lost at 130° C (as well as retained at that temperature) is in molecular proportion to the sodium biurate corresponding to the sodium found. The same method of calculating was used in the following tables.

Another salt prepared in the same way with a 5 per cent. solution of acetate of sodium gave the following results (Table II).

B. Salts formed by the phosphate method.—According to Sir William Roberts, "solutions of the common dimetallic phosphates of soda, &c., ... also take up uric acid very freely at blood heat, and the combination formed in this case in the first instance is likewise a quadriurate."[22] No analytical confirmation of this assumption is to be found. As Sir William Roberts does not give any directions as to the strength of the phosphate solution most suitable for this reaction we made some preliminary experiments on this point, using 1 per cent., 2 per cent., and 5 per cent. solutions. These solutions were treated with an excess of uric acid under constant agitation at blood heat for 20 minutes, filtered and cooled rapidly on ice. In the case of 1 per [illegible], but took [illegible] in which [illegible] tals. On another occasion a precipitate formed upon keeping the solution on ice for a considerable time without the addition of phosphoric acid. The precipitate showed under the microscope the characteristic uric acid crystals and was found upon analysis to consist to the extent of 97 per cent. of free uric acid. Similar observations have been made by Lipowitz[23] and especially by Liebig.[24] The latter regarded the phosphates as being the agents by which uric acid was kept in solution in the urine.

That pure uric acid is deposited if a solution of biurate of sodium, saturated at the body temperature, be mixed with a solution of monosodium phosphate and cooled, was shown by Voit and Hofmann[25] and confirmed by Bunge.[26] The conditions in their experiments are practically the same as those obtaining in our own, in which as the first products of interaction between uric acid and dimetallic phosphate, biurate and monometallic phosphate are formed, these latter reacting again as in the experiments of Voit and Hofmann and Bunge.

We next prepared urates of sodium by digesting 2 per cent. and 5 per cent. solutions of dimetallic sodium-phosphate with excess of uric acid at blood heat in the same way as before. The composition of the substances is shown in Table III.

From the above tables it is evident that neither by the acetate nor by the phosphate method could precipitates be obtained corresponding in composition to the hypothetical quadriurates. In the case of the phosphate method a fact of considerable interest is the constant presence of phosphoric acid in the urates formed. We were also able by the qualitative examination of many other similarly produced substances to demonstrate the presence of phosphoric acid whenever the precipitate was not entirely composed of uric acid. This latter fact, although evidently overlooked by Sir

[15] Über die Harnsäure, Stuttgart, 1899, pp. 107, 103.

[16] Loc cit., p. 18.

[17] For complete literature of this subject see Warneke, Dissertation Göttingen, 1878.

[18] Zeitschrift für Analytische Chemie, 1883, p. 83. The uric acid used in our experiments was absolutely pure, being purified three times by Beusch's methods.

[19] Loc. cit., p 23.

[20] Ibid, p. 83.

[21] Liebig's Annalen, Band xxxviii., p. 342.

[22] Loc. cit., p. 23.

[23] Sitzungsberichte der Bayrischen Akademie, 1867, p. 273.

[24] Liebig's Annalen, Band 11, p. 111.

[25] Bunge, Lehrbuch, p. 247.

TABLE I.—SODIUM SALT, ACETATE METHOD (LOT 1).

—	Substance dried at 130° C.			Composition of substance dried at blood temperature 36° C.
	Analytical figures.*	Calculated composition.		
Total uric acid ...	90 71 per cent.	—	—	The loss of water at 130° C. corresponds to 2 mol. of water calculated to the amount of biurate present. Found: 8·08 per cent.; calc.: 8·18 The substance is not a quadriurate, but a mixture of uric acid and sodium biurate, the latter holding 3 mol. of water, retaining 1 mol. H_2O at 130° C.
Free uric acid ...	—	52·51 per cent.	—	
Combined uric acid	—	38·20 per cent.	NaHŪ 43·43 per cent. require for 1 mol. H_2O.	
Sodium	5·23 per cent.	5·23 per cent.		
Water...	4 06 per cent. (By difference.)	4·06 per cent.	4·09 per cent.	

* In order to obtain complete analytical data we originally intended to estimate the free uric acid directly by titration against a standardised piperidine solution (Comp. Brit. Med. Journ. 5, II. 98). But it was found that owing to the solvent action of piperidine on the biurate present exact results could not be obtained.

TABLE II.—SODIUM SALT, ACETATE METHOD (LOT 2).

—	Substance dried at 100° C.			Composition of substance dried at blood heat (36°).
	Analytical figures.	Calculated composition.		
Total uric acid ...	93 33 per cent.	—	—	The substance lost at 100° C. 2 66 per cent. water corresponding to 1 mol. of water calculated to the amount of sodium biurate present. Found 2·66 per cent.; calculated 2·45 per cent. The substance is therefore not a quadriurate, but a mixture of Ū and biurate, the latter holding 1½ mol. water at 36°, of which ½ mol. is retained at 100°.
Free uric acid ...	—	70 62 per cent.	—	
Combined uric acid	—	22·71 per cent.	NaHŪ 25 82 per cent. require for 1½ mol. H_2O.	
Sodium	3·11 per cent.	3·11 per cent.		
Water	3 56 per cent.	3 56 per cent.	3·65 per cent.	

TABLE III.—SODIUM SALTS, PHOSPHATE METHOD.

—	Analytical figures.		Calculated composition.				Conclusion concerning the composition of substance dried at 36° C.	
	2 per cent.	5 per cent.	2 per cent.		5 per cent.		2 per cent.	5 per cent.
Total uric acid ...	77 13	73·25	—	—	—	—	The substance is not a quadriurate but a mixture of phosphate of sodium, free uric acid, and biurate of sodium, the latter holding 1½ mol. of water constitutionally bound.	The substance lost at 100°C. 5 52 per cent. of water, corresponding to 1 mol. of water, calculated to the amount of biurate present: Found, 5 52 per cent.; calculated 5·45 per cent. The substance is therefore not a quadriurate, but consists of a mixture of phosphate of sodium, free uric acid, and biurate of sodium, the latter holding 1½ mol. of water, of which 1 mol. is given off at 100° C.
Free uric acid ...	—	—	22 65	—	22·34	—		
Combined uric acid	—	—	54·48	NaHŪ 61 94 require for 1½ mol. of water.	50 91	NaHŪ 57·88 require for 1½ mol. of water.		
Sodium	9·71	10·85	7·46		6·97			
Phosphoric acid ...	3·47	5 98	—		—			
Sodium-phosphate	—	—	6·94	—	11·96	—		
Water	—	—	8·47 (By difference.)	8·79	7 82 (By difference.)	8·17		

TABLE IV.—POTASSIUM SALTS, ACETATE METHOD.

—	Analytical figures.					Calculated composition.									
	3 per cent.			5 per cent.		3 per cent.						5 per cent.			
	I.	II.	III.	I.	II.	I.		II.		III.		I.		II.	
Total uric acid...	75 91	81 49	—	84·57	75 60	—	—	—	—	—	—	—	—	—	—
Free uric acid ...	—	—	—	—	—	3 85	—	47·42	—	—	—	50·11	—	31 62	—
Combined uric acid	—	—	—	—	—	72 06	88·79 KHŪ require for 1 mol. water.	34·07	41 98 KHŪ require for 3 mol. water.	—	KŪH 1H₂O require.	34·46	KHŪ 42·46 require for 2 mol. water.	43 98	KHU 54·19 require for 3 mol. water.
Potassium	16·73	7·91	17 60	8·00	10 21	16 73		7·91		17 60	17·41	8 00		10 21	
Water...	7 36 By difference.	10 00	8·65 Loss at 130°.	7 43 By difference.	14·9	7·36	7·72	10·60	10·95	8 65	8 04	7·43	7·38	14·19	14·13

Conclusions concerning the composition of substance dried at 36° C.

3 per cent.			5 per cent.	
I.	II.	III.	I.	II.
The substance is nearly pure biurate of potassium, consisting of 3·85 per cent. uric acid and 95 15 per cent. of biurate, the latter holding 1 mol. H_2O constitutionally bound.	The substance is not a quadriurate, but a mixture of uric acid and biurate, the latter holding 3 mol. of water constitutionally bound.	The substance is pure potassium biurate, holding 1 mol. of water constitutionally bound.	The substance lost at 100° C. 3 36 per cent. of water, corresponding to 1 mol. of water calculated to the amount of KHŪ present. Found, 3 36 per cent.; calculated, 3 69 per cent. The substance is therefore a mixture of Ū and KHŪ, the latter holding 2 mol. of water.	The substance is not a quadriurate but a mixture of uric acid and biurate, the latter holding 3 mol. of water constitutionally bound.

William Roberts, was observed as early as 1844 by Golding-Bird[27] and independently by Pfeiffer,[28] who made some quantitative estimations.

POTASSIUM URATES.

The potassium salts were prepared in a manner analogous to the sodium compounds, potassium acetate being used. Two strengths of potassium acetate solutions were taken—namely, 3 per cent. and 5 per cent. The precipitates were filtered, washed, and dried in the usual way. The analytical results are expressed in Table IV.

From this table it is evident that in no case was a precipitate formed to which the constitution of potassium quadriurate could be ascribed.

AMMONIUM URATE.

According to Sir William Roberts a quadriurate of ammonia is obtained by the method described below.[29] The product, however, was not submitted to analysis nor was any further proof of its existence mentioned. Following the directions we prepared the hypothetical quadriurate as follows: 5 grammes of uric acid were boiled in a litre of a 1 per cent. solution of liquor ammoniæ. The solution was filtered hot and rapidly cooled on ice. An abundant stream of carbonic acid was then passed through it and the precipitate obtained was washed and dried in the usual way. All these manipulations were carried out as rapidly as possible. Table V. gives the result of the analysis.

TABLE V.—*Ammonium Salt.*

—	Analytical figures.	Calculated for ammonium biurate + 2 mol. H_2O.	Calculated for ammonium quadriurate.
Total uric acid ...	76·00 per cent.	76·02 per cent.	95·18 per cent.
Ammonia...	8 27 "	7 69 "	4·82 "
Water	15·73 " (By difference)	16 29 "	—

As will be seen from this table the salt dried at 36° C. is not a quadriurate, but ammonium biurate + $2H_2O$.

CALCIUM AND MAGNESIUM URATES.

According to Sir William Roberts the quadriurates of calcium and magnesium are prepared in the following manner.[30] The calcium salt is obtained by dissolving 0 5 gramme of uric acid in 100 cubic centimetres of cold lime water. To the filtered solution acetic acid was added, drop by drop, until neutralisation was approached. An abundant precipitate was then thrown down, which was caught on a filter, washed with rectified spirit, and dried. Magnesium quadriurate was prepared by digesting uric acid and calcined magnesia both in excess and distilled water at blood heat with frequent agitation for about ten minutes, the mixture was filtered warm, and the filtrate was rapidly cooled under a running tap of cold water. The precipitate was filtered, washed, and dried in the usual manner. In neither case is any analysis given in support of the supposed quadriurate composition of the respective product. We followed exactly Sir William Roberts's directions and prepared two samples of the magnesium and one of the calcium salt. Tables VI. and VII. express the results of the analyses.

TABLE VI.—*Magnesium Urates.*

—	Analytical results. I.	Analytical results. II.	Calculated for magnesium biurate + $12H_2O$.	Calculated for magnesium quadriurate.
	Per cent.	Per cent.	Per cent.	
Total uric acid...	61·53	60 19	60 01	86·54
Magnesium ...	4 45	4 38	4 05	3 48
Water	33·87 By difference.	35 62	35·94	—

It will be seen from the above table that neither of these salts is a quadriurate and that whereas No. II. corresponds almost exactly to the formula $\overset{U}{\underset{U}{Mg}} + 12H_2O$, No. I. approaches the required figures very nearly, containing only a slight excess of uric acid.

TABLE VII.—*Calcium Urate.*

—	Analytical results.	Calculated composition.		—
	Per cent.	Per cent.		
Total uric acid	76 51	—	—	The analysis of this salt shows that it consists of a mixture of uric acid and calcium biurate, the latter holding 14 mol of water constitutionally bound. At 100° C. it lost 12 00 per cent. of water corresponding to 8 mol. of water calculated on the amount of biurate present. Calculated, 11·24 per cent.; found, 12·00 per cent.
Free uric acid	—	49·04	—	
Combined uric acid	—	27 47	30 47 per cent. calcium biurate require for 14 mol. H_2O	
Calcium ...	3·29	3 29		
Water ...	20 20	20·29	20 72.	

II.

NATURAL AND ARTIFICIAL URINARY SEDIMENTS.

So far as we are aware the only analyses approaching to completeness of naturally occurring urinary sediments are those made by Scherer and Bence Jones.[31] Since the number of these is somewhat scanty and the most recent was made in 1862 we thought it would be advisable to add to their number, especially as we had the opportunity of getting a constant supply of naturally-occurring deposit from the same person. The quantity necessary for analysis was collected in the following way. The urine directly upon being voided was rapidly cooled and the deposit allowed to settle. It was then filtered off by the aid of a suction pump, washed with alcohol and ether, and dried at 36°C. The fractions thus collected were mixed[32] together and kept in a stoppered bottle until sufficient for the purposes of analysis was obtained. The analysis gave the following results:—

Natural Urinary Sediment.

	Analytical numbers.	Calculated to water, &c., free substance.
Uric acid	73 40	.... 95 69
Ammonia	0 46	..... 0 59
Potassium	1 74	..... 2 26
Sodium	0 23	..... 0·29
Magnesium	0 06	.... 0 08
Calcium	0 34	..... 0 44
P_2O_5	0 48	.. .. 0 63
Water, colouring matter, and loss	23 29	... . —

The amount of phosphoric acid present almost exactly corresponds to the amount required to satisfy the calcium (required for 0 63 per cent. phosphoric acid 0·53 per cent. calcium; found 0 44 per cent.). If the amount of uric acid be calculated which is required to form biurates with the remaining bases it will be found to be 19·33 per cent., this subtracted from the total uric acid leaves 76 36 per cent. free uric acid. It is therefore evident that the sediment in question consisted to a large extent of free uric acid mixed with the biurates of sodium, potassium, ammonium, and magnesium, and some phosphate of calcium. The proportion of combined to free uric acid is about : : 1 : 4.

With regard to the relative proportion of the different

[27] London Medical Gazette, 1844, p. 455.
[28] Loc. cit.
[29] Loc. cit., p. 27.
[30] Loc. cit., p. 27.

[31] Vide supra. These analyses seem to be unknown to Dr. Luff, who recently (*Pathology and Treatment of Gout, Lancet*, Feb. p. 25) gives a partial analysis of a urinary sediment derived from uric acid patients, which we shall consider later.

[32] Before adding each fraction, however, to the common stock it was examined microscopically with regard to its uniformity, absence of uric acid, or other crystals, and behaviour with water. If it showed any crystalline constituents (oxalates or phosphates, &c.) or failed to give the formation of uric acid crystals upon the addition of water, it was rejected. It is interesting to note that each fraction weighed not more than 0·13 gramme, although originally it had a bulky appearance.

TABLE I.—SODIUM SALT, ACETATE METHOD (LOT 1).

—	Substance dried at 130° C.			Composition of substance dried at blood temperature 36° C.
	Analytical figures.*	Calculated composition.		
Total uric acid ...	90 71 per cent.	—	—	The loss of water at 130° C. corresponds to 2 mol. of water calculated to the amount of biurate present. Found: 8·03 per cent.; calc.: 8·18 The substance is not a quadriurate, but a mixture of uric acid and sodium biurate, the latter holding 3 mol. of water, retaining 1 mol. H_2O at 130° C.
Free uric acid ...	—	52·51 per cent.	—	
Combined uric acid	—	38·20 per cent.	$NaH\overline{U}$ 43·43 per cent. require for 1 mol. H_2O.	
Sodium	5·23 per cent.	5·23 per cent.		
Water.	4 06 per cent. (By difference.)	4 06 per cent.	4·09 per cent.	

* In order to obtain complete analytical data we originally intended to estimate the free uric acid directly by titration against a standardised piperidine solution (Comp. Brit. Med. Journ. 5, II. 98). But it was found that owing to the solvent action of piperidine on the biurate present exact results could not be obtained.

TABLE II.—SODIUM SALT, ACETATE METHOD (LOT 2).

—	Substance dried at 100° C.			Composition of substance dried at blood heat (36°).
	Analytical figures.	Calculated composition.		
Total uric acid ...	93 33 per cent.	—	—	The substance lost at 100° C. 2 66 per cent. water corresponding to 1 mol. of water calculated to the amount of sodium biurate present. Found 2 66 per cent.; calculated 2·45 per cent. The substance is therefore not a quadriurate, but a mixture of $\overline{U}$ and biurate, the latter holding 1½ mol. water at 36°, of which ½ mol. is retained at 100°.
Free uric acid ...	—	70 62 per cent.	—	
Combined uric acid	—	22·71 per cent.	$NaH\overline{U}$ 25 82 per cent. require for 1½ mol. H_2O.	
Sodium	3·11 per cent.	3·11 per cent.		
Water	3 56 per cent.	3 56 per cent.	3 65 per cent.	

TABLE III.—SODIUM SALTS, PHOSPHATE METHOD.

—	Analytical figures.		Calculated composition.				Conclusion concerning the composition of substance dried at 36° C.	
	2 per cent.	5 per cent.	2 per cent.		5 per cent.		2 per cent.	5 per cent.
Total uric acid ...	77 13	73·25	—	—	—	—	The substance is not a quadriurate but a mixture of phosphate of sodium, free uric acid, and biurate of sodium, the latter holding 1½ mol. of water constitutionally bound.	The substance lost at 100°C. 5 52 per cent. of water, corresponding to 1 mol. of water, calculated to the amount of biurate present: Found, 5 52 per cent; calculated 5·45 per cent. The substance is therefore not a quadriurate, but consists of a mixture of phosphate of sodium, free uric acid, and biurate of sodium, the latter holding 1½ mol. of water, of which 1 mol. is given off at 100° C.
Free uric acid ...	—	—	22 65	—	22·34	—		
Combined uric acid	—	—	54·48	$NaH\overline{U}$ 61 94 require for 1½ mol. of water.	50 91	$NaH\overline{U}$ 57·88 require for 1½ mol. of water.		
Sodium	9 71	10 85	7 46		6·97			
Phosphoric acid ...	3 47	5 98	—		—			
Sodium-phosphate	—	—	6·94	—	11·96	—		
Water	—	—	8·47 (By difference.)	8·79	7 82 (By difference.)	8·17		

TABLE IV.—POTASSIUM SALTS, ACETATE METHOD.

—	Analytical figures					Calculated composition.									
	3 per cent.			5 per cent.		3 per cent.						5 per cent.			
	I.	II.	III.	I.	II.	I.		II.		III.		I.		II.	
Total uric acid ...	75 91	81 49	—	84·57	75 60	—	—	—	—	—	—	—	—	—	—
Free uric acid ..	—	—	—	—	—	3 85	—	47·42	—	—	—	50·11	—	31 62	—
Combined uric acid	—	—	—	—	—	72 06	88·79 $K\overline{H}\overline{U}$ require for 1 mol. water.	34·07	41·98 $K\overline{H}\overline{U}$ require for 3 mol. water.	—	$K\overline{U}H$ $1H_2O$ require.	34·46	$K\overline{H}\overline{U}$ 42 46 require for 2 mol. water.	43 98	$K\overline{H}\overline{U}$ 54·19 require for 3 mol. water.
Potassium	16 73	7·91	17 60	8·00	10 21	16 73		7·91		17 60	17·41	8 00		10 21	
Water...	7·36 By difference.	10 60	8 65 Loss at 130°.	7 43 By difference.	14· 9	7·36	7·72	10·60	10 95	8 65	8 04	7 43	7·38	14 19	14·13

Conclusions concerning the composition of substance dried at 36° C.

3 per cent.			5 per cent.	
I.	II.	III.	I.	II.
The substance is nearly pure biurate of potassium, consisting of 3 85 per cent. uric acid and 96 15 per cent. of biurate, the latter holding 1 mol. H_2O constitutionally bound.	The substance is not a quadriurate, but a mixture of uric acid and biurate, the latter holding 3 mol. of water constitutionally bound.	The substance is pure potassium biurate, holding 1 mol. of water constitutionally bound.	The substance lost at 100° C. 3 36 per cent. of water, corresponding to 1 mol. of water calculated to the amount of $K\overline{H}\overline{U}$ present. Found, 3 36 per cent.; calculated, 3 69 per cent. The substance is therefore a mixture of $\overline{U}$ and $K\overline{H}\overline{U}$, the latter holding 2 mol. of water.	The substance is not a quadriurate but a mixture of uric acid and biurate, the latter holding 3 mol. of water constitutionally bound.

William Roberts, was observed as early as 1844 by Golding-Bird[27] and independently by *Pfeiffer*,[18] who made some quantitative estimations.

POTASSIUM URATES.

The potassium salts were prepared in a manner analogous to the sodium compounds, potassium acetate being used. Two strengths of potassium acetate solutions were taken—namely, 3 per cent. and 5 per cent. The precipitates were filtered, washed, and dried in the usual way. The analytical results are expressed in Table IV.

From this table it is evident that in no case was a precipitate formed to which the constitution of potassium quadriurate could be ascribed.

AMMONIUM URATE.

According to Sir William Roberts a quadriurate of ammonia is obtained by the method described below.[21] The product, however, was not submitted to analysis nor was any further proof of its existence mentioned. Following the directions we prepared the hypothetical quadriurate as follows: 5 grammes of uric acid were boiled in a litre of a 1 per cent. solution of liquor ammoniæ. The solution was filtered hot and rapidly cooled on ice. An abundant stream of carbonic acid was then passed through it and the precipitate obtained was washed and dried in the usual way. All these manipulations were carried out as rapidly as possible. Table V. gives the result of the analysis.

TABLE V.—*Ammonium Salt.*

—	Analytical figures.	Calculated for ammonium biurate + 2 mol. H_2O.	Calculated for ammonium quadriurate.
Total uric acid ...	76·00 per cent.	76·02 per cent.	95·18 per cent.
Ammonia...	8·27 "	7·69 "	4·82 "
Water	15·73 " (By difference.)	16·29 "	—

As will be seen from this table the salt dried at 36° C. is not a quadriurate, but ammonium biurate + $2H_2O$.

CALCIUM AND MAGNESIUM URATES.

According to Sir William Roberts the quadriurates of calcium and magnesium are prepared in the following manner.[30] The calcium salt is obtained by dissolving 0·5 gramme of uric acid in 100 cubic centimetres of cold lime water. To the filtered solution acetic acid was added, drop by drop, until neutralisation was approached. An abundant precipitate was then thrown down, which was caught on a filter, washed with rectified spirit, and dried. Magnesium quadriurate was prepared by digesting uric acid and calcined magnesia both in excess and distilled water at blood heat with frequent agitation for about ten minutes, the mixture was filtered warm, and the filtrate was rapidly cooled under a running tap of cold water. The precipitate was filtered, washed, and dried in the usual manner. In neither case is any analysis given in support of the supposed quadriurate composition of the respective product. We followed exactly Sir William Roberts's directions and prepared two samples of the magnesium and one of the calcium salt. Tables VI. and VII. express the results of the analyses.

TABLE VI.—*Magnesium Urates.*

—	Analytical results. I.	Analytical results. II.	Calculated for magnesium biurate + $12H_2O$.	Calculated for magnesium quadriurate.
	Per cent.	Per cent.	Per cent.	
Total uric acid...	61·63	60·10	60·01	96·54
Magnesium ...	4·45	4·38	4·05	3·48
Water	33·87 (By difference.)	35·52 (By difference.)	35·94	—

It will be seen from the above table that neither of these salts is a quadriurate and that whereas No. II. corresponds almost exactly to the formula $\overset{U}{\underset{U}{Mg}} + 12H_2O$, No. I. approaches the required figures very nearly, containing only a slight excess of uric acid.

TABLE VII.—*Calcium Urate.*

—	Analytical results.	Calculated composition.		—
	Per cent.	Per cent.		
Total uric acid	76·51	—	—	The analysis of this salt shows that it consists of a mixture of uric acid and calcium biurate, the latter holding 14 mol. of water constitutionally bound. At 100° C. it lost 12·00 per cent. of water corresponding to 8 mol. of water calculated on the amount of biurate present. Calculated, 11·84 per cent.; found, 12·00 per cent.
Free uric acid	—	49·04	—	
Combined uric acid	—	27·47	30·47 per cent. calcium biurate require for 14 mol. H_2O	
Calcium ...	3·29	3·29		
Water ...	20·20	20·20	20·72	

II.

NATURAL AND ARTIFICIAL URINARY SEDIMENTS.

So far as we are aware the only analyses approaching to completeness of naturally occurring urinary sediments are those made by Scherer and Bence Jones.[31] Since the number of these is somewhat scanty and the most recent was made in 1862 we thought it would be advisable to add to their number, especially as we had the opportunity of getting a constant supply of naturally-occurring deposit from the same person. The quantity necessary for analysis was collected in the following way. The urine directly upon being voided was rapidly cooled and the deposit allowed to settle. It was then filtered off by the aid of a suction pump, [illegible] ther, and dried at 36°C. The [illegible] mixed[32] together and kept in a [illegible] ent for the purposes of analysis gave the following results:—

Natural Urinary Sediment.

	Analytical numbers.	Calculated to water, &c., free substance.
Uric acid	73·40	95·69
Ammonia	0·46	0·59
Potassium	1·74	2·26
Sodium	0·23	0·29
Magnesium	0·06	0·08
Calcium	0·34	0·44
P_2O_5	0·48	0·63
Water, colouring matter, and loss	23·29	—

The amount of phosphoric acid present almost exactly corresponds to the amount required to satisfy the calcium (required for 0·63 per cent. phosphoric acid 0·53 per cent. calcium; found 0·44 per cent.). If the amount of uric acid be calculated which is required to form biurates with the remaining bases it will be found to be 19·33 per cent., this subtracted from the total uric acid leaves 76·36 per cent. free uric acid. It is therefore evident that the sediment in question consisted to a large extent of free uric acid mixed with the biurates of sodium, potassium, ammonium, and mag[illegible] and some phosphate of calcium. The propor-tion [illegible]

[illegible]

31 London Medical Gazette, 1844, p. 655.
32 Loc. cit.
29 Loc. cit., p. 27. 30 Loc. cit., p. 27.

[illegible] exam[illegible] uric acid, or other crystals, [illegible] any crystalline constituents [illegible] give the formation of uric [illegible] was rejected. It is interesting to note that each [illegible] not more than 0·03 gramme, although originally it had a [illegible] appearance.

metals Table VIII. will be of interest as giving the result of all the analyses so far published in this connexion[33]:—

TABLE VIII.—*Relative Percentage Proportion of Metals in Natural Urinary Sediments.*

—	Authors'.	Scherer.				Bence Jones.			Luff.
		I.	II	III.	IV.	I.	II.	III.	
Ammonium ...	18 33	12 26	70 73	70 47	42 26	24 20	37 29	20 45	46·0
Potassium ..	70 19	42 32	11 78	27 54	42·32	56 05	41 96	64·29	14 0
Sodium	9 00	11 41	17 49	1 69	11·41	19 75	20 75	15 26	40 0
Magnesium ...	2 43	—	—	—	—	—	—	—	—

It will be seen from the above table that the proportion of the metals varies in each case. Generally the amount of ammonium is very high. The two exceptions to this are our own analysis and Bence Jones's No. III, which latter also in the proportion of the other bases approaches most nearly to our own. The high ammonium percentage is probably to be explained by decomposition. The same irregularity as in the proportion of the different metals is also evident in the case of the free and combined uric acid (*vide supra*). Sir William Roberts[34] admits that his analysis, which was not published, of naturally occurring amorphous urinary sediments, gave results discordant with the quadriurate theory. This he explains by decomposition having taken place during the process of collection and to the fact that the sediments were derived from different urines. (In the case of the sediments collected and analysed by us these objections do not apply.) Nevertheless, he assumes that in perfectly natural urine and sediment uric acid exists in the form of a quadriurate. As proof of this he brings forward only *one* analysis of an *artificially prepared* sediment which he regards as the counterpart of the natural one. The process by which he obtained the sediment is essentially the same as the methods described above for the preparation of potassium and sodium quadriurate, except that urine was taken as a solvent instead of water. These experiments we repeated, following exactly Sir William Roberts's directions[35] (potassium acetate process). Two samples were prepared, different urine being used. Table IX. gives the results of the analysis:—

TABLE IX.—*Artificial Urinary Deposits.*

—	Analytical numbers.				Actual composition.		
	Lot I.		Lot II.		Lot I.		Lot II
	—	Water-free	—	Water-free.	—	—	—
Total uric acid	84 66	86 73	87 26	89 14	Free $\bar{U}$	17 47	10 17
Ammonium ...	0 33	0 34	3 98	4 53	NH_4U	3 70	49 30
Potassium ...	9 33	9 56	3 43	3·96	$KH\bar{U}$	50·36	20 85
Sodium	3 24	3 30	2 07	2·34	$NaH\bar{U}$	28 00	19 41
Water, colouring matter, &c.	2 44	—	12 21	—	—	—	—

From this table it will be seen that the precipitate formed under the above conditions is not of constant composition (as is also the case in the normal sediments). The total quantity of the bases as well as their individual amounts vary within wide limits. Further, the quantity of free uric acid is also variable and in neither instance satisfies the quadriurate hypothesis. The relative percentage of the bases and the amounts of free and combined uric acid are given in Table X. The high proportion of potassium in the first analysis is explained by the fact that the urine, derived from the same subject as the urinary sediment analysed above, was originally rich in potassium, which was further increased by the method used (addition of potassium acetate). In the second analysis the urine originally was rich in ammonium.

[33] These figures are calculated from the analysis of the respective authors, with the exception of the last, which is simply copied.

[34] Loc. cit., p. 16.

[35] Loc. cit., p. 18.

TABLE X.—*Relative Percentage Proportion of Metals in Artificial Urinary Sediments.*

—	I.	II.
Ammonium	2 56	41·79 (parts per 100)
Potassium	71 93	36 53 (parts per 100)
Sodium	25·51	21 68 (parts per 100)
Combined uric acid...	69 31	78·97
Free uric acid	17 47	10·17

Luff, with the idea of supplementing Sir W. Roberts's analysis of artificial urinary sediment, estimated the metals in a mixed specimen of urinary sediment derived from fever patients. From his results (given above) he draws two definite conclusions. First, that generally the proportion of bases in urinary sediments is that found in his one analysis. This appears to us unjustified in the light of the analytical figures of other observers and our own results given above. Secondly, that the bases are present in the form of quadriurates. This conclusion is still more unjustified in that no estimation of the uric acid was made and thus no ground for his subsequent theoretical calculations exists.

III.

DECOMPOSITION BY WATER OF SUBSTANCES CONTAINING URIC ACID AND URATES AND NEW METHOD FOR PREPARING THEM.

We have mentioned the characteristic decomposition under the action of water of natural amorphous urinary sediment and the explanation given to this phenomenon by Bence Jones, and subsequently Sir W. Roberts upon the assumption of the existence of a true and definite chemical compound of biurate and uric acid (one molecule of each). Our own experiments have demonstrated that in naturally occurring and artificially prepared urinary sediments and urates the uric acid does not occur in this form, and hence that there is no ground for the quadriurate hypothesis. These substances, consisting of mixtures of uric acid and biurates, show under the influence of water the formation of uric acid crystals.[36] We shall in the future refer to them as decomposable urates.

The decomposition of these substances by water may best be seen under the microscope. For this purpose it is always advisable to have a relatively large quantity of water. If a very small quantity of the substance be intimately mixed with water on a slide and observed under the microscope, in a very short time the formation of transparent crystals will be seen. These crystals assume either ovoid or rectangular plate form, sometimes intermediate forms are observed, and occasionally the ovoid-shaped crystals pass completely into rectangular plates, probably owing to the influence of the dissolved biurate.

Since the substances showing this decomposition are mixtures of uric acid and biurate as shown by our preceding analyses, this reaction cannot be regarded as characteristic (and as such proving the presence) of quadriurates.[37] This being the case it should follow that any mixture consisting of biurate and uric acid should show this reaction which must be regarded as the dissolving out by water of the more soluble constituent, biurate, and the leaving behind of the less soluble one, uric acid.

That, however, another factor comes into play is evident from the following experiment. If a mixture in any proportion of finely powdered crystalline uric acid and crystalline biurate of sodium be treated with water under the microscope, the dissolving out of the biurate certainly takes place, but the uric acid remaining behind does not assume the characteristic crystalline form, shown by it when liberated from amorphous decomposable urates. It seems therefore that a necessary factor for this reaction is the presence of uric acid in an amorphous form. This obviously happens in the formation of the decomposable urates by the described methods in which an intimate mixture of uric acid and biurates, both in the amorphous

[36] Some of the naturally occurring amorphous urinary sediment examined by us, however, did not show this decomposition with water. This has been observed by Bence Jones and Pfeiffer. Some of the artificially prepared urates consisting as the analysis showed of nearly pure uric acid were also, from obvious reasons, not decomposed in this manner.

[37] Sir William Roberts frequently observed that substances not quadriurates showed nevertheless this reaction with water.

question which ...
amount proportional to the original contents of the solution in the salt; the second stage consists in the saturation of the liquid with uric acid. The amount of this substance taken up (apart from the ordinary physical conditions) depends on the quantity of the salt originally present in the solution. By varying the percentage of the salt corresponding amounts of biurate and uric acid are precipitated on cooling. The precipitate may thus range in composition from pure uric acid to pure biurate. From this it follows that it is possible to hit[38] by accident conditions which will produce a precipitate consisting of uric acid and biurate in equimolecular proportions—i.e., a so called quadriurate. We succeeded in bringing further proof of the correctness of the above view by preparing decomposable urates by an original method This consisted in taking solutions saturated at boiling point with biurate and treating the clear filtered solution with an excess of uric acid also at boiling point. Assuming the quadriurates to have the characteristics ascribed to them by Sir William Roberts this method of preparation necessarily excludes their formation in that they are, according to him, decomposed by boiling water. Upon cooling on ice the solution obtained above, an amorphous precipitate was formed which, after filtering, washing, drying, &c., in the usual way, showed under the microscope the characteristic ... potassium compound ... itted to analysis. The ... XI.:—

TABLE XI.—*Artificial Decomposable Potassium Urates.*

—	Analytical figures.		Calculated composition.			
	I.	II.	I.		II.	
	Dried at 130° C.	Dried in vac.				
Total uric acid	82·53	78 96	—	—	—	—
Free uric acid	—	—	30 53	—	31 40	—
Combined uric acid	—	—	52·00	KHU 63 82 require for 1 mol H_2O	47 68	KHU 57 60 require for 2 mol. H_2O
Potassium ..	11 82	10 04	11 82		10·04	
Water	5 65	10·00	5 65	5 57	10 00	10 15
	By difference.					

Sample I. was dried at 130° C. and lost at that temperature 11 00 per cent. of water. This amount corresponds to two molecules of water calculated to the biurate present (calculated 11·16 per cent) The substance consists of a mixture of uric acid and potassium biurate, the latter holding three molecules of water. Sample II. was dried in vacuo and lost 5 20 per cent. of water corresponding to one molecule of water calculated to the amount of biurate present (calculated 5 12 per cent.). The substance therefore, as in the former case, was a mixture of uric acid and potassium biurate, the latter holding three molecules of water. It will be seen that the potassium biurate moiety of this mixture contains three molecules of water, loses one in vacuo, and one at 130° C. The last molecule is si ... be slowly driven off at 150° C ... ever, the substance itself is pa ... brownish tint. We also prepared ... posable sodium urate,[39] the analysis of which is shown in Table XII.

... means by "a some- ... cooling rapidly on ice a very ... first appeared, which was ... prolonged cooling an amorphous ... and washed in the usual manner, gave the decomposition with water.

Total uric acid	75 31 per cent.	—	
Free uric acid	—	13·96 per cent.	—
Combined uric acid	—	61 35 ,,	63 75 per cent require for 2½ mol. of water.
Sodium	8·40 per cent.	8·40 ,,	
Water	16 29 ,,	16 29 ,,	16 44 per cent.

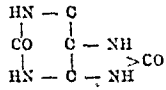
The substance lost at 130° C., 9 60 per cent. of water, corresponding to one and a half molecules calculated to the amount of biurate present. The substance, therefore, is a mixture of uric acid and biurate of sodium, the latter holding two and a half molecules of water, of which one molecule is retained at 130° C.

From the preparation and analysis of the above substances it is obvious that artificial mixtures of uric acid and biurate may be obtained which are decomposable by water with the formation of uric acid crystals, and that therefore this behaviour does not prove the presence of a quadriurate.

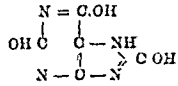
IV.

PHYSICO CHEMICAL OBSERVATIONS ON URIC ACID AND ITS SALTS AND THE SIGNIFICANCE OF THE SAME.

The now generally accepted constitutional formula of uric acid (first suggested by Medicus[40] and subsequently definitely established by the researches of E. Fischer[41]) is the following:—



Although this formula is in accordance with most of the reactions exhibited by this substance it does not provide an explanation of the existence of the now known six monomethyl-uric acids,[42] nor of its acid nature. A formula, however, fulfilling these requirements (as well as some others into which it is beside our purpose to enter here) is the following:—



which represents a tautomeric form of the acid. These two may be conveniently distinguished as the lactam and lactim formula respectively. According to Fischer the two substances corresponding to the above formulæ actually exist, the amorphous uric acid, as liberated from its salts in cold solution by acids, corresponding to the lactim form. This ... crystalline form by its proper ... water. The crystals form ... acid, through the influence ... two molecules of ... Fritzche[43] and Ma ... crystals probably represent an ... he lactim and lactam forms, still ... (H) groups By gentle heat, or on standing over sulphuric acid, they loose these two molecules of water and at the same time their transparency, being completely transformed into the lactam form.[44] It is the lactim form, however, which explains the salt-forming capacity of the acid.

The uric acids salts also occur in two distinct physical states, namely the amorphous and crystalline. We should explain this by assuming that these two forms are due to the presence of the tautomeric groups, the amorphous (lactim form) containing still two or one NC(OH) group, the crystalline (lactam form) containing only NH CO groups.

[40] Liebig's Annalen die Chemie, 175, 2-3.
[41] ... Chemischen Gesellschaft, vol. xvii., 17..., &c.

54, 201.

This assumption would explain the results of Baumgarten [46] who observed the transformation of the amorphous sodium biurate (precipitated from saturated solutions of sodium biurate by sodium phosphate or other salts) into the crystalline without any change of chemical composition, except the loss of half a molecule of water. We can confirm Baumgarten's observations in that we prepared sodium biurate in a different way, namely, by dissolving uric acid in weak (from ½ to 1 per cent.) solutions of sodium bicarbonate at boiling point. If such a solution be rapidly cooled amorphous sodium biurate is deposited (spheroids), on slowly cooling, however, the salt comes down in the crystalline form (needles). The former changes into the latter on standing or under the influence of water. Analysis of these two modifications showed that they were both pure biurate of sodium, the amorphous containing (air dry) two molecules the crystalline one and a half molecules of water. The existence of these two forms of urates, the transformation of the one into the other, and the above view with regard to their constitution may have an important chemico-pathological bearing. The extent to which the one must be regarded as physiological and the other as pathological, as well as the study of the conditions under which their transformation takes place in the liquids of the body, may obviously be of interest in gout so far as concerns the physico-chemical basis of this disease.

With regard to the state of uric acid and its salts in solution the following observations and remarks may be of interest. That uric acid is a very weak acid is known. Crystalline uric acid has no influence on moistened litmus paper in the cold. Hot saturated solutions of absolutely pure uric acid, however, show a distinct acid reaction with sensitive litmus and lacmoid. This is explained by the fact that in solutions the acid has the tautomeric form as described above. Uric acid being such a weak acid it is to be expected, according to modern physical chemistry, that its salts would be dissociated in solution. A qualitative proof of this would be that the solution showed an alkaline reaction. The neutral salts actually show a strongly alkaline reaction and are probably therefore dissociated in solution. Heretofore the so-called acid urates have been regarded as possessing a neutral reaction, probably upon the authority of Bentsch,[47] who first described and analysed them. We found, however, by carefully testing the reaction of solutions of these salts in an absolutely pure state with sensitive indicators that they reacted alkaline. The indicators we made use of were purified sensitive litmus, lacmoid, methyl-orange, Congo red, and rosolic acid. It was possible to show that for instance a solution of sodium biurate containing 1 in 100,000 reacted still distinctly with lacmoid, methyl-orange, and Congo red.[48] A further proof of the dissociation of these urates in dilute solution is the fact that the actual appearance of characteristic uric acid crystals can be observed under the microscope if pure acid urates of potassium or sodium, be treated with a large excess of water. This phenomenon is different from that exhibited by decomposable urates in so far as it requires a longer time—from half an hour to an hour. These observations require quantitative proof which would probably be afforded by the application of physico-chemical methods (molecular weight estimation in solution, &c.).

From what we have said above it follows that it is by no means necessary to assume that uric acid circulates in the fluids of the body as a urate, the small quantity present being probably hydrolytically dissociated. Other considerations have led O. Minkowski to hold a similar view.[49] This he expresses as follows: "After all we have no reason to assume that uric acid circulates in the blood as an alkaline compound."

V. CONCLUSIONS.

I. There is no evidence of the existence of a third order of uric acid salts—i.e., quadriurates—either in the artificial or natural amorphous urinary deposits or in the fluids of the body. Under these circumstances we regard it advisable to discontinue the use of the term "quadriurate."

II. The substances obtained artificially under the conditions supposed to produce quadriurates consist of mixtures in varying proportions of uric acid and biurates, or of pure uric acid or pure biurates alone.

III. Natural amorphous urinary deposits consist of a mixture of uric acid with urates of sodium, ammonium, potassium, calcium, and magnesium (containing in most cases in addition phosphoric acid).

IV. The property of some natural and artificial amorphous urates of showing the formation of uric acid crystals under the influence of water is due to the dissolving out of the more soluble biurate moiety and a change in physical state of the remaining uric acid.

V. Any theory concerning the pathology or treatment of gout or the uric acid diathesis built upon the assumption of the existence of quadriurates requires reconsideration.

VI. The existence of two forms of uric acid (the tautomeric lactam and lactim form) may explain the variation in the physical and physiological behaviour of this acid and its salts.

[46] Liebig's Annalen, 117, 109.

[47] Loc. cit.

[48] In all these tests the reaction exhibited by the salt solution was compared with that shown by an equal volume of pure distilled water and the same indicator.

[49] Ernährungstherapie bei Harnsäure-Diathese. V. Leyden's Handbuch der Ernährungstherapie, vol. ii., p. 507.

THE MANAGEMENT OF THE ANÆSTHETIC IN CASES IN WHICH RESPIRATORY IMPEDIMENT EXISTS.[1]

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IN bringing before this society a communication dealing with certain incidents in surgical anæsthesia I propose to group my remarks about certain cases taken from notebooks. The cases which I have selected are those in which from various reasons either anatomical, pathological, or other, interference with respiration occurs. It is clear that if the obstruction exists at the time of giving the anæsthetic and gives evidence of its presence the anæsthetist is placed upon his guard. However, it often happens, as the sequel will show, that although such obstruction exists it does not reveal itself until the progress of anæsthesia introduces a new factor in the problem, while in other cases no obstruction exists as such until the anæsthetic itself leads to its production. All agree that do what we may sooner or later some of us are bound to meet with cases which present symptoms or phenomena in the progress of narcosis which confound our hard-and-fast rules while they jeopardise the lives of our patients. I have arranged some such cases and hope to reason out the causation of the difficulties which they present and to suggest how to obviate serious embarrassments.

As it is important to make my meaning clear it may be well to explain what should be understood by certain phrases. "Primary circulatory failure" may be taken to connote a depression of the circulation which is preceded by no interference with respiration. It is no doubt impossible, speaking physiologically, for any foreign gases or vapour to enter the blood through the epithelium of the lung cells without producing some influence—probably local—upon respiration. It is, I submit, quite possible for marked circulatory depression to arise without there being any apparent anterior respiratory changes of an injurious character. "Secondary circulatory failure" may be taken to mean a circulatory depression consequent upon and causally related to interference with the functions of respiration. It is the respiratory embarrassments which culminate in this secondary circulatory failure with which I propose, to-night, to deal.

There is, I take it, no doubt that the pulmonary circulation is materially assisted or hindered according as (1) the thoracic movements are maintained and are competent; and as (2) the gaseous composition of the blood passing along the veins and arteries of the pulmonary circulation is maintained at its physiological standard. The undue deprivation of oxygen and the excessive venosity of the blood do undoubtedly tell in the direction of impeding the pulmonary circulation and of hampering the efficient and effectual emptying of the heart. Obstruction to respiration may occur at various points and be due to various causes. Let us first consider those arising in the upper air passages. In some the cause is evident, it is well recognised and

[1] A paper read before the Harveian Society of London on May 17th, 1900.

[illegible] little to be done in order to [illegible] not so.

[illegible] blocking in the upper air passages commonly arises from enlarged tonsils with a partially occluded naso-pharynx, or from pharyngeal abscess, enlarged tongue, or old adhesions between the posterior wall of the pharynx and the tissues about the faucial arches. These cases may, in many instances, however, be extremely difficult to manage. Two cases I will mention as extreme examples of the condition. In both the patients were very young children and both presented extreme degrees of difficulty and danger.

CASE 1.—The patient was under three years of age and the tonsils were so large as to meet; they were inflamed and their surfaces were covered with glutinous mucus through which the air passed with difficulty. The child was being asphyxiated and tonsillotomy was determined upon as being necessary to give relief. As the little patient was very weakly and had to be in the sitting posture I gave him ether, keeping the mouth open throughout the inhalation. The choice of the anæsthetic was further made with the view of producing a very transient narcosis in case the protective effect of the reflexes was required. The operation was entirely successful and the ether did not add to the respiratory difficulties.

CASE 2.—In this case the child was aged two years and had had very frequent convulsions. The naso-pharynx was badly blocked by tonsils and growths and the little patient was liable to severe convulsive seizures at any moment. I gave the A.C.E. mixture at first until the child was dazed and subsequently ether and oxygen, with an excellent result. The removal of the obstruction had the most salutary effect upon the general condition of the patient.

There is a large group of cases in which difficulties arise through some mechanical interference with respiration. In these the use of anæsthetics may not be the actual cause, but it has the direct effect of intensifying the obstruction. Of these I have notes of many cases and I propose to read a few. The obstruction in some instances is not noticeable before the anæsthetic is commenced; of this class we have goitres without noticeable stridor and more especially in those cases in which the neck of the patient is short and thick and the tissues are hard and resistant. One sees the acme of this condition in the disease called angina Ludovici when the throat is surrounded by brawny hard structures which fix the jaw and practically render the trachea and larynx a rigid inelastic tube. In bad cases of lymphadenoma and lymphadenitis a similar necklet of dense tissues is met with. But it is by no means these obvious conditions themselves warning the anæsthetist of rocks ahead which alone are met with. It is frequently in thick-set plethoric persons whose chests are rendered more or less immobile by emphysema or fat that the greatest dangers arise. A typical instance of this occurred in my practice not long ago.

CASE 3.—The patient, a stout woman of between 40 and 50 years of age, was operated upon for mammary cancer. Beyond the fact that the patient had a short neck, high shoulders, and a slightly rigid chest there was no obvious reason for fearing difficulty. She had nitrous oxide gas followed by ether and she passed into the third degree of narcosis without much difficulty, although there was more duskiness than I liked. She was given air frequently and the head was kept high. The blueness increased without interference with chest movements or pulse. It was then found that owing to the rigidness of the muscles of her neck and jaws the chin could not be advanced nor could the mouth at first be opened. However, after some seconds the teeth were separated and the mouth was opened. The face was now purple and the signs of asphyxia were well marked. Rhythmic traction on the tongue was done and the surgeon was warned that laryngotomy might be required. He remarked that the operation would under the circumstances be well-nigh impossible. The tongue was swollen and all the faucial tissues were engorged. I passed my finger over the tongue and by hooking up its base with the epiglottis succeeded in starting respiration. As soon as air began to enter the chest the spasm passed slowly off in a few moments and the operation was continued and brought to a successful termination. The ether was replaced by chloroform which was not well taken. I kept a gag separating the jaws during the rest of the administration.

Two cases have been reported recently in which ether was given to patients with goitres and in both cases death from asphyxia resulted. I think when obvious impediment to respiration exists in the upper air passages, as in the case of goitrous persons, chloroform given from Junker's inhaler is far safer than ether, because when the patient under ether coughs or is salivated the cyanosed state is much aggravated. I cannot, however, disguise from myself that chloroform has its dangers in such cases and that if difficulties arise under its use the patient is placed in great jeopardy as the highly venous blood will certainly render him more receptive to a lethal dose. I have notes of cases belonging to this category in which the condition of obstruction occurred in the puffy venously congested tissues of chronic alcoholics. In such persons the respiratory difficulty is associated with two conditions equally difficult to relieve. In the first place most alcoholics have a badly acting heart; one believes the muscle to be degenerated and one knows that its rhythm is irregular and often chaotic. It is certainly, in most instances, extremely ill-equipped to do its work in the face of increased resistance, when the pulmonary the second place these and prone to muscular rigidity and clonus. I remember one instance which at the time caused me great anxiety and chagrin.

CASE 4.—The patient, an old man, had to undergo a rectal operation. He was sodden with drink, with puffy, swollen face and an extremely irregular, feeble heart, and all his tissues were engorged with blood. Under chloroform he struggled furiously and his condition was alarming while with ether the restlessness and the cyanosis were so excessive that it was with the greatest difficulty that he could be kept sufficiently still for the surgeon's purposes, and this in spite of the anæsthetic being given freely and care being taken to avoid asphyxial complications.

Of course, such cases are exceptional, but many occur which differ only in degree from those described. The practical lessons which these experiences have taught me may be summed up as follows. Every person must be treated as a problem, it may be put thus: Given the patient, find the best anæsthesia and the most suitable way of administering it. I am sure only experience can solve the problem. In cases of goitre I should in most cases regard chloroform as the safest anæsthetic. As the patient passes under its influence stridor usually becomes marked. This I believe arises from the fact that the trachea has lost much of its rigidity as a result of the pressure to which it has been subjected, and as soon as the muscles and intermuscular fasciæ become lax owing to the chloroform the support they usually give to the trachea is lost and so it collapses. Certainly in exophthalmic goitre, and to a less degree in other forms of thyroid disease, there is a great tendency to saliv ether becomes so the bronchi and a minimal dose o estimated. When the patient has passed into the [illegible] degree and the skin incision is made the chloroform should be given less freely although continuously. The method of giving chloroform intermittently is never advisable. It nearly always brings on vomiting and often dangerous faintness. The patient is for ever hovering between a condition of over-narcotisation and one of resumption of consciousness. It is one great advantage of inhalers such as Junker's over the open method that you can give chloroform in great dilution but maintain the continuity of the inhalation. With skill and judgment the drop-bottle method with a Schimmelbusch's mask will give a good result, but it is inferior to a regulating inhaler.

Posture, again, is one of our difficulties in surgical anæsthesia. It often happens in many operations that the position of election—namely, when the patient is lying on his back with his head turned to one side and slightly extended—cannot be adopted. In cases of laminectomy, in operations undertaken for the relief of empyema, in Estlander's operation, and in Kraske's operation for high removal of gut the patient is placed more or less on his face. Also in some gynæcological procedures when the semi prone posture is adopted. I have found that when chloroform is given for these cases the hampered chest movements, especially when the patients are heavy and loosely knit, produce some cyanosis. In prolonged operations this may become very marked unless the precaution is taken to adapt the dose of the anæsthetic to the changed condition of the respiration. Nor can one, I think, wish for a

actual fit came on at about 7.30 A.M., an hour after the completion of labour, and she had had seven or eight attacks before I saw her. On examination I found her in a condition of deep coma. The temperature was 101·5° F. and the pulse was 140. The pupils were widely dilated and equal, and they reacted but slightly to light. The urine on subsequent examination was found to contain a large quantity—about one-third—of albumin. The convulsions were typical eclamptic seizures and were recurring with alarming frequency. The clonic stage was protracted and the movements were general and violent, though invariably commencing in the left hand and arm. There was marked opisthotonos. The intervals between the attacks were of short duration, and in the words of her friends, "she only came out of one fit to go into another." Even during the moments of immunity there were spasmodic movements of the limbs, twitchings of the mouth, and rolling of the eyes. I gave the patient a five-grain dose of calomel, followed by a draught containing 40 grains each of chloral hydrate and bromide of sodium with digitalis. This had a marked beneficial effect, as the patient became much quieter, and from 9 A.M. (when the draught was given) till 11 A.M. she had only four fits. At 11 A.M. I gave a hypodermic injection of one-fifth of a grain of pilocarpine nitrate. On visiting the patient again at 12.15 P.M. I was informed that the convulsions had again become more frequent and of longer duration. There had been five attacks in less than an hour, each one lasting four or five minutes, and as the patient had three severe attacks in quick succession shortly after my arrival I decided to give chloroform immediately. At first the attacks appeared to be rather excited than otherwise, and I found it necessary to "push" the administration of the drug almost to the full surgical extent in order to obtain any effective control of the paroxysms. For over an hour I kept the patient deeply under the anæsthetic, as I found that there was almost immediate recurrence of the convulsions on diminishing the strength of the vapour. Very gradually, however, after the first hour I was able to decrease the dose of chloroform and finally found it sufficient to give it intermittently, merely increasing the strength on any indication of commencing convulsions. The intervals of immunity became longer and longer and I discontinued the anæsthetic altogether three and a half hours after commencing its administration and when, with the smallest effective amount of chloroform, the patient had been half an hour without any signs of convulsive movements. After discontinuing the chloroform I remained for about an hour and a half by the bedside and noticed that as the effect of the anæsthetic passed off there was a return of the muscular twitchings, but they did not develop into an actual fit until just before I left, when there were three or four attacks of convulsions in quick succession, limited, however, to the left half of the body. I prescribed a mixture containing in each dose 20 grains each of chloral hydrate and bromide of sodium to be given every four hours so long as there was any continuance of the convulsions. The patient had the first dose about 6 30 P.M., and from this time till 9.30 P.M., when I saw her again, she had three fits. I gave her a second dose of the medicine before leaving and at midnight the nurse wrote to me a note to say that there had been no return of the convulsions and that the patient appeared to be sleeping quietly. During the early morning of the 13th there was some recurrence of the eclampsia, but as there were considerable intervals between the attacks, which were moreover of short duration, the nurse did not repeat the chloral draught. The patient remained unconscious during the whole day. She passed fæces and urine involuntarily seven or eight times. The pulse varied from 108 to 120, and the temperature, taken every four hours, fluctuated between 101° and 101·8° which was the highest point reached. There was no return of the convulsions and there were no muscular twitchings. On the 14th I found that the patient had had a good night, but she remained in the same unconscious condition as on the day before. The bowels were still loose and several involuntary motions were passed. The temperature during the day remained about 100°, the highest point reached being 100·4°. In the early evening the patient opened her eyes several times and looked about her, but did not take any notice when spoken to until near midnight when she gave several monosyllabic replies to questions. On the 15th the patient was able to converse freely. She remembered nothing of her confinement or subsequent illness, but complained of feeling stiff and sore all over "as if she had been beaten." The temperature and pulse were normal. The urine still contained a trace of albumin. From this time she made an uninterrupted recovery, but she had no memory for any events later than noon of the 11th, the day previous to her confinement, and she could recollect nothing of her labour or of the birth of her child, so that she was practically in a state of unconsciousness for three and a half days, during which time she gave birth to her child and had from 45 to 50 attacks of eclamptic convulsions with no subsequent recollection of pain or suffering.

CASE 2.—I was called to this case on Feb. 9th, 1899, at about 5 P.M., but owing to a mistake in the address which was sent to me there was some delay in my seeing the patient who had been attended by a midwife and had been delivered of a full-time child at about 4 P.M. On my arrival, at about 6 o'clock, I found the patient, a robust-looking, muscular primipara, 22 years of age, suffering from severe eclampsia, the fits occurring with such frequency as to seem almost continuous. Her temperature rose to 102·4° F. and the pulse was 130. The urine was normal in every respect and repeated examinations subsequently failed to show the presence of even the least trace of albumin. The midwife told me that the patient had a "slight fit" about a quarter of an hour before the birth of the child, but she noticed nothing else abnormal until about an hour after the completion of labour, when the fits came on in alarming frequency and severity and I was sent for immediately. The friends informed me that the woman had always been healthy and had never suffered previously from convulsions or fits of any kind. I gave her a two minim dose of croton oil, followed by a draught of chloral hydrate and bromide of sodium (40 grains each) as in the previous case and saw her again at 7.30 P.M., when I found that the bowels had acted freely several times, but the convulsions were not diminishing either in frequency or severity. Under these circumstances I decided to resort again to the administration of chloroform which had been of such material service in my previous case. The attacks were more rapidly controlled by the anæsthetic in this case than in Case 1, but I again found that at first they appeared to be aggravated, and that it was necessary to "push" the drug in order to obtain efficient control of the paroxysms. In the present case I was able to discontinue the chloroform after a little over an hour and a half—i.e., at about 9.30 P.M. Between 9.30 P.M. and midnight the patient had several fits, but they were not so severe or so prolonged as before giving the chloroform. I prescribed 15 grains each of chloral and bromide, to be given every three hours, if there was a recurrence of the convulsions. During the following day the patient remained unconscious. The temperature was never higher than 100·8°, and her pulse remained at 120. On the 11th I found her able to converse freely, but she remembered nothing of her illness or of the actual birth of the child, though she had a clear recollection of the earlier stages of the labour. She made an uninterrupted recovery except for a slight attack of bronchitis which came on towards the end of the week.

CASE 3.—This case was much less severe than either of the two cases above described—a circumstance which I attribute in great measure to the fact that the presence of albumin in the urine was detected and the morbid condition treated for some weeks before the actual confinement took place. The patient, a primipara, aged 23 years, came to me on April 1st, 1899, being then eight months pregnant, complaining of severe headaches, giddiness, and swelling of the feet and legs. She was suffering from great œdema of the legs and there was marked puffiness of the face. On examining the urine I found it loaded with albumin to the extent of nearly one half, and it also contained epithelial cells and tube casts. The patient had noticed the swelling of the feet and legs for quite a month before coming to me, but she did not seek advice until she was almost unable to walk and until the headache and other symptoms became severe. I strongly urged the advisability of inducing premature labour, but as neither the patient nor her husband would consent to this I was obliged to rely upon medicinal and dietetic treatment. I prescribed a mixture containing tincture of perchloride of iron, tincture of digitalis, and tincture of jaborandi, to be taken three times a day, and also 40 grains of compound powder of jalap to be taken every night for a week and after that every other night. At the same time I restricted her diet chiefly to milk and white fish. Under this treatment there was a

slight improvement. The albumin diminished in quantity, the headaches and giddiness were less severe, but the œdema increased until it extended to the vulva and the loins. On the 28th I advised copious daily enemata of soap-and-water and discontinued the jalap. Labour commenced on May 1st and the first stage lasted about 24 hours, the vertex presenting. About noon on the 2nd I ruptured the membranes and the head quickly descended on to the perineum, when the patient complained of great giddiness and shortly afterwards without any further warning became convulsed, the fit lasting several minutes. The child was born almost immediately afterwards and the placenta was expressed without difficulty. I gave her a draught containing liquid extract of ergot with 20 grains each of chloral hydrate and bromide of potassium. Half an hour after the birth of the child she had another attack of convulsions lasting for four or five minutes and followed by a short period of semi-consciousness and great exhaustion, the pulse going up to 140. When I left the house an hour later she had quite recovered consciousness and speech and had had no return of the convulsions, from which she did not subsequently suffer. A week afterwards the urine still contained a trace of albumin (about one-twelfth), and by the end of a fortnight it was normal. The œdema gradually disappeared concurrently with the disappearance of the albumin and the patient made an uneventful recovery, though she remained anæmic for some weeks.

With the exception of rupture of the uterus and concealed accidental hæmorrhage there is probably no more fatal complication met with in the practice of midwifery than eclampsia. Its serious nature, as well as its comparative rarity and its obscure pathology, have combined to invest this disease with such interest and importance that every case seems worthy of record. Many theories have been advanced from time to time as to the cause of the convulsions, but the etiology of the disease is still much disputed. There is general agreement amongst pathologists and obstetricians that it is due to a toxæmia, but while according to some authorities the origin of the toxin is to be found in some pathological condition of the placenta or the fœtus giving rise to bio-chemical changes, others deny the influence of either placental or fœtal conditions and maintain that it always arises from some morbid maternal state. Probably the most generally accepted view is that the disease "is due to a toxæmia of a urinary nature, toxic substances being retained in the blood which should have been excreted by the kidneys,"[1] and the frequent association of albuminuria with eclampsia certainly supports this theory. It has been stated[2] that one pregnant woman in 40 is albuminuric,—and that of these one out of every four develops eclampsia; that eclampsia without albuminuria is of rare occurrence—one case in 10 cases. From these facts the practical conclusion is drawn that albuminuria should always be looked for in pregnant women, and actively treated during pregnancy when detected.

As regards treatment there can be no doubt that the chief indication is to eliminate the toxic matter from the circulation, or, failing this, to dilute it as much as possible. With this object in view purgatives, diuretics, and diaphoretics are given, and Dr. R. Jardine has recently strongly advocated the use of saline injections. In the two first cases above recorded I relied on calomel and croton oil respectively as purgatives, in each instance with very satisfactory results; but in any future case I should feel more inclined to resort to the more rapid and certain method of emptying the lower bowel with copious and repeated enemata. The second indication must be to counteract or modify the effects of the poison in the system, and for this purpose numerous drugs have been recommended—morphia, chloral hydrate, bromides, chloroform, veratrum viride, &c. After the experience gained in the three cases now described I should never hesitate to place entire reliance on the mixture of chloral hydrate and bromide, supplemented if need be by the prolonged administration of chloroform; but in a disease of such gravity, arising from a toxin, whatever its nature, of such virulence, it is absolutely necessary to give these counteracting drugs in full doses, and above all to persevere in the line of treatment adopted and that even in cases apparently hopeless.

Commercial road East, E.

[1] Dr. R. Jardine. THE LANCET, July 1st, 1899, p. 23.
[2] Charles: Journal d'Accouchements, April 3rd, 1893.

A FEW CASES OF BRAIN INJURY CLINICALLY EXAMINED.

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SURGEON TO CLACKMANNAN COUNTY HOSPITAL.

As the clinical study of head affections and injuries, when verified by post-mortem examination, is always interesting, the following cases may be of more than ordinary interest, more particularly as each of the following cases shows the enormous amount of brain tissue which may be destroyed without causing at least immediate death.

CASE 1.—The first case was that of a man, aged 20 years, who was admitted into the Clackmannan County Hospital suffering from a compound fracture of the skull which he sustained by being knocked down by the revolving handle of a steam winch. On admission his breathing was laboured and stertorous, there was considerable muscular twitching, and just after the accident he had had several violent convulsions. There was considerable hæmorrhage from the wound, which was about three inches above the left ear. He was insensible except to strong stimuli. There was a considerable scalp wound, with extreme shattering of bone which was also much depressed. I decided to trephine at once and having had the patient put under chloroform I removed entirely a triangular piece of bone measuring two inches by one and three-quarter inches by one and a quarter inches, and also two other pieces of small bone which had been crushed down from the inner table. The dura mater was to the naked eye apparently uninjured. As there was still a great deal of depression I inserted my finger between the dura mater and the frontal bone and lifted up the whole, when it went back into place with a snap. Immediately afterwards the breathing became regular and quite natural. The external wound, which was originally two and three-quarter inches in length, running upwards and backwards, and which was extended for operation to five inches, was closed, and a drainage tube was put in, which was taken out on the third day, the wound having practically healed without suppuration. The patient gradually recovered consciousness and on about the fifth day he was able to ask for anything. Curiously enough, from the day after the injury he insisted on getting out of bed for the purpose of passing urine, and this in spite of all attempts to prevent him. On the ninth day a reddish swelling and general puffiness developed over the nose and forehead which at first looked almost erysipelatous in character, and on the next day the temperature rose to 102·4° F. This, however, went down on the fourteenth day, when he gradually improved and spoke a little, and could answer questions if time was given to him, although cerebration was very slow. The improvement continued and on the seventeenth day he sat up in bed and ate a small piece of meat and complained that it was not enough. On the twenty-first day a swelling similar to that which developed on the forehead came on the posterior occipital parietal region. On the twenty-fourth day the patient developed extreme photophobia. He lay on his left side and curled himself up. He became comatose on the twenty-sixth day and died two days after, or 28 days after the injury. As the case fell under the scope of the Fatal Accidents Inquiry Act (Scotland), 1895, I made a post-mortem examination with a brother practitioner and we found the following conditions. The external wound was quite healed and the dura mater had thickened slightly at the point of injury. On reflecting the scalp the fracture was found to extend down to the left ear, right down to the left orbital plate, then right across the head posterior to the fronto-parietal suture to near the right ear. On lifting the skull-cap the dura mater was found to be adherent to it at the seat of injury. Below the dura mater the brain was found to be more or less covered with pus and immediately below the seat of injury was an abscess. The brain was removed and on making sections the abscess was found to extend from the point of injury, which was on the middle frontal convolution backwards and inwards, to the lateral ventricle. In the right cerebral hemisphere another abscess was found just below the surface of the brain at the angular convolution extending to a point close to the lateral ventricle

on that side. Pus was also found over the base of the brain and around the spinal cord.

In reviewing this case I can only suppose that the œdema over the frontal region was due to the abscess on the left side and that it went down with the contemporaneous fall of temperature when the tension was relieved by the pus bursting into the lateral ventricle. The second abscess did not find such exit. The other points to consider clinically in the case are the absence of paralysis, the extraordinary destruction of brain tissue, the extreme photophobia, and, finally, the length of time under the circumstances that the patient lived after the injury.

CASE 2.—The patient was an old soldier, aged 56 years, whom I admitted into the hospital suffering from right hemiplegia. The man had been ill for several days before his admission. No very definite history could be got. He was able to speak a few words, but cerebration was very slow, and on the left eye there were signs of an old keratitis. On the eighth day after his admission he became worse generally and he suddenly developed most violent convulsions which lasted for several hours, but which gradually subsided after treatment with heroic doses of chloral and morphia. From this date the convulsions never recurred, but there were slight twitchings from time to time. The patient died on the twenty-fourth day after his admission into the hospital and about the thirtieth day after the first seizure. Death occurred in the way so common with many of these cases except that the man took his nourishment well up to the day of his death. The temperature never rose above 99 8°F. There was no affection of the breathing.

The interest of this case lies chiefly in the post-mortem examination which, happily, I was able to make. On opening the head the dura mater was found to be adherent to the bone in patches all over the calvarium and was detached only with great difficulty in some places. The veins of the dura mater were enormously dilated. The whole brain tissue was extremely soft. On making sections of the brain horizontally the first thing which was discovered was a large round clot flattened from above downwards, measuring one and three-quarter inches in diameter, placed high up just inside the fissure of Rolando. On making further sections a well-organised smaller clot was found a little lower down just inside the middle frontal convolution, and again at a lower level a clot, of much the same size and character as the last, situate in the occipital region. These three clots were all found on the left side of the brain, but on making similar sections on the right side three other clots were found in almost exactly corresponding positions. The only difference was that the oldest clot of all—viz, the one in the frontal region—was here and the most recent clot of all was on this side in the occipital region. The last clot found was on the left side of the cerebellum and was three-quarters of an inch in diameter.

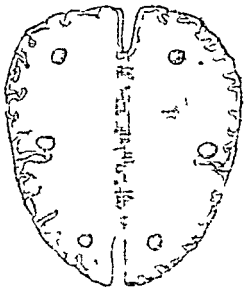


Diagram representing the relative position of clots in the brain in Case 2. Six clots are shown. The seventh clot was in the body of the cerebellum. The clots were not upon the same level, although diagrammatically they are so represented.

Now, which clot or clots, if any, caused the convulsions? From the date of the first symptoms and comparing the oldest clot with the more recent ones and considering the time which elapsed between the convulsions and the date of death I am inclined on these grounds alone to think it was the clot in the cerebellum. Although the age of the clot below the fissure of Rolando was much the same as that in the cerebellum, yet, on the other hand, the age of the corresponding clot below the fissure on the other side was distinctly different, and had this been the cause then it is reasonable to infer that instead of one set of general convulsions there would have been another at a later period, and this was not the case. The chief point of interest about this case is the number of separate hæmorrhages, no less than seven, each one being of a different age, and as far as affected the cerebrum almost exactly symmetrical; further, that so far as could be seen only one of these hæmorrhages caused the convulsions. The internal capsule was not affected and in no case apparently did the clot affect the grey matter of the brain. The man was an alcoholic and from the signs which were found I have little doubt that he had suffered from syphilis. In this case also there was no affection of the breathing.

CASE 3.—The third case is perhaps as interesting as the foregoing in showing an extensive destruction of brain tissue without a fatal ending. A lad was admitted into the hospital suffering from an injury to his head. It had been crushed from side to side between a fixed upright beam and the arm of a machine working horizontally, the point of which was as nearly as possible three-quarters of an inch square. On admission he was bleeding freely from a small cut over the right temple and a quarter of an inch behind the temporal artery. The injury to the bone was slightly to one side of the cut and to the front. I introduced a probe very gently and found a small fracture at the point indicated and with so much destruction of brain-tissue that the probe by its own weight entered exactly two and a half inches straight into the brain. Considering the condition of the patient and the absence of any urgent symptoms I did not think it a case for operation. The bleeding was stopped, an antiseptic pad put on, and the boy was sent to bed. The external wound, which was not sewn, healed without trouble and the patient was discharged in about three weeks. The boy after receiving the injury walked about 200 yards from the works to a medical man. But for a little faintness and pain for a few days the patient suffered no inconvenience. There was no rise of temperature or bad symptom.

Each of these cases shows the enormous amount of brain-tissue which may be destroyed and, further, the extraordinary efforts the brain is capable of exerting to repair the damage, both effort and power being quite beyond what is often supposed it is capable of exerting.

Alloa, N.B.

SURGICAL ASPECTS OF CONSTIPATION.

BY S. L. WOOLMER, M.R.C.S. ENG.

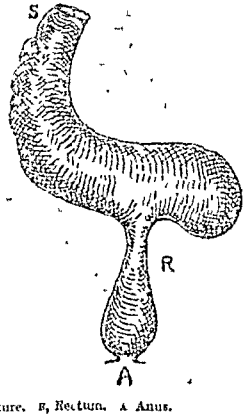
THE following two cases are recorded in order to demonstrate what is believed to be a rare sequel to the most common morbid condition known to exist. I can find in no works on modern surgery any reference to a case of "aneurysmal" dilatation of the colon as the result of chronic constipation, and yet that it must exist in no small degree is very obvious. Due to this dilatation and the consequent accumulation of fæcal matter therein the condition of both patients was reduced to one of great gravity, as witnessed by the repeated attacks of intestinal obstruction, the degree of anæmia produced by insufficient alimentation, and stercoræmia. No enema could have possibly cleared the intestine nor could any procedure short of operation have relieved the patients.

CASE 1.—A man, aged 28 years, was under the care of Dr. Masi in the Military Hospital of Buenos Ayres. He had been constipated for four years. On Dec. 23rd, 1892, during a long march, and after a meal which consisted principally of cheese, he could obtain no movement of his bowels, and in this state he continued till March 12th, 1893, having only been able to expel by the rectum gases and a little blood. He then entered the Hospital San Roque in Buenos Ayres, where he was eventually relieved. From this period till November, 1896, he continued always constipated, relieving himself only by enemas and purges, and then with great difficulty. In November, 1896, he entered the military hospital under the care of Dr. Masi, where he recovered somewhat his functions by the application of abdominal massage and enemas of half a litre of olive oil administered daily. The presence now of blood in the motions and their ribbon-like character persuaded Dr. Masi that he had to deal with a malignant disease of the colon and he considered, therefore, the advisability of performing laparotomy.

Examination by the rectum revealed a very indistinct sensation of fulness behind the bladder, and by abdominal palpation nothing abnormal could be discovered. Laparotomy was performed on Feb. 2nd, 1897. The large intestine was found to be healthy from the cæcum to the sigmoid flexure, but on introducing the hand into the pelvis and behind the bladder a coil of intestine was felt dilated to the extent and form of a stomach. The bottom of this dilatation was occupied by soft fæcal matter. On lifting that part of the sigmoid flexure out of the abdomen which was adjacent to the tumour the latter was seen to accompany it, and on elevating its base it became immediately emptied, its contents falling into the rectum. The tumour was then easily brought out of the abdomen and was found to be the last part of the sigmoid flexure enormously dilated. Its surface presented striæ very like to those of the abdomen of a multiparous woman, and proof that it had been still even more dilated than at the time of the operation. On further examination it was found that movement of the bowels could only be produced when this cyst was completely full, and then only by regurgitation, as will be easily understood from the accompanying diagram (Fig. 1).

FIG. 1.

FIG. 2.



S, Sigmoid flexure. R, Rectum. A Anus.

An examination of this diagram will also explain the small calibre of the motions. The weight of the cyst full of fæcal matter must have produced such traction upon the sigmoid flexure that the orifice of communication with the rectum must have been obstructed almost completely and could only allow the passage of small flattened particles. The veins of the meso sigmoid were immensely dilated, indicating the difficulty of the circulation and perfectly explaining the hæmorrhages which occurred before operation. The cyst once emptied was sutured to the abdominal wall in an elevated position by seven sutures with No. 0 silk, and the abdomen was closed. A dose of castor oil administered 36 hours after the operation relieved the patient of some tympanites and colic, and subsequently the bowels were moved once or twice a day abundantly, the motions being of normal calibre. On July 31st, 1897, the patient had no constipation.

CASE 2.—A man, 42 years of age, was admitted under my care to the sanatorium of Buenos Ayres on July 15th, 1897. He had suffered from constipation for some eight or 10 years, having become worse during the last 12 months. During this latter period his only food consisted of thin soup and light cocoa, due to a not unnatural desire to diminish as far as he was able the quantity of fæcal matter. In March, 1897, he had an attack of acute intestinal obstruction, but without vomiting; his tongue was dry and was covered with a brown fur and his countenance was anxious. On abdominal palpation a tumour was found in the hypogastrium, at the level of the insertion of the right rectus muscle; it was globular, smooth, and painless, and presented considerable resistance. By the rectum a tumour was also felt descending from above and reaching to the middle portion thereof, and by bi-palpation it was found to be identical with that felt through the abdomen. The finger could with firm and continued pressure be indented in the tumour, the indentation persisting afterwards. The tumour could not be dislocated from the pelvis.

Treatment by large enemas was adopted, the patient placing himself in the genu-pectoral position. Cascara sagrada was administered and periodically Hunyadi Janos water, and later an enema of olive oil was employed, with the effect only of enabling the patient to live in comfort, acute symptoms recurring if these measures were not adopted. But as a result of this treatment the tumour seemed to acquire greater mobility, at times abandoning completely the pelvis, as proved by rectal examination, and appearing high up in the hypogastrium and with marked and evident relief to the symptoms. Still the patient never had a comfortable movement of the bowels and never voided any fæcal matter, only what he termed "washings." Every week he had symptoms of acute obstruction and the diagnosis of pedunculated stercoraceous tumour of the sigmoid flexure appearing certain he was admitted to the sanatorium for operation, which was performed on July 19th.

On opening the abdomen the sigmoid flexure at once presented itself in the wound, enormously dilated, having lost completely its sacculated character. The small intestine was seen only once, and it appeared somewhat atrophied. On passing the hand into the pelvis it was found to be totally occupied by a large tumour which completely impeded the passage of the hand. The tumour was eventually lifted out of the pelvis by traction on the dilated colon, and it could then be "eased" out of its position. It was found to be a large "sessile" dilatation of the last portion of the sigmoid flexure (Fig. 2). Its peritoneal covering was quite normal, but it seemed to be somewhat thickened. No adhesions existed. The consistence of the tumour was solid, but by dint of force it could be indented by the finger. An effort was then made to reduce its contents into the rectum, but although moderate pressure was employed it was found impossible. One of two procedures was then left open—either to suture the elevated intestine to the abdominal wall or to incise it, liberate its contents, and return it again to the abdominal cavity. The former course was decided upon for the following reasons. The tendency of the tumour, due to its weight, was always to fall into the pelvic cavity, and I decided to marsupialise the tumour in the abdominal wound in the hope that the contained mass would tend to free itself gradually by reason of its own weight. In case this did not happen after adhesions had formed circumscribing the piece of gut left exposed in the wound it could always be incised later and the resulting fistula could be subsequently treated. Accordingly it was united to the central part of the abdominal incision by an uninterrupted suture, there remaining at the base of the wound a piece of the tumour of the size of a florin. The rest of the wound was then sutured in three places.

Recovery was uninterrupted after the operation and the patient expressed himself as being much relieved from the first. The bowels still only acted with enemas which brought away débris. On the eighth day it was noticed by rectal examination that the fæcal mass had fallen so as to be nearly within reach of the finger, and with a little trouble and by the aid of copious enemas and a long scoop it was completely removed. Its volume would be approximately three-quarters of a litre and it had lost entirely its fæcal odour. Up to August 10th the patient still only defecated by the aid of an enema, the motions being ill-formed but of distinct recent formation, and he could pass flatus with all facility. The tongue had completely cleaned by August 1st. The abdominal wound was therefore closed on the 3rd, local anæsthesia being produced by Schleich's infiltration process. During the following night the patient was much troubled by retention of flatus, which was relieved by the passage of a long tube up to the sigmoid flexure, and more completely later by the administration of an ounce of castor oil. On the 10th the wound had practically healed, and on this date the first natural and spontaneous movement of the bowels was produced. On the 31st the patient was discharged cured, having gained enormously in weight.

As I have before mentioned, although constipation is one of the commonest morbid conditions known, yet I can find no reference made by any author to the formation of a tumour such as that met with in the foregoing cases. Cahier in his monograph on Acute Intestinal Obstruction makes no mention of this condition, but Treves in his work on Intestinal Obstruction refers to tumours formed by the mass of

retained fæces, and observes that when they occur in the descending colon or sigmoid flexure they are divided into scybala, thus showing that in his vast experience he had probably never met with a case similar to those here recorded. He later mentions a very important sign in the differential diagnosis of these tumours—that is, that they are affected by pressure, yielding to the finger the sensation of a mass of dough or putty. In Case 2 this sign placed the diagnosis beyond a doubt, but it was inapplicable to Case 1 because no tumour could in this instance be felt.

It is noteworthy that in both cases the site of the tumour was the same—in the last portion of the sigmoid flexure, in a position where the external agency of the abdominal muscles is of little avail in the act of defecation. The impaction of fæcal masses in this region tends to produce dilatation behind it, and this distension may be localised or general. General dilatations are relatively common.

While the condition of the first case could only be accurately diagnosed at the time of the operation the great mobility of the tumour which subsequently developed itself in the second case gave rise to the belief that in this instance also would a "pedunculated" tumour be met with, for on various occasions it could be demonstrated bimanually that the lesser cavity of the pelvis was absolutely free, the tumour itself being felt well above the pelvis.

The second case illustrates also the inadvisability of the employment of Schleich's infiltration anæsthesia in any case where it is of prime importance that the eliminative functions of the bowels should be in a state of activity. The meteorism produced by the morphine in the injection caused great distress to the patient until it was relieved by the enemas and I shall certainly never employ it again in any laparotomy, where as a rule the master-key to success in after-treatment is so often found in a thorough movement and disinfection of the bowels.

My best thanks are due to Dr. Masi of Buenos Ayres for permission to report his case and for much valuable advice. At the present date (Nov. 10th, 1897) both patients are enjoying good health and are free from constipation.

Buenos Ayres.

FRACTURES OF THE INFERIOR MAXILLÆ TREATED BY A MODIFIED METHOD OF WIRE SUTURE AIDED BY THE ELECTRO-MOTOR.[1]

BY T. S. CARTER, L.D.S. R.C.S. ENG.,
HONORARY DENTAL SURGEON TO THE GENERAL INFIRMARY, LEEDS.

BEFORE describing wire-suturing it will be better for me to review briefly the whole subject of fractures of the inferior maxillæ and the treatment which has hitherto been usually adopted, in order that you may draw a comparison between what I trust I may call the old method and the new.

[Mr. Carter here referred to the frequency of fractures of the inferior maxilla and gave an account of their general features.]

Diagnosis.—The symptoms attending a fracture are, as a rule, clearly indicated. There are mobility, crepitus, and very often displacement, the teeth showing differences in level. Those adjacent to the fracture may have been loosened or knocked out and there will be pain and a good deal of salivation. Also the position of the patient is generally indicative as he will be found carefully nursing his jaw with one or both hands. If, however, there be any doubt it is well to grasp the jaw with both hands with the forefingers introduced into the mouth and crepitus between the fragments will be found and movement observable. Where the diagnosis is difficult, as in cases of fracture of the coronoid or condyloid process, it is well to push the index finger of the right hand well back into the mouth and by feeling at the same time externally with the left hand the fracture, if there be one, will be felt. A displaced fragment can often be pushed into its normal position in this way and retained by forcing the jaw upwards against the superior maxilla.

Treatment.—With reference to treatment of fractures, we may note that in early times if the patient got off with a united fracture and his life, no matter if the articulation was good, bad, or indifferent, he was thankful—a quiet thankfulness like that of the old woman who had only one tooth in each jaw and they were fortunately both on the same side. She said she had not had many blessings in this life, but she did thank God these two teeth touched each other. If in bygone days it was found that teeth by being out of position made the displacement more noticeable, the surgeon by means of forceps soon altered that state of things. The conditions which most favour a satisfactory result in these cases are as follows. The fractured ends of the bone should be firmly maintained in correct apposition after reduction of the displacement. The splint should not interfere with speech or movement of the jaw, or with a proper cleansing of the mouth. Also it is of all things important that we should be able to note throughout the treatment that the grinding surfaces of the teeth of one or both fragments oppose those of the other jaw. This should be the chief aim of the operator, as by its neglect a patient's future health may be imperilled owing to the loss of half his masticating power, and also his personal appearance may be considerably damaged.

It is not necessary for me more than to name some of the forms of splints most frequently used as they are all well described in surgical and dental works. They consist of the four-tailed bandage, and, amongst others, those called after the originators—viz., Kingsley's, Hern's, Gunning's, and Hammond's. Of all interdental splints I think, in cases where there are plenty of firm teeth standing, the latter is most useful on account of its simplicity. It has the advantage of allowing the mouth to be thoroughly cleansed and does not interfere with a full view of the fracture being obtained, nor does it interfere with free movement of the jaw. Samples of the splints I have named are before you, but they are but few of the many which have been devised. This shows the necessity for some simple universal method free from the one great objection—namely, that of having to make a special splint for each case. This is a tedious business, and when carried out you have in most cases filled the patient's mouth with a bulky mass interfering with speech, with proper cleansing of the oral cavity, have difficulty in observing the relative position of parts, and have succeeded in producing salivation and general discomfort to the patient. I therefore took up wire-suturing of the jaws, somewhat on the lines suggested by Dr. Buck of New York in 1847 and later, in 1863, by Mr. Hugh Thomas of Liverpool. The method adopted by the latter was to drill holes, one on either side of the fracture, and having passed his wire to coil it by twisting on a steel rod. I noted, however, in the record of his cases that he stated that the coils made had to be tightened every two or three days. This I take to be due to the coils rather untwisting. Instead of this method I bring the ends of the wire together and twist them and this brings and firmly binds the fractured ends of the bone equally in contact on both buccal and lingual surfaces. The twisted ends of the wire when bent flat, take up less room than the coils, which is an advantage. I notice in two of the cases recorded by Mr. Thomas and one by Mr. Rushton Parker of Liverpool that in order to get at the jaw beyond the angle of the mouth they drilled through the cheek and drew the wire into the mouth. If, however, a retractor be used, this plan is quite unnecessary.

When I first read the notes of these cases I was struck by the fact that to bore the holes by means of a gimlet or Archimedean drill was primitive. When therefore Mr. T. R. Jessop gave me my first jaw case, which was one of Syme's operation for removal of the tongue, followed by non-union at the symphysis, I determined to use the dental engine. With this object I had several long drills made with different-shaped cutting edges, and I found the bayonet shape the best. This was made to fit a dental engine and I had a thicker driving cord added and blocks of lead fixed to the fly-wheel to add to its power. Armed with this I approached the patient and drilled two holes through his jaw as readily as boring through chalk. I was pleased with the result at the time and with the success which followed in many cases afterwards. As, however, the use of the foot for treadle work is a trained movement not practised by surgeons I consulted Mr. S. W. Cuttriss, electrician, and induced him to bring out an electro-surgical motor primarily for the object of drilling any bone in the body, the removal of exostoses, and general aural work, and by degrees to develop it until it could be used for trephining and any form of bone-work. The motor is before you and is on the lines of

[1] A paper read before the British Dental Association at their annual meeting held at Leeds on June 2nd, 1900.

those made by Messrs. Cuttriss and Wallis for dental purposes, only more powerful. It may be constructed to work with either continuous or alternating current as required.

[Mr. Carter here gave an account of various points in the mechanism.]

To facilitate wire suturing I have devised a case containing all my instruments for suturing [illegible]illæ, patellæ, or long bones. It was [illegible] in THE LANCET of August 27th, 1898, p. 558. My method of procedure in a jaw case is as follows. Having taken the necessary antiseptic precautions I take a piece of silver-plated copper wire No. 19 B. W. G. and for the distance of nearly an inch from the end file away half its thickness. To make it more ductile I then pass the wire slowly through the flame of a spirit lamp, making it a dull red for a length of about six inches. With the patient under ether I draw down the lip and with a sterilised bayonet-shaped drill in the motor bore a hole slowly through the jaw posterior to the fracture and between the fangs of the teeth. In this position the inferior dental nerve is avoided, and the opening should be made not less than a quarter of an inch from the fracture. While drilling with the right hand the spoon is held on the lingual side so as to guard the tongue, fro[illegible] from the foramen. [illegible] wire is pushed throug[illegible] [illegible] well into the mouth. The difficulty has been in [illegible] as it is not easy to find the return [illegible] for it. Having, however, drilled [illegible] the hole on the other side of the fracture a pliable copper needle may be pushed through from without and bent at a suitable angle to allow of being readily threaded with the plated suture wire. Where the point of the wire has been filed it may be bent so as to form a hook, and if the needle is then withdrawn the wire will follow. It is well to drill the hole in the depressed portion of bone on a lower level than the other one, so that there may be a lifting tendency and greater resistance to a relapse in position. I make sure that there is no foreign body, such as a loose fang, between the broken ends of the bone and then lift the displaced portion into position, apply the key, and then twist the wires until the ends of the bone are drawn tightly together. To prevent the key from cutting the wire it is necessary not to push it nearer the bone than, say, half or three-quarters of an inch before the first turn is given. Having severed the twisted wire with side-cutters an end is left projecting about half an inch long. To prevent this from cutting the cheek I cover it with a short piece of indiarubber tubing of the calibre of a crow's quill and turn it down flat. It is well not to drill quickly, as I think the interesting little sequestrum which I will pass round will prove. I found it slung like a bead on the suture wire on the tongue side, as shown in the model of the mouth taken at the time. The hole through the centre was made by the drill and the necrosis was probably due to heat produced by the speed of the revolving engine-point; it is well, therefore, to observe caution in this respect, and also not to advance the drill too rapidly through the bone tissue.

Fractures of the ramus are uncommon, and when they do occur there is little displacement. For cases at the angle, however, where there may be some difficulty I am going to have a right-angle piece made to carry a drill of only just sufficient length to go through the thickness of the ramus and its coverings from the lingual side. In using it so far back it will be necessary to avoid the inferior dental nerve and to have the tongue drawn forward to prevent it from being pushed backwards over the glottis by the angle-piece. Where it is necessary to divide the lower maxilla, as in Syme's operation for removal of the tongue, it is advisable that the surgeon should make, not simply a vertical incision, but two oblique ones from above and below, meeting at an angle, so that the fragments may lock into each other and facilitate retention by wire suture in normal position. Until quite recently I used the dental engine for drilling purposes and I will briefly record four cases out of the many I have done. The models taken before and after treatment are before you.

CASE 1.—A powerful man, aged 19 years, was admitted to the Leeds Infirmary on May 11th, 1892, suffering from compound fracture of the lower jaw, and on May 19th I was asked to see the case. I found the lower maxilla fractured transversely across the ramus on the patient's left side, also perpendicularly between the two fangs of the first molar on the same side and likewise perpendicularly through the socket of the second bicuspid on the patient's right. The front portion was much displaced, being deeply depressed and exposing the second fang of the molar in its full length. The front portion was also considerably overlapping the posterior part, carrying the median line of the maxilla considerably over to the patient's left side. On May 20th I drilled holes through the jaw and wired in the manner described. There were no complications and on June 11th the teeth were all well opposed to each other and on July 7th I removed the suture and found all firm.[2]

[Details of two other cases were then given.]

CASE 4.—The patient was a canal boatman who during the early morning of Dec 28th, 1896, was winding a lock windlass when his foot slipped on a piece of ice and the revolving handle struck him across the jaw, causing a double fracture of the inferior maxilla and more or less concussion of the brain. I found the jaw fractured through its body between the second bicuspid and first molar teeth on the left side, and between the first and second bicuspids on the right side. The anterior portion was much depressed, and although there was no external wound there was considerable swelling. On the 30th he was anæsthetised and I wire-sutured the parts together. On March 15th, 1897, I tightened the sutures and on May 7th I removed them. The fractured portions of the jaw were perfectly united and there was complete antagonism between the upper and lower dentures.

For suturing purposes I have always used annealed silver-plated copper wire, and that it is preferable to solid silver will be best illustrated by the following two cases and by the expert evidence which Professor John Goodman, M.I.C.E., of the Yorkshire College, has so kindly given.

I was asked to see two cases of fractured maxillæ admitted to the Leeds Infirmary on Feb. 9th and Feb 20th last. The messages arrived, however, after I had left Leeds, and my method of wiring was adopted in both cases, the drilling being done by the electro-motor. Solid silver wire was used, however, and it broke on twisting. In the other case it broke three times during the twisting stage. Thinking it important for surgical work generally that it should be determined which kind of wire was the stronger and more ductile I brought the matter before Professor Goodman, whose tests proved as follows—that the number of twists per inch in length which annealed silver-plated copper wire would bear before fracture, was [illegible] only in solid silver wire. When n[illegible] was 13 7 as compared with 12 8 [illegible] greatly increases the ductility of wire. Testing the wires in pure tension it was found that the breaking load of copper as compared with silver was 47 pounds as compared with 42. The detailed results are as follows. Silver-plated copper wire: diameter, 0 041 inch; sectional area, 0 00132 square inch; breaking load, 47 pounds; breaking stress in pounds per square inch, 35,600; extension per cent. on three inches before fracture, 41 0 per cent. Silver wire: diameter, 0 040 inch; sectional area, 0 00126 square inch; breaking load, 42 pounds; breaking stress in pounds per square inch, 33,300; extension per cent on three inches before fracture, 33 0 per cent.

From all this you will note that copper wire is both stronger and more ductile than silver. Also Professor Goodman states that if annealed copper wire be used it should, in his opinion, be annealed before plating, as a very slight amount of overheating causes the silver to scale off. For this reason, therefore, and in order to simplify matters, I have arranged with Messrs S Maw, Son, and Thompson to supply wire already annealed. Having wired the bones there are just two or three matters to see to. As nearly all cases of fractured jaws are compound, there is liability to sepsis and to obviate this the wound should be well irrigated and various forms of antiseptics used. It is also well to dust the wound with equal parts of iodoform and boric acid. Perfect rest must for a time be given by not allowing conversation which, as a muscular effort, disturbs the part in the early stages, and mastication must not be allowed for some weeks. Nourishment should be given in liquid form and this may well be done by fixing an indiarubber tube to the spout of a feeding-cup and then passing the tube into the mouth through the space left by the loss of a tooth. In these days of tooth degeneration we rarely find a set complete, but in

[2] THE LANCET, Dec. 3rd, 1898, p. [illegible]

the improbable event of there being no such space the tube may be passed round the back of the last molar.

In concluding my paper I cannot do better than finish by stating that, judging from the long experience which I have had in the treatment of fractured maxillæ where there is displacement, the opinion I have come to is that for neatness, cleanliness, simplicity, and good results there is no better method than by wire suture. There is a claim on it, also, from a hospital point of view, as after, say, the second day, except in case of other injuries received, the patient is discharged as an in-patient. Also I believe that for surgical purposes there is a great future for the electro-motor, and that it will ultimately become an essential and invaluable aid in all complicated forms of bone-work.

It has often struck me in watching operations daily performed at the Leeds Infirmary that to open the mastoid cells by means of chisel and hammer, remove exostoses by aid of a gouge, trephine the skull by hand, drill holes through bone with gimlet or Archimedean drill, that the muscular effort required lessens the delicacy of touch so conducive to advanced work. Also in aural cases may not some cerebral irritation be induced? At present the use of the motor is limited, but there will be no difficulty in making it work perfectly an ordinary saw, drill, trephine, automatic chisel, and do any form of bone-work. In cases where electric power is not to be had either accumulated or otherwise, a spring motor might be made which would be of great service to our army surgeons in time of war. For it is important that advances made which benefit the patients in hospital should also be arranged to enable others not so situated to receive the same measure of benefit I would suggest that the instrument be arranged to shut down into smaller space so as to be more portable. There should also be disconnecting gear in the handpiece so that if the operator lessens his grip the cutting instrument should immediately cease working, in the same way that you can by releasing a spring in the receiver of a telephone place it out of use. Of course, we must not expect that for philanthropic reasons alone electricians will bring about these changes. It will be a question of demand and supply, so that the producer may reap benefit from his efforts. We may rest assured, however, that in these days of scientific advancement our surgeons will not fail to take up anything which will better enable them to benefit their patients. In this way the demand will rise, and I fully believe that the time is not far distant when the surroundings of every surgeon will not be considered complete without an electro-motor.

Leeds.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

PYO-PNEUMOTHORAX DUE TO EMPYEMA PERFORATING THE LUNG; RECOVERY.

BY F. PERCY ELLIOTT, M.B., C.M. ABERD.

THE following case deserves to be recorded. The patient, who was a monthly nurse, aged 44 years, had up to this period of her life always enjoyed good health, having had nothing wrong with her beyond the usual ailments of childhood. She had never had bronchitis nor had she ever suffered from any chest affection previously. On her side of the family there had been no tendency to lung trouble. Her husband died from phthisis about three years before her illness and she carried out the duties of nurse, not only occupying the same room, but constantly sleeping with him down to nearly the end of his life. She had four children, all of whom exhibited a strumous taint. On Nov. 12th, 1894, while following her occupation, she suddenly experienced a sharp pain in the right breast which "caught" her on breathing. This was the first thing that led her to believe that something was wrong with her. She had neither any rigors nor any sensation of chilliness. In consequence of increasing pain she was forced to take to her bed. She at that time complained of pain in, and just below, the right breast, aggravated by deep breathing, dyspnœa, and slight cough. On palpation tactile fremitus was found diminished on the right side and percussion elicited a dull note at the base of the chest on the same side; auscultation revealed deficient breath-sounds, diminished vocal resonance, and a slight friction sound. Her temperature was 101° F. and her pulse was 100. These signs were taken to mean pleurisy with effusion. A couple of days later the effusion became very marked, respiration being much [illegible] a end of the first week of the i [illegible] two-thirds of the pleural cavity and the temperature took on a hectic character. There was much sweating and the face assumed a very sallow colour, all the symptoms now pointing to empyema. At this stage the patient complained of an unpleasant taste, especially after coughing. It was decided to aspirate the chest, but before this could be done there occurred a violent fit of coughing and she expectorated about three pints of purulent material of a greenish-yellow colour, this being freely mixed with blood towards the end of the attack of coughing. The next examination of the chest showed the presence of air and fluid. The expectoration continued of the same character but gradually diminished in quantity till at the end of seven weeks from the commencement of the illness it had completely stopped, together with the cough. Pain was only felt on deep breathing. In less than three months from the date of her first symptom the patient was able to resume and carry on her duties satisfactorily. Two and a half years after this illness I took an opportunity of making a physical examination. There was no deformity resulting from her illness to be seen; the right shoulder drooped slightly, but not more [illegible] with in the majority of individuals. The [illegible] strong and movement on the right side of the chest was as good as on the opposite side. The only remaining trace of this illness was a slight friction sound on very deep inspiration. The woman expressed herself as feeling in excellent health and looked it.

Two points in connexion with this case seemed especially interesting—viz., the short time in which the effusion became purulent, there having been no antecedent illness, and also the quick recovery from the immediate as well as from the remote effects of a pyo-pneumothorax. With regard to treatment the measures employed were nothing out of the common. While expectoration lasted the patient frequently inhaled the vapour from a mixture of eucalyptus and thymol, the rest of the treatment consisting of a liberal diet with tonics.

Walthamstow.

NOTE ON A CASE OF COCCYGODYNIA; REMOVAL OF THE COCCYX; RECOVERY.

BY MONTAGUE D. MAKUNA, M.R.C.S. ENG., L.R.C.P. LOND.

AS cases of coccygodynia are infrequent and the pathology and treatment of that disease are still *sub judice*, I might be permitted to record a case of complete recovery by the removal of the coccyx.

A lad, aged eight years, came under observation during the first week in March, 1900, suffering from severe pain over the sacral region which deprived him of sleep and from inability to assume a sitting posture. This was associated with loss of body-weight and anorexia. On examination it was found that the coccyx was pointing backwards and downwards, its end touching a seat, so as to render a sitting position painful by the pressure of the soft parts and the skin between its point and the seat. On rectal examination it was discovered that the two lower segments of the sacrum were tilted inwards and that the continuity of the sacral curve was lost This projection on the anterior surface of the sacrum could not be reduced under pressure, as what might be called the fractured surfaces were firmly but irregularly united. There was no clear history of injury and it is questionable whether this deformity in the sacrum was due to malformation or malnutrition. No operative procedure could be undertaken to reduce the deformity without doing considerable injury to the sacral nerves. While it was necessary that the coccyx should be removed to allow the lad to sit comfortably, I was in considerable doubt whether it would relieve him of his sufferings. He was kept in a recumbent

position and lactophosphates and anodynes were administered for nine weeks without any improvement. Under the circumstances I determined to remove the coccyx and, should this fail to relieve acute pain, to follow up the operation with treatment by osmic acid. On May 10th he was put under chloroform, the coccyx was pushed out through a straight incision in the median line, severed from the sacrum any damage I cair dissected out from and the wound healed up rapidly under dry dressings. The patient is now able to sit comfortably, is free from pain, and is gaining flesh and vivacity.

Treherbert.

HYPERPYREXIA IN ACUTE RHEUMATISM.

By HERBERT R. C. NEWMAN, M.B. DURH., M.R.C.S. ENG., M.R.C.P. LOND.

THE following case may be of interest as showing the efficacy of the early application of cold water to the body in the above condition. On April 30th I was called to a patient, a woman, aged 30 years, and found her suffering from acute rheumatism; she had pains in the limbs with profuse sweating and a temperature of 104° F.; a mixture of 20 grains of salicylate of sodium and 10 grains of bicarbonate of potassium was prescribed and taken every three hours. On May 1st her temperature was 102° and there was synovitis in the left knee- and ankle-joints. The salicylate was reduced to 15 grains every three hours. The case followed the usual course, both knees, the left elbow, the shoulder and finger joints being successively implicated until May 13th when the patient was free from pain and her temperature was normal. On May 16th the joint pains returned and the temperature rose to 101°. On May 20th the temperature was not elevated and there was no pain or sweating. On May 21st at 6 A.M. an attack of epistaxis occurred, at 7.30 A.M. there was a severe rigor, and the temperature at 11 A.M. was 107·8°. By this time the patient was drowsy and semi-comatose, with flushed face and dry skin; the pulse was 174, very weak and irregular. She was immediately wrapped in a sheet which had been placed in water at about 90° and suspended over a tub, being rapidly sponged with water which was cooled down gradually to 48°; this sponging was continued for five minutes at the latter temperature. The thermometer in the rectum then registering 102° she was dried and placed in bed again, being now quite conscious with the pulse 140 and fuller. At 3.30 P.M. the temperature was 104° and the pulse was 160; a 30-grain powder of salicylate was taken. At 10 P.M. her temperature was 106·5° and her pulse was 170; she was very restless and was again sponged until the rectal temperature was 101°. During the night she continued very restless and another 30-grain powder of salicylate was administered. On May 22nd when seen at 10 A.M. she was much better; her temperature was 102° and her pulse was 140 and full. At 8 P.M. her temperature was normal and her pulse was 124. From May 22nd to the 27th the temperature varied from normal to 102°, there was no return of articular pains, and she has made an uninterrupted recovery. A soft mitral systolic bruit was first heard on May 28th.

Chalford, Gloucestershire.

ST. GEORGE'S HOSPITAL HUNTERIAN SOCIETY.—The annual dinner of the St. George's Hospital Hunterian Society was held on June 8th at the Trocadéro Restaurant, Dr. H. D. Rolleston, the President of the society, being in the chair. In proposing the toast of "The Queen" Dr. Rolleston alluded to the comparatively large number of St. George's men now at the front in South Africa, not only as army and civil surgeons, but in the ranks of the Yeomanry and Volunteers. The health of the "Hunterian Society" was proposed by Mr. E. B. Turner, F.R.C.S. Eng., one of its oldest members, and that of the "Officers of the Society," proposed by Dr. J. Blumfeld, was responded to by Dr. A. C. Latham and Mr Percival. Dr. G. A. Buckmaster (next year's president), Mr George R. Turner, Mr. Herbert Allingham, and Mr. F. Jaffrey were representatives of the staff of St. George's Hospital who with a fair gathering of members of the Hunterian Society were present at the dinner.

A Mirror of HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

WESTMINSTER HOSPITAL.

A CASE OF LYMPHATIC LEUKÆMIA OR LYMPHOCYTHÆMIA TREATED SURGICALLY BY THE ESTABLISHMENT OF A COLLATERAL CIRCULATION.

(Under the care of Dr. W. MURRELL and Mr. WALTER SPENCER.)

THE establishment of a collateral circulation for the treatment of cases of ascites was first proposed by Drummond and Rutherford Morison in 1896,[1] and Morison has operated in three cases, the first of these operations being performed in 1894.[2] It has also been suggested by Talma,[3] who apparently did not know of the previous employment of this method.

A girl, aged 19 years, was admitted to Westminster Hospital on Nov. 7th, 1899, suffering from anæmia and amenorrhœa. She stated that she had been very anæmic for two years and for the last 18 months had been at home doing nothing. She had never been quite regular and for seven months the catamenia had been absent. There was considerable œdema of the lower extremities, but there was no ascites, she was not pregnant, there was no albumin in the urine, and there was no leucorrhœa. She was suffering from oligocythæmia with considerable oligochromæmia. The blood was of fair colour but appeared to be thinner than normal. The red blood corpuscles numbered 2,830,000 per cubic millimetre. The colourless blood corpuscles were 3000 per cubic millimetre, chiefly lymphocytes and finely granular oxyphile polynuclear leucocytes. She was ordered five grains of dried sulphate of iron in pill three times a day with a drachm of sulphate of sodium in hot water every morning. This was continued for a fortnight, but although she improved in strength and colour the menstrual function was not restored. On Nov 28th she was ordered five grains of citrate of manganese three times a day, the dose being gradually increased until Dec 8th, when she was given 15 grains four times a day. On Dec. 13th she menstruated, the period lasting two days. Four days later she left the hospital at her own request.

A few days after leaving the hospital the patient had a bad sore-throat and a cough unaccompanied by expectoration which kept her in bed for a fortnight. During this time her legs were swollen and her abdomen was greatly distended. She was re-admitted on Jan. 9th, 1900, when her temperature was 104° F. and the urine contained much blood and albumin. She had a soft apical systolic murmur conducted outwards to the axilla and round to the angle of the scapula. Her abdomen at the level of the umbilicus measured 34½ inches. It was resonant in front and on the right side, but on the left there was dulness extending from the groin to the lower margin of the ribs, and laterally from the flanks to within two inches of the umbilicus. Nothing was discovered on rectal examination and there was no indication of an ovarian cyst. There was a large quantity of fluid in the abdomen, probably confined by adhesions. The temperature during the first week always reached 101° in the evening, but there was no indication of tuberculous disease either in the lungs or in the larynx. The following report on the condition of the blood was received from the Westminster Hospital Clinical Laboratory under the direction of Dr. Lazarus-Barlow: "Blood taken from finger, 2 P.M. Drop pale and watery in appearance. Hæmoglobin, 65 per cent. Erythrocytes, 3,450,000 per cubic millimetre, of good size and shape. Leucocytes, 7000 per cubic millimetre, of which 54 per cent. are finely granular oxyphile cells and 3 per cent. are coarsely granular oxyphile cells. The remaining

[1] Brit. Med. Jour., Sept. 12th, 1896, p. 778.
[2] THE LANCET, May 26th, 1894, p. [illegible].
[3] Berliner Klin. Wochenschr., Sept. 24th, 1894, p. [illegible].

43 per cent. is made up of small cells having a single pale nucleus, which in most cases nearly fills the cell and is surrounded by a narrow zone of fine granules staining very deeply with methylene blue and when stained of a deep blue colour without purple tinge. For the most part, the cells are of about the size of lymphocytes, although they are totally different in other respects. A few cells have a larger amount of protoplasm, and these might as far as appearances go be hyaline leucocytes; against this is the presence in them of fine granules staining with a basic dye such as methylene blue. Upon the whole it is probable that these appearances are not artefacts and that the cells are basophile cells with fine granules." The patient passed daily about 30 ounces of urine, of specific gravity 1028, containing nearly one-half albumin and much blood. Urea, 2·5 per cent. No casts were found. The abdomen increased in size and at last became so distended as to cause the patient considerable discomfort. She was very feeble and her general condition was unsatisfactory.

On Jan. 27th Mr. Walter Spencer made an incision one and a half inches in length midway between the umbilicus and the pubes, from which about eight pints of slightly blood-stained fluid were drawn off. On exploration with the hand no disease of the abdominal viscera could be detected. A large glass drainage-tube was left in the abdomen and from this there exuded on the 28th, 34 ounces; on the 29th, 25 ounces; on the 30th, 45 ounces; and on the 31st, 30 ounces of blood-stained serous fluid. The tube was withdrawn on Feb. 5th and the wound was allowed to heal. On Feb. 12th the spleen was found to be enlarged, its lower edge being felt two inches below the ribs. The fluid in the abdomen gradually re-accumulated; the urine still contained large quantities of albumin, and the patient's general condition once more assumed a very unsatisfactory aspect. It was now determined to endeavour to establish a collateral circulation, and on Feb. 20th Mr. Spencer attached a piece of the omentum about two inches square to the anterior abdominal wall by kangaroo stitches. The vessels within the abdomen were congested and the veins were widely distended. On March 14th the superficial abdominal veins were noted to be larger. The wound was practically healed and there was no return of the distension of the abdomen. The mitral regurgitant murmur was more marked and in addition there was a loud systolic murmur heard most distinctly over the left second intercostal space and adjacent portion of the sternum. The albumin had disappeared from the urine. On April 19th the following report of the patient's blood condition was received: "Blood taken from finger 3.30 P.M. Hæmoglobin, 65 per cent.; erythrocytes, 3,000,000 per cubic millimetre; leucocytes, 4640 per cubic millimetre; finely granular oxyphile cells, 56 per cent.; coarsely granular oxyphile cells, 6 per cent.; hyaline cells, 20 per cent.; and lymphocytes, 18 per cent. The hæmoglobin value of each corpuscle is about 100 per cent. The erythrocytes are irregular in size and shape Many of the hyaline cells and lymphocytes possess a granular cytoplasm, the granules staining with methylene blue. It is doubtful whether these are basophile cells or whether the appearance is artificial." The patient gradually improved in health and strength and was discharged on April 19th. The aortic murmur had disappeared and the mitral murmur was soft and very faint. On June 1st she was reported to be in good health.

Remarks by Dr. MURRELL.—There may be some difference of opinion respecting the nature of this case, but the diagnosis presents no difficulty. The patient when originally admitted was suffering from oligocythæmia and oligochromæmia, but the condition became one of lymphatic leukæmia or lymphocythæmia. It will be noted that when first admitted her leucocytes numbered only 3000 per cubic millimetre, but on the second examination they had risen to 7000 per cubic millimetre. The normal ratio of white to red corpuscles is 1 in 700, but in this case it is 1 in 493. The presence of finely granular basophile cells with the absence of non-granular cells is indicative of some pathological condition of the hæmatopoietic tissues. We find a diminution in the number of the red blood corpuscles and in some cases of leukæmia the condition is carried to an extreme degree so that they fall to 1,000,000 per cubic millimetre. The number of leucocytes varies in different cases, but the abnormal elements always persist. The essential change is the presence throughout the body of large numbers of small non-nucleated cells due to excessive proliferation. The infiltration of the hæmatopoietic tissue of the bone-marrow, with a gradual diminution of the blood-forming area, has resulted in anæmia. The muscular substance of the heart had probably undergone a form of degeneration from the deposition of fine granules within the fibres. The alteration in the composition of the blood played an important part in the production of the œdema by increasing the permeability of the vessel walls. The ascites was also due to the condition of the hæmatopoietic system, for as a result of venous stasis transudation from the peritoneum was taking place. The albumin in the urine may have been due to renal cirrhosis consequent on the long-continued interference with nutrition processes. The attempt in this disease to establish a collateral circulation is a new departure in surgery. The immediate result has been extremely satisfactory, but how far it will prove permanent remains to be seen. It must be remembered that the prognosis in cases of leukæmia treated by ordinary methods is extremely unfavourable. The administration in the early part of the case of a new soluble salt of manganese resulting in the re-appearance of the catamenia is worth mentioning.

Remarks by Mr. WALTER SPENCER.—Some cases, after repeated tappings for ascites, have been known to recover, no further peritoneal exudation occurring. Such recoveries have been attributed to the vascular anastomosis set up by the formation of adhesions between the viscera and parietes. Indeed, one has heard of the tapping immediately preceding the recovery having been followed by some septic peritonitis, and the existence of such adhesions has been frequently noted post-mortem. The clinical signs of the establishment of a vascular anastomosis through adhesions is the appearance of dilated veins over the epigastrium and wall of the thorax in which the current of blood is upwards. In marked cases of dilatation of the veins a fanciful comparison has been made with the Gorgon's head and its crown of snakes, "caput Medusæ." Hence have arisen attempts by surgeons to establish artificially such a vascular anastomosis in order to prevent the recurrence of peritoneal exudations. For this purpose adjacent peritoneal surfaces over the liver have been scratched or the spleen or omentum has been fixed in the abdominal wound. There appears to be no special danger connected with such operations. The adhesions are well above the umbilicus, so that there is no probability of a coil of intestine becoming strangulated beneath the band; for the same reason the gap in the abdominal wall is not likely to lead to a ventral hernia. The operation is at present an empirical, in other words an experimental, one. The pathological explanation of the production of the peritoneal exudation and of its prevention by establishing a visceroparietal vascular anastomosis is not yet sufficiently clear.

LEEDS GENERAL INFIRMARY.

A CASE OF STRANGULATED FEMORAL HERNIA IN WHICH GANGRENE WAS PRECIPITATED BY AN INTRA-ABDOMINAL VOLVULUS.

(Under the care of Mr. R. LAWFORD KNAGGS.)

THE following case is an example of a condition to which until recently very little attention has been devoted. In all cases of volvulus some condition must be present which will fix the bowel in the abnormal position, otherwise the intestine will spontaneously untwist. In many cases of volvulus the weight of included fæcal matter is sufficient to effect the fixation; in the case recorded below the entrance of the loop of bowel into the hernial sac prevented the spontaneous reduction of the volvulus. An interesting case is related by Mr. R. W. Parker[1] in which a volvulus complicated a strangulated femoral hernia but in which there was apparently no causal connexion between the two conditions.

A woman, aged 61 years, who had worn a truss for a left femoral hernia for many years, was admitted into the Leeds General Infirmary on Jan. 6th, 1900. Six days previously the rupture had come down and could not be put back and severe pain and vomiting immediately followed. The bowels had not been opened since. Three days before admission she had been urged by a medical man to go into the infirmary to undergo an operation, but she had resolutely declined. When at last she consented the tumour was of the size of an orange, ill defined, and very tender, and the overlying tissues were red and œdematous. The pulse was 100 and the tongue was moist.

Without delay herniotomy was performed. The sac was found to be gangrenous and infiltrated with pus and adherent

[1] Transactions of the Clinical Society of London, vol. xxvii, p. 189.

to a knuckle of small intestine which was quite dead and did not bleed when incised. There was no fluid in the sac. On opening the bowel no escape of contents occurred, and on attempting to pass a director along the lumen of the gut it could not be introduced beyond the ring. All pus was now carefully wiped away and the parts about the sac were made as clean as possible, and the incision was extended upwards through Poupart's ligament so as to expose the bowel at the entrance to the ring. An interesting disposition of parts was at once revealed, fully accounting for the failure to pass the probe upwards and for the absence of relief: The loop contained in the hernial sac constituted the chief portion of a small volvulus, the neck of which lay just within the abdominal cavity close up against the femoral ring. The twist was one of 180 degrees from right to left and the distended bowel above the twist hung down into the pelvis, whilst the empty bowel coursed directly upwards upon the psoas and iliacus muscles. At the neck of the volvulus the upper end of the loop lay superficial to the lower end. The twist, which constituted a very effective obstruction, was undone and the gangrenous loop was removed, the two extremities being united over a Robson's bobbin. The gangrenous sac was also removed and the wound was closed except for a gauze drain which was inserted down to the seat of union. The patient was completely relieved of vomiting and pain and was able to pass flatus, but death took place 26 hours after the operation from gradual cardiac failure.

Necropsy.—At the post-mortem examination the united bowel was found to be in a satisfactory condition and no unhealthy peritonitis was present. The kidneys were granular and in an advanced stage of disease.

Remarks by Mr. LAWFORD KNAGGS.—Probably most surgeons who have had a considerable hospital experience can call to mind cases of gangrenous herniæ in which after the bowel has been laid open with intent to produce an artificial anus no relief has taken place. Such a case fell to my lot a year or more ago, and after 24 hours I had to open the abdomen above Poupart's ligament and make an opening in the distended coil above the hernia to obtain a relief which unfortunately came too late. At the time of the second operation the cause of the continuance of the obstruction was not made out, and no satisfactory explanation was forthcoming after the post-mortem examination, at which, unfortunately, I was unable to be present. The case recorded above, therefore, from this point of view alone is of considerable interest.

There can be little doubt that in this case the volvulus exerted a determining influence in the production of gangrene of the herniated intestine. For years probably bowel had entered the sac at intervals and had been replaced without harm. On this occasion a small loop chanced to enter in a reversed position and the traction exerted upon [illegible] e loop led to them becoming [illegible] close up to the femoral ring. [illegible] was formed, not only to the passage of the intestinal contents but to some extent, no doubt, to the circulation. Rapid distension of the loop and engorgement of its coats ensued, and a further and more rigid interference with the circulation resulted as the femoral ring began to restrain the expanding and swelling gut. The onset of these changes must have been rapid, for one is justified in assuming that gangrene quickly supervened from the fact that fluid, with the exception of a slight smearing of pus, was entirely absent from the sac.

Elsewhere[2] I have attempted to study the subject of volvulus as it is met with in connexion with hernia and I have been able to recognise four well-marked groups of cases. The present case, which was met with after my first paper had been accepted for publication, is an excellent example of the first group. That group includes those cases of volvulus in which the neck lies within the sac, or outside it but close to the ring. Now, though when dealing with the subject generally both these sets of cases were classed together for pathological reasons, yet it is clear that from the clinical standpoint the relation which the neck of the volvulus bears to the neck of the sac is a matter of no small importance. When the neck lies within the sac the exact nature of the condition is at once apparent when that is opened, and the twist can be undone and the bowel returned, if fit, as in the ordinary operation for strangulated hernia. But if the neck of the twist lies close to the ring within the abdomen, its existence may not even be suspected, and if the gut is gangrenous, as is most likely where the rupture is of the femoral variety, and the case is dealt with by the formation of an artificial anus, an abiding obstruction will be left and no relief will take place. Such a condition is, however, now less liable to be overlooked because resection of the gangrenous loop is becoming more and more the rule. But should it be decided for any reason to form an artificial anus, if no relief takes place when the

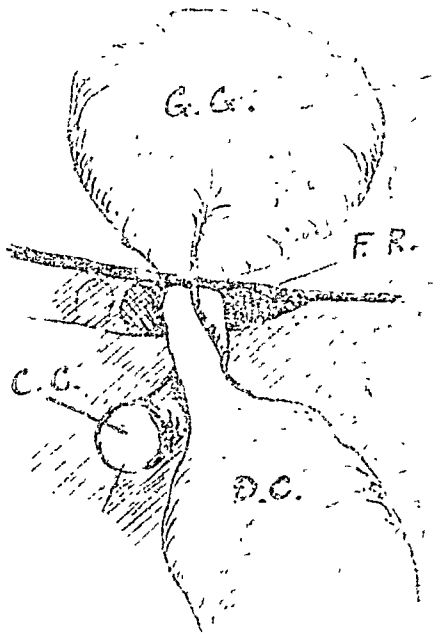


Diagram showing the position of the parts found at the operation. G. G., Gangrenous gut. F. R., Femoral ring. D. C., Distended coil of gut hanging into the pelvis. C. C., Contracted coil of gut directed upwards over the psoas muscle.

bowel is opened and if the director cannot be readily introduced within the bowel well beyond the ring, then the incision should certainly be extended to investigate the condition of parts within the abdomen, and with the intention of removing the damaged gut.

It is a simple thing for a loop of bowel to enter the hernial sac in the reversed state, but when once it is engaged the twist may easily become effective. In femoral hernia under such circumstances the danger of gangrene is greatly [illegible] that such a disposition of parts as [illegible] infrequent. Its importance [illegible] that might easily be overlooked [illegible] post-mortem examination.

The want of success in this instance was due entirely to the co existence of advanced renal disease which would almost certainly have prevented recovery after any operation of importance, but which, even if detected in time, could not have been held to justify non-interference in strangulated hernia.

[2] Annals of Surgery, vol. i., 1900, p. [illegible]

THE INFIRMARY AT BERCHIN.—The Chairman, at a meeting of the directors of this infirmary, held on June 4th, announced the receipt of a donation of £1000 from Mr. Duke, Bearchill which is to be applied in helping to pay the cost of maintaining two beds in the name of Mr. Duke and his wife.

of the Cervix Uteri in a Very [illegible]
Squamous-celled Epithelioma Invadi [illegible]
like a Columnar-celled Variety.

Dr. H. RUSSELL ANDREWS: Sarcoma of the Uterus.

Dr. HUBERT ROBERTS: (1) Large Cystic Fibro-myoma Adenoma of the Cervix Uteri; and (2) Microscopical Sections Illustrating Various Forms of Uterine Adenoma.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

Tubal Pregnancy.—Pan-Hysterectomy.—Delivery of the Placenta.

A MEETING of this section was held on May 25th, Dr. A. V. MACAN, the President, being in the chair.

Dr. ALFRED SMITH showed a specimen of Ruptured Tubal Pregnancy, consisting of the distended tube showing rupture, the fœtus (three centimetres long), with umbilical cord and placenta. It was removed from a patient, aged 33 years, who had given birth to a full-term child six months previously. Menstruation returned one month after confinement and continued regularly up to the time of rupture; no period had been missed. The patient was brought to Dublin from Kilkenny. Convalescence was normal.

Dr. F. W. KIDD read notes of a successful case of Pan-hysterectomy performed on the Pregnant Uterus at Full Term. The patient was a primipara of over 40 years of age. The presenting part could hardly be reached owing to the whole of the true pelvis being blocked with myomatous growths and no definite diagnosis of the presentation could be arrived at. An abdominal incision was made extending from two inches above the pubes to two inches above the umbilicus. The broad ligaments were first ligatured and then cut, then the round ligaments, and then the peritoneum on the outer surface of the uterus was divided transversely and stripped down, taking the bladder with it; the uterine vessels were tied, and when the peritoneum had been stripped down posteriorly the vagina was cut across as close to the presenting head and arm as possible. The vagina was inverted and sutured, turning in the mucous membrane, the broad ligaments were brought together, and in the middle line the peritoneum attached to the anterior surface of the bladder was sutured to the peritoneum on the posterior wall of the vagina, completely covering over the stump of the vagina and leaving the pelvis quite clean and dry; the ligatures on the uterine vessels had been drawn down before the peritoneum was stitched over them. The patient made a good recovery. The specimen, which was exhibited, contained the child in the uterus, only the head and one shoulder having escaped from it. The method of preserving the specimen was as follows:—Fluid No. 1: formalin, 10 parts; acetate of potash, 15 parts; chloride of potash, 0·5 part; water, 100 parts The specimen was placed in this for 48 hours, changing at the end of 24 hours. Fluid No. 2: methylated spirit, 80 parts; water, 10 parts. The specimen was placed in this for 48 hours, changing at the end of 24 hours. Fluid No. 3: pure methylated spirit. The specimen was placed in this for 48 hours. Fluid No. 4: glycerine, 20 parts; acetate of potash, 10 parts; water, 100 parts. The specimen was preserved permanently in this.

Dr. HENRY JELLETT read a paper entitled, "The Dublin Method of Effecting the Delivery of the Placenta." He commenced by remarking that in 1876 two well known medical writers called attention to the fact that the method of effecting the delivery of the placenta by external manipulations, as opposed to its manual removal or to its delivery by traction upon the funis, had been first introduced in Dublin, and that it was identical with the method of obtaining the same object which had been introduced at a later date in Germany by Credé of Leipsic. In 1900, all German, and the great majority of British, works on midwifery term this method "Credé's method," while the few works which allude to the fact that the Dublin school of midwifery had some share in introducing this most important improvement in the management of the third stage consider that there is a difference between the Dublin method and Credé's method. He said that his paper was written to prove: (1) that the method of obtaining the delivery of the placenta by external manipulations as opposed to its manual removal or its delivery by traction on the funis was originated in Dublin; (2) that Credé's method was identical in principle with the Dublin method and that [illegible] itself to the Dublin method in [illegible] and (3) that consequently there i[illegible] Dublin method and Credé's method and that inasmuch as the method originated in Dublin many years before the time that Credé discovered it for himself its name is, and ought to be, "the Dublin Method." Dr. Jellett then described the gradual evolution of the Dublin method of effecting the delivery of the after-birth from the time of Fielding Ould up to the time of Sinclair and Johnston. He then described Credé's method in Credé's words as taught by him in 1853, and said that in 1860 Credé brought his method prominently before the German medical world at a meeting of the Association of Physicians and Naturalists held in Königsberg. In Dublin the method had been practised clinically at the Dublin Lying-in Hospital from time immemorial.—Dr. W. J. SMYLY said that they should be thankful to Dr. Jellett for the proofs which he had brought forward. Nevertheless, he thought that there was a distinction between Credé's method and the Dublin method. The fault of Credé's method was that it was too active and if they expelled the placenta too soon they might leave portions behind leading to post-partum hæmorrhage and sub-involution. Another point likely to be lost to the Dublin school was the method of preserving the perineum, generally known as von Ritgen's method, which undoubtedly originated in Dublin.—The PRESIDENT said that the question was whether the Dublin method was the same as Credé's. As far as he could see the Dublin method differed in that in it the hand was applied to the abdomen and pressure begun as soon as the child's head was born, the pressure being used to express the shoulders and then continued to expel the placenta. He wished to emphasise the fact that the Dublin method began before the third stage of labour—namely, the moment the child's head was born. He was convinced that in the great majority of cases the third stage of labour should be left alone as well as the second stage.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on May 15th, Mr. W. H. Horrocks, jun., being in the chair.—Dr. C. C. Baxter-Tyrie read notes on a case of Thoracic Aneurysm. The patient was a man, aged 51 years, whose illness commenced about two years previously. While engaged in valuing some stock on a farm he jumped about eight feet down into a field and "felt something give way" in the lower sternal region and at once became faint. He was taken home and an hour afterwards he expectorated about a teacupful of pure blood. Physical examination revealed no abnormal signs except rhonchi at the bases of the lungs. There was no return of the bleeding and after a few months the man apparently recovered, although from time to time there was an irritating cough and some oppression at the chest. Five months before he died œdema of the lower extremities was noticed; there was much wasting and the patient complained of a constant irritating cough and of dyspeptic symptoms. There was pain in the epigastrium which passed through to the back and at times extended round the body, following the course of the eighth and ninth dorsal nerves. There was accentuation of the second sound of the heart, otherwise the physical examination of the heart area showed nothing abnormal. There was no alteration in the radial pulses, no pupil change, no dysphagia, and no alteration in the mobility of the trachea. A constant irritating cough was present but there was no peculiarity in its intonation. There was occasional paroxysmal dyspnœa with inspiratory stridor. From time to time small quantities of blood came up into the mouth without effort. The patient died suddenly while in bed from profuse hæmorrhage. There was no necropsy.—Dr. J. Kerr, Dr. H. J. Campbell, and Dr. H. C. Major discussed the case and Dr. Baxter-Tyrie replied.—Dr. R. H. Crowley read a paper on Uræmia. It was concluded that all cases of uræmia were due to the retention of some toxic substance or substances in the blood which should have been excreted by the kidneys. The poison might not be always the same, nor was its non-excretion necessarily due to renal inadequacy alone In regard to treatment it was urged that preventive treatment was of the first importance in all cases in which it was likely or possible that uræmia might occur. Attention to the free action of the bowels and of the skin together with

regulation of the diet were most important from the point of view of prevention. During a mild uræmic attack where there was much vomiting the use of an enema of magnesium sulphate was advocated as being of great value. In using the hot vapour bath the danger was mentioned of prolonging it in cases where sweating was not soon induced. [illegible] of pilocarpine in doses [illegible] the patient being first [illegible] ight of hot tea having [illegible] of convulsions, in [illegible] igh tension pulse the [illegible] often followed by very marked relief. Lavage of the stomach was alluded to as a means of treatment which was neglected somewhat in England, and which was likely to give beneficial results. The injection of saline fluid, either directly into a vein or preferably into the loose subcutaneous tissues, was favourably spoken of.—Mr. W. H. Horrocks, jun., read a paper on the Medical History of Gibbon the Historian.—Specimens were shown by Dr. S. Lodge, jun., and Dr. H. H. Crowley.

OBSTETRICAL AND GYNÆCO- [illegible] ting of this society was held on [illegible] School, Leopold-street, Sheffield; [illegible] llier, being in the chair.—Dr. H. [illegible] numerous specimens and watering the various types of villous [illegible] n and malignant adenoma of the uterus. He alluded more particularly to the difficulty of deciding upon the microscopic evidence between inflammatory conditions of the endometrium and malignant adenomatous disease of the uterine glands and quoted several illustrative cases.—Remarks were made by Dr. A. Donald (Manchester) and Dr. Martin.—Dr. Donald showed a Uterus with Multiple Fibroids and containing a fœtus of four and a half months' development. The tumours were situated in the pelvis, below the fœtal sac, and would have obstructed labour. The whole mass was successfully removed by abdominal hysterectomy. —The President showed a Large Dermoid Cyst with a twisted pedicle successfully removed by abdominal section.—Dr. A. W. W. Lea (Manchester) read a paper entitled the Influence of Gonorrhœa on the Puerperium, with Notes of 50 Cases. The diagnosis of gonorrhœa at the time of labour was based upon the occurrence of ophthalmia neonatorum in the infant within three days of delivery, combined with the previous clinical history of the case. The puerperium was normal in 60 per cent. of the cases, as [illegible]

[illegible] ling in the region of the appendages, and in the [illegible] metritic exudation was present. In 40 per cent. of the cases the puerperium was abnormal, characterised by pyrexia, often severe, together with symptoms of local infection of the genital tract. The rise of temperature usually commenced on the third or fourth day after delivery and was usually associated with purulent discharge from the uterine cavity. In many of the cases the infection remained limited to the uterus, but in five instances (10 per cent. of the total number) acute pelvic peritonitis ensued with a severe illness lasting some weeks. Details were also given of three cases in which a previously existing gonorrhœal infection of the appendages became virulent during or immediately after labour, each case terminating fatally. From a study of these cases and a review of the literature of the subject the foll[illegible] 1. The presence of a [illegible] labour which was capa[illegible] rendered the patient li[illegible] infection was in many c[illegible] associated with staphylococ[illegible] coccus itself was capable of causing severe infection and might be obtained in pure culture from the cavity of the uterus (Kronig Bumm). 3. Lacerations of the perineum, vagina, or cervix, forceps deliveries, and prolonged labour greatly increased the liability to infection. 4. The types of disease met with were—(1) purulent endometritis, (2) acute pelvic peritonitis with metritis, (3) acute parametritis, and (4) septicæmia (rare). 5. In some cases an old infection of the appendages might light up during labour or after delivery leading to acute peritonitis which might be fatal. 6. The prognosis as to life was usually good, though recovery was often imperfect. 7. The treatment by vaginal douches after labour was insufficient in many cases to prevent infection of the endometrium. 8. If infection of the uterus occurred uterine douches should be given daily, the patient main- [illegible] kept for evidence [illegible] failed to control [illegible] red and curetted if there was evidence of retained products or hypertrophy of the decidua. Cases of localised pelvic peritonitis requiring operation should be treated by vaginal section.

Reviews and Notices of Books.

Heart Disease with Specia[illegible] ment. By Sir WILL[illegible] F.R.S., F.R.C.P. Lond., [illegible] H.M. the Queen, Physician in Ordinary to H.R.H. the Prince of Wales, Consulting Physician to St. Mary's Hospital and the London Fever Hospital; and JOHN F. H. BROADBENT, M.A., M.D. Oxon., M.R.C.P. Lond., Medical Registrar to St. Mary's Hospital. Third edition. London: Baillière, Tindall, and Cox. 1900. Pp. 420. Illustrated. Price 12s. 6d.

ADVANTAGE has been taken of the call for a new edition of this work to bring it fully up to date, and with this view chapters on Acute Affections of the Heart, Endocarditis, Pericarditis and Myocarditis, and on Aneurysm of the Arch of the Aorta have been added. The authors do not profess to give a systematic and complete treatise on each subject or to enter into a discussion regarding the conflicting views which have been entertained on various points of pathology and etiology; their object has been rather to endeavour to place before the reader a clinical picture of each disease and to emphasise the points which are of chief importance in diagnosis and prognosis. Taken from this practical standpoint the work contains a vast amount of information which should prove most useful to the practitioner. Patients are naturally anxious to know what will probably be the result and length of the illness from which they are suffering, and particularly is this the case with any trouble affecting the heart. The sufferer cares but little whether a certain cardiac murmur which the physician hears is congenital or the result of infantile rheumatism, but he has the most supreme interest in trying to ascertain to what the cardiac condition is likely to lead. The chapters on Prognosis are about the best in the book. The style in which they are written is clear and precise and the practitioner having carefully studied them will feel in a position to fully explain to his patients the probable results of the affections of the heart with which they may be unfortunately affected.

The subjects of Hypertrophy and Dilatation of the Heart receive considerable notice and we would especially draw the attention of readers to the chapter which deals with these conditions. The most important indications as to the extent of a valvular lesion are to be gathered from its effects on the walls and cavities of the heart, resulting in hypertrophy of the former and dilatation of the latter. Sir William Broadbent's remarks are the result of careful study and large experience and they will consequently be read with a confidence inspired by their origin.

We are informed in the preface that the chapters on the Inflammatory Affections of the Heart are entirely the work of Dr. John Broadbent. These conditions have been more carefully studied during recent years and are therefore more fully understood than they were formerly, and the author has given a good summary of the advances which have been made. The general style of the work has been maintained and especial attention has been paid to the clinical aspect of the diseases, although their pathology has not been neglected.

The chapter on Angina Pectoris does not seem to have received the careful attention which has been devoted to

other parts of the book. The form of this affection known as "angina vasomotoria" is now generally recognised by most authorities as occurring more frequently than had hitherto been suspected and to be of considerable clinical interest. Only one page, however, is occupied with its consideration in this volume. The differential diagnosis of this variety has been shown to be of great importance and it is a matter of regret that a more lucid description is not given.

The subject of Aneurysm of the Arch of the Aorta, on the other hand, is fully discussed, although the treatment is given rather too briefly and the more modern methods of treatment, such as the injection of substances intended to increase the coagulative power of the blood, are not mentioned.

The Principles and Practice of Modern House Construction. Edited by G. LISTER SUTCLIFFE. In Two Volumes. London and Glasgow: the Gresham Publishing Company. 1899. Vol. I., pp. 593; Vol. II., pp. 512. Price 50s.

THIS important work has been issued in two handsome volumes which contain no less than 700 figures in the text as well as a series of separately printed plates. The staff of collaborateurs numbers 17 and includes the names of recognised authorities on sanitary science, medical men, chemists, and architects. "Construction," perhaps, has been dealt with at greater length and in greater detail than any other branch, but the subject is an exceedingly comprehensive one and the whole work opens our eyes to the remarkable number of pure science matters upon which the question of house construction hinges. Most of the contributions are written so as to be understood by the average householder, although it may be said that technicality is more obvious in those sections contributed by architects. There can be little doubt of the value of the volumes as a whole upon the wide field with which they deal. It is not easy to bring a contribution of this kind up to date considering the compilation which it entails. Nevertheless, in it will be found a broad and intelligible exposition of sanitary principles underlying hygienic house construction, and the various contributions are written completely in accordance with modern knowledge.

The general introduction is by Dr. F. W. Andrewes who contributes an interesting historical sketch of the growth of sanitary science. In this task he has been considerably assisted, as he acknowledges, by the writings of Sir John Simon. In these introductory chapters is defined in a clear and interesting manner the position of sanitation at the present time as compared with what it was in the past Indeed, it is safe to say that attention was only given to this important aspect of public health with the dawn of the Victorian era. When this fact is borne in mind it will be readily understood what enormous and satisfactory progress has been made in the application of the principles of sanitary science. With the growth of knowledge of what constitutes sanitary environment and the application of this knowledge the improvement in the public health has kept corresponding pace. Although sanitary science is not as exact as is desirable in some particulars, especially in regard to the why and wherefore of well-known facts, still sanitarians have been guided correctly by practical experience in the absence of an exact knowledge of the causes of unhealthy conditions. At the present moment, for example, we possess no certain knowledge of the nature of the poisonous action of sewer air, but that sewer air predisposes to an unhealthy condition undermining the natural resistance of the body to unhealthy influences is a clear fact which experience has established. Dr. Andrewes says that it can hardly be supposed that when largely diluted after escaping into a house sewer air can owe its evil properties to its gross chemical composition. "Something more subtle than this must be at work, and it has been suggested that the organic matter present in it may contain an obscure chemical poison, possibly of an alkaloidal nature." We believe that this suggestion had its origin in the editorial columns of THE LANCET and we have seen nothing as yet which is opposed to such a suggestion. While on this subject Dr. Andrewes might with advantage have given a summary of the experiments conducted by the Italian investigator Dr. Alessi who showed that rats when exposed to sewer air were very susceptible to typhoid poisoning, while in the same series of experiments rats that had enjoyed fresh air seemed proof against the invasion of the typhoid bacillus even when it was inoculated subcutaneously. The remarks of Dr. Andrewes on disinfection and the disposal of refuse and other subjects should be of especial interest to those whose work relates to the structural points of houses.

In Section I., which follows the general introduction, Professor Robert Kerr, F.R.I B.A., discusses the aspects of houses. Here he enters into general considerations, such as site, aspect, light and air, and style of plan. We note with pleasure that the author does not take quite the view of Bacon that "houses are built to live in and not look on," though from the point of view strictly of public health there is no doubt that efficiency of construction is more important than structural beauty. Professor Kerr keeps in view the sanitary requirements as well as the artistic effect. The succeeding article, which is devoted entirely to construction, is contributed by the editor and the information contained therein is of the most valuable kind and is worthy of perusal by all interested in the construction of houses; indeed, we have found that the writer refers to some very recent materials so that some good hints may be derived by architects and builders from this contribution.

The next subject dealt with is that of Water-supply, in Section III., by Mr. Henry Law, M.I C.E., in which the sources of supply are considered and the best way of tapping them. This involves the important questions of the raising of water and its conveyance. Mr. Law concludes with a chapter on the purification of water in which he gives excellent practical details of the methods employed for the filtration of water and for softening water by well-known processes. Water-supply from the Domestic Point of View is the subject of the next section, by Mr. Henry Clay, and we find here the kind of information that is constantly in requisition and a description of the materials used for the pipes, the nature of joints, cocks, and taps, and the principles underlying the systems of hot-water supply. We are glad to find that Mr. Clay has not omitted to mention the dangers arising from boiler explosions. He fully describes the safety-valves which have been devised to avoid such contingencies and rightly lays stress on the importance of examining these valves from time to time. He concludes this section with a description of a mercury regulator which appears to us to be more convenient and reliable than other devices. The next section (Section V.) relates to household filters and is contributed by Dr. H Jossé Johnson, who has conducted some excellent original inquiry on the subject. He refers to the Report on Filters and Other Water-purifying Agents by THE LANCET Sanitary Commission of 1867,[1] when of course the methods of testing a filter did not admit of the precision of the present day, bacteriology having now been brought to bear upon the subject In regard to modern investigation he gives in one instance a wrong reference. The table which he reprints did not appear in THE LANCET, 1894, vol. ii,

[1] THE LANCET, Jan. 12th (p. 53), March 23rd (p 371), and July 6th (p 13), 1867

p. 1058, but it occurs in the paper communicated by Dr. Sims Woodhead and Dr. Cartwright Wood to the corresponding number of the *British Medical Journal*. We may say that these researches have thrown great light upon the question of domestic filtration. They practically showed that the bulk of domestic filters were worse than useless. Sections VI., VII., and VIII. inclusive relate to sanitary plumbing, sanitary fittings, and drainage. The last section of the volume (Section VIII.) contains an excellent chapter on the flushing, cleansing, and testing of drains.

The second volume opens with a chapter on Sewage Disposal by Mr. Percy Boulnois, in which we find a very fair synopsis of the methods of disposal past and present. The portion on Bacterial Methods might have been written at greater length considering the enormous advances that have recently been made in regard to the bacteriological disposal of sewage. This section is followed by Section X. on Warming, by Mr. E. R. Dolby, which contains a very useful account of proper and improper methods of heating. The author might with advantage have referred to THE LANCET Commission on Gas Heating. Section XI. deals with the same subject except that the warming and cooking methods described are effected by means of the electric current. Following this section is an admirable contribution on ventilation by one of the foremost exponents of the subject, Mr. William Henman, whose name is associated with the plenum system of ventilation introduced at the Birmingham New General Hospital, of which he was the architect. In succeeding sections lighting is dealt with in all its forms, candles, oils, and electricity, by Mr. A. Claremont; while Mr. Henry Clay adds a good account of modern methods of gas-lighting. In this account he refers to the report of THE LANCET Commission in January, 1895, upon the Welsbach burner. His conclusions are correctly based on these results but hardly in grammatical terms, an error which might appear to be due to the original Commission, but this is not the case. Indeed, the word *sic* placed in parenthesis after a verb in the singular which should be in the plural is evidently a query by the editor. Space not permitting even a passing reference to certain other sections connected with house construction we may pass on to chapter iv. of Section XVII. by the editor, on the Improvement of Existing Houses. In this chapter defective plumbing and drainage are dealt with and the editor acknowledges that he has taken advantage "of the valuable report (published in THE LANCET of July 4th, 1896) of THE LANCET Special Commission on the Relative Efficiency and Cost of Plumbers' Work." The permission of the Editors of THE LANCET is also acknowledged in regard to the reproduction of certain plates which are illustrations of three typical houses containing almost as many sanitary defects as possible, with illustrations of the best way of removing these defects. We may state that an addendum to this work of our Commissioners has since appeared in our columns (March, 4th, 1899) under the title of "Report of THE LANCET Special Commission on the Water-supply and Disposal of Sewage in Rural Districts," but of course this appeared too recently for useful abstraction in the present edition of the work under notice. The remaining sections refer to Climate and Situation, by Dr. E. F. Willoughby; Stables and Cow-houses, by Mr. F. W. Lockwood; and Sanitary Law, by Mr. A. Wynter Blyth Mr. Wynter Blyth's contribution appears to be a simple compilation of statutory provisions in regard to the subjects within the province of public health.

This excellent production is one which merits congratulations on all sides. The staff of contributors comprises acknowledged authorities on the many subjects concerned and there are evidences throughout the pages of excellent editing, while the style of the volumes is attractive and very creditable to the publishers. No subject could be of more importance than modern house construction and it is surprising to find on reflection what a number of specific scientific subjects it involves. Hitherto, we believe, no literary work has been devoted exclusively and so comprehensively to the subject as is the one before us, and we are confident that it will be looked upon as the standard of reference.

Practical Gynæcology: a Handbook of the Diseases of Women. By HEYWOOD SMITH, M.A., M.D. Oxon. Second Edition, Revised and Enlarged. London: H. J. Glaisher. 1900. Cr. 8vo. Pp. 230. Price 5s. nett.

THIS is the second edition of a book the first edition of which appeared in 1877. After the lapse of so long a period of time as 23 years it may well be questioned whether it is worth while attempting to do anything short of completely re-writing a text-book, and most especially one dealing with a subject such as gynæcology, in which such enormous strides have been made in our knowledge during recent years. Dr. Heywood Smith says in his preface that these great advances have necessitated a thorough supervision of the text. Of this there can be no doubt; it remains to be seen whether or not this has been done to a sufficient extent. The book consists of a summary of the various gynæcological affections based upon the nomenclature of the Royal College of Physicians of London, and under each disease are given its definition, cause, symptoms, signs, diagnosis, prognosis, and treatment. Some of the definitions are good and sufficient, but others suffer from the brevity which is essential in a work of the kind. Thus, the definition of a mole as "a spoilt egg," although qualified by the statement that the life of the ovum is destroyed and that it is expelled as a shapeless mass, hardly conveys a correct idea of the pathology of this condition to the reader. The author lays a good deal of stress upon the results of "attempts at unimpregnated ovum development" as a cause of the formation of ovarian cysts. We are surprised to find that Dr. Heywood Smith apparently still endorses the recommendation of the late Dr. Protheroe Smith to prepare some patients for ovariotomy by a preliminary venesection. Such a practice is hardly likely to benefit a patient before what may be a difficult operation attended with a good deal of hæmorrhage, even if the pulse should be incompressible. There is evidence of want of care in the revision of the book and, upon the whole, the endeavour to bring it up to date cannot be said to have succeeded. No mention is to be found of pyosalpinx in the index, and all that is said about it in the text is "that inflammation of the oviduct may pass into abscess (pyosalpinx)." The term "puerperal fever" has been expunged from the Nomenclature of Diseases of the Royal College of Physicians of London, 1893, and yet both puerperal fever and puerperal septicæmia are described under separate headings as if they were separate and distinct diseases. If more care and trouble had been expended in really bringing the book up to date it might have fulfilled the wish of the author that it should serve as "a refresher for the busy general practitioner," but in its present form we are afraid it will hardly fulfil this function.

UNIVERSITY COLLEGE, BRISTOL.—The Associateship of University College, Bristol, has been conferred on Mr. William Marmaduke Bergin, M.B., L.R.C.P. Lond., M.R.C.S. Eng.

LONDON HOSPITAL MEDICAL COLLEGE.—The prizes and certificates will be distributed to the students and probationers this year on July 19th, at 3.30 p.m., in the library of the college by Mr. Frederick Treves, F.R.C.S. Eng., consulting surgeon to the Hospital.

THE LANCET.

LONDON: SATURDAY, JUNE 16, 1900.

SUNDAY, June 24th, is the day selected this year for the simultaneous appeal from all the London pulpits on behalf of the medical charities of the great metropolis. For 27 years this annual appeal has been made with results which we have recorded in our special supplements; and to the Supplement for 1900, which we publish to-day, we now refer our readers, begging them one and all to use their utmost influence that the Fund may continue to be the success that it has been; and more, that it may grow with the growing needs of the institutions which it has been designed to assist. We know that the interest of the medical profession in this great Fund is unabated, but we wish that the laymen into whose hands many of the supplements will pass would make some more vigorous attempt to realise that a great responsibility in the matter rests upon them. To us it seems impossible to read, nay, to glance at, the figures relating to the Metropolitan Hospital Sunday Fund, or to consider even superficially the various circumstances which have called that Fund into being, without feeling that every Londoner as a point of honour should tax himself to what point he is able to support the hospitals of London. London grows, but the Metropolitan Hospital Sunday Fund does not grow The medical profession is hourly engaged in fighting a battle against sickness the burden of which is not properly shared by the citizens on whose behalf it is waged. London is apathetic in face of the needs of her hospitals, and her increase of wealth has not led her in any marked degree to attempt to place the charities to which she owes so much upon a firm financial basis. We do not ask any of our readers to take this for granted. We beg them to listen to the ministers of various denominations who will appeal on Hospital Sunday on behalf of the Fund and who will bear out every word that we say. Be it remembered that the ministers will know whereof they speak. They are fitted to testify to the stress under which the hospitals labour and to the good that they do both from their knowledge of the subject and from their association with the care of the sick that the ministerial office of every religion entails. We are certain that they with one accord will bear us out in saying that the Fund is badly supported and that the subscriptions should realise a much larger total.

Collectors are wanted for the Fund Many persons only need to have their attention called to the claims of the Metropolitan Hospital Sunday Fund in order to subscribe liberally to it. But many more, for this reason or that, neglect the excellent opportunity of doing good. We beg accordingly to lay upon those who have themselves not forgotten the Fund the task of reminding others, some of whom only require that their duty should be brought before them at the right time and place and perhaps by the right person. A large number of subscribers will be urged to give when they attend Divine worship. The church, chapel, or synagogue with them will be the place, and the minister will be the person, who will persuade them. The Fund is primarily connected with a collection made in Christian places of worship on the first day of the week, but it omits no sect or religious denomination of the Christian or of any other religion from its appeal—just as the hospitals which it benefits exclude no sect or denomination or religion from their wards. There may be some who from the ritual connected with the religion which they profess will not hear the claims of the Fund urged from the pulpit. We ask them nevertheless to give their money and we urge their friends to see that they do not fail to give merely from forgetfulness. Again, there are many of those best qualified to give largely who, for divers reasons satisfactory to themselves, will not be in church, chapel, or other place of worship when the appeal is made. May we urge upon the relatives and friends of the absentees before whom these pages come to constitute themselves collectors for the Fund? It may be that some will not attend public worship or any place where public collection is made because they are ill; let them not therefore forget the hospitals, but let them rather be reminded where the skill was gained which they have called in to their aid. Let them remember the poor and think of the homes in which those poor live, of the risks to which they are exposed. Let them think in the light of their own pain of what the fate of these would be if they had no hospital to turn to in their need. It may be, on the other hand, that healthy exercise claims the absentees on the one day of the week which they can devote to it. Surely these of all others should not be allowed to forget. To the golfer and the cyclist no one grudges less than we do his game or his ride—the medical profession is no enemy to the habit of healthy exercise that is one of the most marked characteristics of our people—but we desire to recall to the memory of the strong and vigorous man as he hurries in pursuit of fresh air and pleasure that it is for the sick and maimed that we appeal on Hospital Sunday, and we ask him to tax himself a small portion of the amount that he annually spends in healthy enjoyment for the sake of those whose chance of health depends on the generosity of their fellow-men. At all events, let him not fail to give because he forgets He should not forget, and if he does forget he should be reminded. And in expressing a hope that all who might not otherwise remember the Hospital Sunday Fund will be reminded of it by those to whose attention it is brought in the course of their Sunday worship we are appealing largely to women for coöperation and assistance. We do not wish to initiate "snowballs" of behalf of the Hospital Sunday Fund, but we feel sure that if every woman who may read our supplement were to remind all her friends and all whom she can influence how urgent the need is that they should contribute, and were to enlist all in her power to carry on the task of similarly reminding others, the Fund would be materially aided by the work so done.

The people of London, to whom primarily, though not wholly, we look for a response to our appeal, have done their

share nobly in subscribing to the various funds incident upon the South African war, and have also given largely to the Indian famine fund. Those interested in the management of the Metropolitan Hospital Sunday Fund cannot but feel a little apprehensive lest the fount of generosity, so freely drawn upon during the last eight months, should have begun to run dry before the hospitals have received the draught that to no small extent stands between them and starvation. Surely their anxiety is misplaced. We believe that everyone who has followed the events of the South African war—and who has not done his best to understand a matter of such national import!—will admit that the history furnishes forcible arguments for the maintenance of the hospitals of the country in a condition of complete efficiency. The praise which the Royal Army Medical Corps have won for themselves in the campaign, now it is hoped nearing its closing stage, by their skill, by their courage, and by their powers of organisation, is largely due to the training, scientific and disciplinary, received by the officers when studying at the big voluntary hospitals of the United Kingdom, and prominent among these hospitals are the hospitals of the metropolis. We trust that on Sunday, June 24th, congregations of London will listen to the appeal of their ministers on behalf of the Metropolitan Hospital Sunday Fund with a special predisposition to support to the best of their ability these noble charities, and we also trust that all who have an opportunity will press upon their friends the necessity of subscribing.

THE disciplinary action of the General Medical Council in theory is exercised in the November session, but in practice it is called for quite as much in the May session, for it would be unreasonable to keep accused persons in suspense for six months after the first meeting of the Council at which the charges could be investigated The penal cases which occupied the attention of the Council at its recent meeting were nine in number and resulted in the removal of no less than five practitioners from the Registers—three from the Medical Register and two from the official roll of the dentists. It is always well to consider the offences for which the grave penalty of removal from the Register is inflicted, for they vary from session to session We have hitherto been accustomed to regard "covering" as the commonest offence warranting suspension from medical practice. But it is noticeable that this was not the offence alleged against any one of the five practitioners whose names have just been erased The offences were, respectively, (1) drunkenness, disorderly conduct on one occasion and on another assaulting and beating a female, (2) association with an Anglo-Australian institute which advertised publicly systems of medical treatment, the advertisements being in themselves discreditable to a British registered medical practitioner; (3) systematically seeking to attract professional practice by the issue of public advertisements advertising as a graduate in dental surgery in America without having visited America or undergoing any examination; (4) habitually publishing advertisements as R.D.S.E., thus implying connexion with one of the Royal Colleges; and (5) practising a fraud upon a gentleman by making out to him a bill for professional attendance on his wife, the attendance never having been given. We propose to consider some of the circumstances of these cases, though the names of those convicted of unprofessional conduct need not be given.

The offence of drunkenness may not appear to some a professional offence, and they may think it one for which a man is sufficiently punished by the magistrate in a police-court. For a single occasion that view would doubtless generally hold. But it is otherwise when the member of a responsible profession appears more than once in the police-court on such a charge, and especially so if at the end of six months he appears again before the General Medical Council without any obvious improvement in character and without adducing testimony from others to such improvement. It is clear that such a person should be removed from the Register of medical practitioners both for the advantage of the public and the good repute of the profession Drunkenness is an offence in any man against the rules of society, but in a medical man it is to be severely condemned, because it may lead to terrible disasters in which the sick are the sufferers. We know the temptations offered by the irregular hours and hard work of practice, especially in country districts. But against these temptations every practitioner should be on his guard, and it is sad that even two gentlemen out of 34,000 should have to appear to answer such a charge. In the second case of the sort investigated the Council gave the practitioner time to consider and amend his ways. In the next three cases the offence consisted in advertising in such a manner as to constitute "infamous conduct in a professional respect" Here again the temptations are obvious—as obvious as those to drunkenness and as vulgar. What is and what is not legitimate or unavoidable publicity must often be a matter of doubt, but we do not think that anyone will accuse the General Medical Council of having acted, as a rule, with harshness. So far from straining to bring home to members of the profession the offence of advertising the tendency of the Council has been to be blind to the *laches* of regular sinners. In the cases which it has now punished with erasure from the Register any other decision would have been ridiculous. It is significant that two of the offenders are dentists. Dentists hitherto have been allowed a licence with regard to advertisement much greater than that permitted to medical practitioners. But after seven years' notice the Council has by two erasures signified that this licence must not be counted upon any longer Dentists who wish to retain their places in the Register will do well to restrict their advertisements to the mere announcement of their addresses or, better, to abstain from advertising Then they will certainly be safe The last case, that of the practitioner whose name was erased for making out a bill to a husband for an imaginary medical attendance on his wife, is unique The offender's counsel argued that this was not infamous conduct in a professional respect because it was not done towards an actual patient or in the actual pursuit of professional work, but the Council took a different view, and it is not likely that its decision will be called in question.

In some respects the most interesting case brought before

the General Medical Council was that of the medical man who was summoned for employing an unqualified assistant whom, it was alleged, he permitted to attend on, and administer relief to, patients and carry on practice as if he were duly qualified. The complaint was brought by the Gateshead Medical Association and was supported by the Medical Defence Union. The interest in the case was complicated by the fact that differences existed between the accused and the other medical practitioners of his neighbourhood with reference to the rates of payment in certain medical clubs. An attempt was made to raise these rates and the medical man against whom the charge of "covering" was brought took the clubs at the old rate in reply to advertisement for a medical man. For a time he had a qualified assistant, but when the assistant left he could not get another with a qualification But he obtained assistance from an unqualified man, whom he said he regarded as a "pupil." The Council found the charge of "covering" proved, as it could not look on the assistant as a mere "pupil." It did not, however. proceed at once to remove the offender's name from the Register. The very delicate circumstances in which the case against him arose no doubt made the Council more careful in the exercise of its power, and its caution was wise. It would be a most unfortunate thing if the pena powers of the Council were ever suspected of being exercised in response to professional misunderstandings. The Gateshead Medical Association was well-advised in bringing the case before the Council and it is probable that the offence will cease.

One circumstance should be noted before closing this brief commentary upon the disciplinary action of the General Medical Council. In all the cases where the offender's name was removed from the Register the Council acted upon its own initiative. There had been no previous action by any of the medical bodies whose diplomas were held by the accused persons, a circumstance which, considering the glaring nature of some of the offences, is not a little surprising.

IF there is one class of human beings more than another whose infirmity is to be considered with reverence and apart from all considerations of mere gain it is the insane, while those whose condition borders on insanity are almost as much to be commiserated. And in either case where the social position is one of poverty the sadness is much enhanced. It is therefore most humiliating to learn that in one of the great central parishes of London, where we might have expected to find enlightened administration, there has been brought to light a system of dealing with the insane which is discreditable alike to the guardians, to their officers, and, we are sorry to say, to certain members of the medical profession.

On June 7th a report was presented to the St. Pancras Board of Guardians by Mr. F. PURCHASE, chairman of the Relief Committee, which made certain very definite allegations against the relieving officers in connexion with the certification and admission of lunatics to licensed houses. Mr. PURCHASE said that of the guinea fee received by some of the medical men called in by the justices to assist in the examination of persons of unsound mind the relieving officers got 5*s*. and varying sums of 1*s*. and upwards from other medical men. The relieving officers admitted that this was the case, while it appeared that those medical men who had refused to give presents had been boycotted and received no cases. The report also stated that nearly all the pauper lunatics from St. Pancras had been sent to two private asylums to which the Board paid something over £12,000 a year. These two houses, Hoxton House and Bethnal House, had, it would seem, charged the St. Pancras Board of Guardians 2 guineas per patient per week, while other parishes were only charged 19*s* 3*d*. per patient; so that St. Pancras had been paying more than four times as much as would have been the case had the patients been sent to the county asylum, where the charge was 9*s*. 11*d*. per patient. The relieving officers admitted receiving sums varying from £2 to 10*s*. for each patient from the officials of these two private asylums The report also called attention to the remarkable fact that St. Pancras pauper lunatics numbered 1600, while in Islington, a larger parish, the number was only just over 1000.

It is impossible to comment without indignation on a course of behaviour so wrong in principle, so cruel to the patients, and so unjust to the ratepayers; while it is equally impossible to offer any excuse for the medical men who, by the confession of the relieving officers, have allowed themselves to be involved in it. We can only hope that a flat contradiction may be forthcoming from some at least of them. It is amazing to think of the extent to which bribery has been carried out and the tardy exposure is not creditable to the vigilance of the board of guardians, although it must be admitted that when Mr. PURCHASE'S committee spoke it spoke with no uncertain voice. We are told plainly by Mr. PURCHASE that nearly all the pauper lunatics from St. Pancras were sent to two private lunatic asylums at improperly high prices. The proprietors of these asylums have, we presume, some explanation to offer, and we would urge them to reply to the charges brought against them, and widely circulated by the press, without delay. The hoary nature of the abuses that have just been brought to light cannot be alleged in extenuation. The scandals have confessedly been going on for 30 years and it is conceivable that the present generation of officers have learnt to throw the responsibility on their predecessors. If this is the only excuse we may say at once that it is a totally inadequate one. Things that were culpable 30 years ago are more so now. Otherwise we should be going backward in public and municipal morality instead of forward. That medical men should have been implicated in such grave charges, even though their share is only passive acquiescence, is lamentable, but we withhold censure till it is obvious that the time for explanation has gone by. In the meantime we say that the charges call for reply. The remuneration of professional work among the poorer classes is, we know, inadequate and the system of gratuitous advice is so demoralisingly extensive as to make members of our profession less independent than they should be, but these facts would not constitute excuses for the condition of things that is alleged by the Relief

Committee of the St Pancras Guardians to prevail in St Pancras, Guardians everywhere must look into the matter. The scandal calls for a thorough examination into the methods under which pauper lunatics are certified A very limited experience of pauper lunacy is enough to show that much of it is not grave or organic, so that there is every reason why all cases should be investigated by persons above suspicion and should be intrusted to the treatment of independent and disinterested practitioners

Annotations.

"Ne quid nimis."

THE ALDERSHOT FIELD DAY

WHATEVER might have been the opinion entertained of the late military operations at Aldershot from a military or spectacular point of view we think that the results from a humanitarian or medical one must be regarded as lamentable, Monday, June 11th, was, as everybody will recollect, an exceptionally hot and oppressive day The thermometer, sheltered from the direct rays of the sun, rose to 89° F and exposed to them to 116° The troops, numbering nearly 30 000 in all, were under arms for eight hours, they were improperly clad for such hot weather and insufficiently fed before starting for an unusually trying field day which, in point of fact, should not have been undertaken under the circumstances The men fell out in all directions on the homeward march in consequence of the heat, fatigue, and distress which they had undergone, four of them died from heat stroke and a considerable number had to be admitted into hospital—all suffering more or less, and some dangerously, from heat exhaustion Such are the facts briefly stated, and it seems surprising, with all the past experience which the military authorities have had of field days, marches, and manœuvres in and around Aldershot, that the arrangements for such occasions should not be about as perfect as they can be practically made No one could, of course, have predicted when the day was fixed upon that it would turn out such an exceptionally hot and unfavourable one for the purpose It is easy to be wise after the event, and had these untoward occurrences been foreseen the field day would, no doubt, even at the last moment, have been postponed or the time occupied by the military operations would have been curtailed But there seems to be still a good deal lacking in the system and method adopted on such occasions Why should our soldiers be exposed to any needless risk of life, distress, and suffering which can be avoided by common sense and hygienic precautions, such as suitable clothing, protection of the head by light helmets of a suitable kind, the provision of a good meal before starting, with light refreshment at halting places, and the plentiful supply of watercarts all along the route? It seems to us that there might be some standing regulations specially framed for hot-weather marching and field days such as could be followed on all occasions of this kind We know, of course, the argument so frequently put forward, that soldiers have to undertake all this and much more in time of war, but it seems to be forgotten that in a campaign they have usually gone through a course of preparatory training before hand, that they are also properly clad and equipped for the work in hand, and that they are stimulated by military ardour as well as by the fact that they are acting under some paramount or recognised military necessity. A wise commander does not, if he can help it, land his troops or his horses from shipboard in a hot climate and at once start them, whilst still 'soft,' on a long and trying march.

THE METROPOLITAN HOSPITAL SUNDAY FUND: APPEAL IN THE CITY.

THE Rev. Harry Jones, Rector of St Vedast, Foster lane, Cheapside, E C, who in many practical ways has shown his interest in the *Metropolitan Hospital Sunday Fund*, has had printed a circular letter for use by himself in place of the circular letter issued by the Metropolitan Hospital Fund for the purpose of reaching those people who are absent from church on Hospital Sunday The letter is as follows.

DEAR —,—If you should be absent from town, or be present in no place of worship on or near Sunday, the 24th June, forgive me for reminding you that aid will be then asked throughout the metropolis towards the support of its great hospitals This appeal has no exclusive connexion with church or chapel, but relies upon the goodwill of those who appreciate hospitals as schools of medicine and centres of cure especially in case of accidents, when ready help is needed by any sufferer, and most often by those who are poor Should you then be disposed to join in a corporate effort (all the more encouraging because it is simultaneous) to meet wants supplied by hospitals, will you send me something, however small the sum, which will be acknowledged promptly, and paid into the Lord Mayor's Hospital Sunday Fund at the Mansion House?

In the City, where few influential people attend a church on Sunday, except St Paul's Cathedral, the letter should prove most useful to ministers We understand that the letters are printed by Messrs Collingridge, 148, Aldersgate street (the office of the *City Press*), who keep the type "standing"

CEREBRAL AND MENTAL DEGENERATIONS ATTRIBUTABLE TO THE USE OF OPIUM IN INFANCY

DR T D CROTHERS, superintendent of the Walnut Lodge Hospital at Hartford, Connecticut, U S A, has an interesting report in the *Journal of the American Medical Association*, May 19th, 1900, of cases illustrating the cerebral and mental degenerations observable in adult life owing to the injudicious use of opium in childhood The danger of opium as a remedy in infancy has only recently been recognised The widespread use of proprietary medicines containing opium as soothing syrups for children has resulted in injuries observed later in life which could be distinctly traced to the deleterious effects of the opium In children, as in adults, the same initial exhilaration (or excitement) followed by depression results from the use of opium, and in children or adults of fine nervous organisation a smaller dose produces the same effect, which in those of coarser organisation can only be produced by a larger dose The power of resistance to the drug is very small in the child and the frequent use of the drug produces characteristic cerebral and mental degenerations Opium given in convulsions, intestinal troubles, insomnia, and nervous irritations may often give temporary relief, but if its use be continued it may produce lasting mischief A lessened vigour of intelligence with a weakness of volitional power amounting even to stupor, may result, together with loss of self control and a proneness to morbid impulses Disorders of digestion are also a common result The following clinical accounts are instructive and teach important lessons which should not be disregarded In a family of four children of healthy parentage, one, a boy, was dull, passionate, and of low intellectual grade He would overeat and drink to excess anything he fancied His was stupid and obstinate and at times excessively irritable No one in the family resembled him in any way, but all were healthy and vigorous in mind and body When one year old he had a convulsion

and was given opium daily for over a year, then at longer intervals, and finally it was abandoned. The parents noticed it was affecting him at the time, changing his mind and habits, and would not permit its use again." Here was an example of retarded brain growth with perversion of mental function, which in later life would probably tend to some form of mental disease or dementia. In a second healthy family one son became an impulsive inebriate at the age of 18 years. The other children in the same surroundings and conditions of living were temperate and well. During infancy this boy was treated with morphia for intestinal troubles. At one time it was thus taken for nearly a year by advice of a physician. "He was dull and stupid much of the time this was taken, and its use as a medicine was continued for years after." The boy soon after the age of puberty began to drink spirits to excess and was now a periodic inebriate. Another interesting case was that of two children of a family, one a young woman who at the age of 24 years suddenly became addicted to opium and alcoholic excess and showed much mental disturbance. "During infancy she was nursed by a Hindoo woman, and was noted for her stupor and tendency to sleep. In childhood she was extremely nervous and suffered from many hysterical affections. ..... Her brother, born two years later, was nursed by the same woman, and was noted for his somnolence and general stupor during this time. Later it was found that the nurse was an opium taker, and that both children had been under the influence of opium from nursing. The boy grew up exceedingly nervous and irritable. At one time he drank to excess and was a gambler. He was changeable and notional, became a clergyman, then a physician, and finally a speculator. He is now an opium taker and neurasthenic, an invalid not 30 years of age." Two other children of this family, one born before this Hindoo woman was taken as nurse and the other after she was discharged, were strong and healthy and free from any peculiarities, mental or bodily. Other interesting cases are recorded, and Dr. Crothers concludes as follows: "The ignorant mother who uses soothing syrups freely to suppress the irritation of the infant is not the only offender. The routine and often thoughtless physician who uses opium freely in infantile prescriptions is responsible in many cases for the wrecks of later life."

THE TRANSPORTATION OF DEAD BODIES.

AMONG the Acts of the Legislature of New Jersey, U.S.A., passed during its latest session we note one which is a good example of the practical interest in sanitary questions displayed by our cousins across the Atlantic, and which, moreover, suggests a possible useful addition to our own public health legislation. It is "an Act concerning the transportation of dead human bodies across or within" the State of New Jersey, and it deals with dead bodies in two classes. In the first place, it forbids any undertaker or other person to consign, or any railroad or common carrier to convey, across or within the State any human body dead from small-pox, Asiatic cholera, yellow fever, typhus fever, or bubonic plague, except in a hermetically sealed casket and except a license for such transportation be first obtained in writing from the board of health of the State or from one of its officers or inspectors. In the second place it forbids the transportation within the State of New Jersey of bodies dead from other causes than those enumerated, except under conditions which include signed certificates in duplicate from the physician who has attended the deceased in his last illness or from "some other practising physician in good and regular standing." This certificate must fully and minutely identify the body and set out the cause of death and further certificates from the undertaker charged with removing it must state numerous other particulars with regard to its removal. If these formalities are duly complied with a permit for the transportation of the body will be issued. In England the need for such precautions does not arise so often as on a continent where a body may be brought home for interment from a State within or without the Union over thousands of miles of railway, and possibly in tropical heat, while the difficulty thrown by continental legislatures in the way of transporting dead bodies to a great extent prevents their frequent arrival on our shores from abroad. It does not, however, follow that no system should be observed in such cases or that no danger may arise which our Public Health Acts ought to be competent to prevent. Our Acts, as far as they treat of burial, are chiefly concerned with the procedure in cases where the relatives of the deceased will not do their duty. A body dead from an infectious disease may not, for example, be left uninterred for more than 48 hours except in a mortuary or room not used for living or working in, and there are legal penalties for conveying such a body in a public conveyance without notifying the cause of death to the owner of the conveyance. We know of no direct legislative enactment that systematically either prevents or materially hinders the possible transportation of bodies under conditions highly dangerous to the public should relatives capable of paying for their conveyance desire to inter them at a distance from the place of death and should those undertaking the duty of removal and interment be careless or incompetent. We note with interest the recognition in the New Jersey Act of the "practising physician in good and regular standing."

THE MANCHESTER AND SALFORD HOSPITALS INQUIRY ASSOCIATION.

TOWARDS the end of the year 1897 the Manchester Medical Guild through its council issued a circular to medical practitioners in Manchester and the neighbourhood upon the subjects of hospital reform and medical aid. With regard to the first subject the circular pointed out that a joint committee representative of the medical charities and medical societies of Manchester and Salford had been appointed to make inquiries.[1] The committee in question has just issued its report with its findings and recommendations which are as follows:—

The Association find:—I. That a considerable amount of abuse of hospital charity exists—i.e., that persons receive the service of hospitals who are not proper subjects for charitable relief. II. That the following appear to be the principal causes of this abuse:—(*a*) the insufficiency of the means taken to investigate the circumstances of patients applying for relief; (*b*) the necessity under present conditions for hospitals to show a large return of work done, as estimated by the number of patients and consultations; (*c*) the tendency of hospitals during recent years to accept trivial cases as suitable subjects for continuous treatment; (*d*) the custom at some special hospitals of treating cases that do not strictly come within the recognised scope of their work.

The sub-committee therefore strongly recommend:—That with a view to terminating the abuses which undoubtedly exist a conference of representatives from all the hospitals of Manchester and Salford be held, with authority either to create a United Hospitals Board for Manchester and Salford or to deal specially with the causes of hospital abuse, as set out in this Report and to discuss the acceptance of contributions by patients.

The most important of these causes are undoubtedly (*a*) and (*b*). Advertisement is the physical life and the spiritual death of nearly every department of the modern body politic. That is to say, everything is run with an idea of making it pay instead of, as should be the case, giving the best work. The ideal is not always attained, but whether it is building a

[1] THE LANCET, Dec. 11th, 1897, p. 1551.

June 16, 1900

THE LANCET

SPECIAL SUPPLEMENT

IN SUPPORT OF THE

METROPOLITAN HOSPITAL SUNDAY FUND

Published in aid of the Appeal to be made on Sunday, June 24th, 1900.

IF "'tis hard to lend fresh interest to a twice-told tale!" the difficulty is presumably increased more than seven-fold where the tale is told for the fifteenth time, and is not lessened where the subject of it has been before the public for well-nigh twenty years, and has therefore begun to be regarded by the majority of Londoners as an annual event which, during the period covered by their memories, has followed Easter as surely as the recurring London season. This year, however, the claim of the Hospital Sunday Fund upon the benevolence of the public in London and everywhere else in the kingdom needs to be urged by us and by all interested in it with special insistence owing to a special circumstance. This circumstance, which, as we hope to show, strengthens the claim of the hospitals to the support of Englishmen, rich and poor, and which may aid us in pressing home that claim, at the same time may well lead to a call of annual and ordinary recurrence being forgotten or ignored in the year 1900 by some who have recognised f urgency on former occasions. The war is an absorbin topic; no one in these islands can fail to have his or h thoughts and conversation almost constantly occupied by and its thrilling incidents, to the exclusion of other matter among which must be counted the Hospital Sunday Fund.

The Hospitals and the War.

We are not only concerned by the fact that our fellow subjects think of the war and talk of the war, greatly to the exclusion of other topics, but it must be remembered that we are pleading the cause of charity as embodied in the Hospital Sunday Fund; and we cannot disguise from ourselves the fact that the war has already during the past eight months evoked in the cause of charity one of the most remarkable outpourings of the resources of rich and poor that the world has ever seen. It is still early to judge what the effect of this may be upon the incomes of institutions for the benefit of a poor that is always with us, and we trust that in a nation so patriotic, so earnest, and so wealthy as ours it may be small; but we cannot ignore the possibility that it may be considerable. Nor can we disregard the fact that in order to meet the expenses of the war taxation has been increased,

been contributed on behalf of the sufferers from famine in India and the financial situation which has arisen in consequence mainly of the state of the coal-market, are elements which may well combine to increase the anxiety of those interested in our hospitals, whether generally or in connexion with the special appeal about to be made; but the main feature of the present year, the one which does in the present and will presumably in the future render all other features of the year 1900 blurred and insignificant in comparison with its own prominence, is the war in South Africa, of which the full cost has yet to be reckoned. *And yet the war should be the hospitals' friend and advocate.* Great is the attention it has called to all branches of our military service, great is the improvement which is expected to result some day to many of those branches from the strain to which they have been subjected before the eyes of the nation and the world. The fierce light of
shown
The ke
upon those weak spots, and his tongue and pen have not spared them or those responsible for them. But for one portion of our war equipment, for a portion, literally, of vital import, in that it directly concerns men's lives, there has been unqualified praise. Criticism there may have been,
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by shot and shell or
lives or lessen others' pain. They will, we feel sure, be remembered with other right gallant men who have died, by many of those who contribute of their wealth or of their poverty to the Hospital Sunday Fund; but for the moment we are appealing not so much to the enthusiasm as to the reason of our readers. The credit won by members of the Royal Army Medical Corps in South Africa, for themselves as individuals and for the distinguished body of which they are members, by acts of personal heroism and self-sacrifice, has been won by the display of the same qualities that many soldiers have displayed before, and that the Queen's subjects, in whatever capacity they may serve, are ever ready to display. The Corps has made its great success in the South African campaign by splendid attention to duty. In spite of the nature of the country in which our actions have been fought and of the sad fact that those actions have not always been fought successfully, and in spite of the terrible difficulties of transport entailed by infinitely drawn out lines of communication, battlefields have never been so quickly stripped of their wounded in the history of man, nor have the

wounded been so promptly cared for, so suitably sheltered, or restored to health in such high ratios. All this has been due to the completeness of the organisation of the Royal Army Medical Corps for bringing wounded and diseased under curative treatment, and to the recent advances made by surgery and medicine through the unwearying labours of the profession of which the Corps forms a branch.

It may sound like a platitude to say that our medical officers in Africa would not have been so successful in dealing with the wounds caused by Mauser bullet and Pom-Pom shell, or with the ravages of enteric fever or dysentery, if they had not had a good [illegible] some time previous to their departu[illegible] It is, however, a platitude upon which we lay some stress even in the simple form in which we put it forward. We are writing to-day, not for the medical profession alone, but also for laymen possibly with friends at the seat of war, and we add a second platitude for their benefit on a point of detail which it is just possible that they might otherwise forget. It is to the effect that the good education referred to could have been obtained in no other way had there been no hospitals at which to seek it. It was in the great hospitals which are maintained in all parts of our beloved Queen's dominions [illegible] charity of her subjects, and more [illegible] those great hospitals of London in whose behalf we plead to-day, that the skill was acquired which is saving the lives of thousands in South Africa. It is by the discoveries that have rewarded labour and research in these and similar institutions that medical knowledge has attained to its present position. We may seem to our professional readers to labour the point by discussing it further, but we are not sure that to all of them it is as abundantly clear as it is to us that the education of the medical man, as he now is, would be an impossibility, and that his science could never have reached its present point but for hospitals. This page will fall into the hands of many who are able, and who should be willing, to subscribe liberally, who do not do their plain duty by hospitals, but who think of them merely as places to which dirty people are taken when they are run over in the streets. They wholly forget their obligation to the hospitals when they pay a fee to their medical adviser, feeling proud to be of those who can afford to recompense him for his attendance. It is to these that we point out with emphasis that the highest skill which money can place at their disposal is precisely the skill which owes its existence to the hospital ward in which it was acquired. Is it a rich woman, who a stranger to the accidents and illnesses of her poorer sisters, is about to become a mother and who must inevitably before long need medical aid? If any unforeseen and unusual complication arises in her case, and if it is treated with the same certainty and readiness as if the condition had been expected, this will be because the physician attending her has in his mind the lessons taught by hundreds of cases dealt with in hospitals. This is equally so whether the medical man is obstetric physician to a hospital or whether he is relying on the record of observations made by hospital officers for the benefit of those studying under them, and for the medical world at large. We need not multiply examples; the truth is obvious.

Many will read these pages, and into whatever hands they fall many of those [illegible] now far away on the [illegible] many of the eyes [illegible] dimmed with tears [illegible] of someone loved, and very few indeed will not be able to call to mind someone with whom he or she is acquainted and who has been during the past months in close daily peril of wound or disease. To the men and women of this great metropolis we appeal, and to the men and women of this great country, to remember their brethren who have fought in Africa in a climate exposing them to deadly disease, against an enemy armed with weapons of precision said to be superior to our own.

STATISTICS OF HOSPITAL WORK IN LONDON DURING THE YEAR 1899.

TABLE I.—GENERAL HOSPITALS.*

N.B.—The figures referring to out-patients in these Tables represent the number of VISITS *paid by out-patients—*NOT *the* NUMBER *of out-patients.*

Name of hospital.	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies.
	£								
Charing-cross	1,271	2,326	1,050	1,020	256	156	231	45,000	13,265
French	354	871	138	638	59	55	40	14,974	230
German	625	1,697	336	609	499	115	138	46,488	3,393
Great Northern Central	625	1,923	1,565		129	133	225	69,089	5,581
Guy's	1,563	7,548	—	—	956	433	678	85,198	62,017
Hampstead	208	356	71	251	10	18	16	2,291	71
Italian	63	—	—	—	—	—	—	14,729	—
King's College	1,665	2,408	713	1,050	275	105	180	30,107	7,687
London	5,000	12,603	6,014	5,016	1,372	592	1,297	308,751	17,871
London Homœopathic	625	1,128	276	617	—	84	61	—	1,727
Phillips Memorial Homœopathic	36	80	13	59	8	6	2	2,795	—
London Temperance	802	1,357	469	715	26	—	111	22,043	12,545
Metropolitan	729	867	314	372	117	89	92	101,597	11,344
Mildmay Mission	313	519	96	334	100	36	32	23,557	2,174
Miller Hospital and Royal Kent Dispensary	286	252	57	149	4	9	14	75,129	6,850
North-West London	417	585	356	157	27	46	26	41,991	6,124
Poplar	729	877	207	610	69	56	60	22,429	840
Queen's Jubilee	nil	117	10	89	5	7	6	18,669	1,803
Royal Free	1,094	1,984	1,011	767	177	93	246	93,863	18,866
	2,083	4,396	2,704		1,207	278	436	121,095	8,649
	78	—	—	—	—	—	—	—	—
St. Mary's	1,927	3,363	841	1,802	240	242	308	96,767	339
St. Thomas's	104	5,831	5,283		762	382	557	94,836	777
Seamen's	1,146	2,515	374	1,851	40	214	186	93,128	—
The Middlesex	2,188	3,611	2,663		816	273	396	119,623	—
Tottenham	200	530	54	385	—	22	59	24,507	4,747
University College	1,406	2,708	936	1,103	267	163	246	131,467	26,104
Walthamstow	89	465	44	355	7	26	34	3,000	—
West Ham	400	636	201	334	14	32	69	70,187	9,299
West London	625	2,042	1,733		—	127	182	68,647	15,400
Westminster	1,458	1,866	1,545		320	126	195	70,000	12,591
Estimated to supply omissions	£28,175	65,461	13,581	18,283	7,746	4,008	6,123	1,912,857	250,294
	—	—	7,488	14,181	156	68	—	20,768	34,394
Total	£28,175	65,461	21,019	32,464	7,902	4,076	6,123	1,933 625	284,688

* We reproduce the term "General Hospitals" as employed by the Council of the Metropolitan Hospital Sunday Fund.

They must rely on medical aid when the disease strikes them down or the bullet flies true. It is for the institutions that have trained many of those who are giving this medical aid that we appeal, and not only that the hospitals may gain by any sense of gratitude aroused, but because there is danger that owing to the war the hospitals may actually suffer heavy loss.

their private practices that Sir William MacCormac and Mr. Frederick Treves and their colleagues owed the fact that they were selected to proceed to South Africa, but to the reputation they had earned and to the skill they had acquired in dealing with deadly injury in our great London hospitals—in hospitals situated in the midst of a crowded poor population, where serious injury

TABLE II.—SPECIAL HOSPITALS

Name of hospital.	Hospital Sunday Fund award.	In patients.	Relieved.	Cured	Convalescent homes	Remaining under treatment.	Died	Out-patients' visits.	Accidents and emergencies
	£								
City of London for Diseases of Chest	938	1,021	920	—	—	111	15	58,973	—
Hospital for Consumption	1,823	1,725	1,175		—	290	258	74,420	—
North London "	365	511	380	—	—	79	22	22,000	—
	417	708	631		31	66	101	25,342	—
	260	880	729	—	—	125	13	—	—
	172	65	15	8	16	25	—	2,212	—
	42	43	35	29	—	19	2	—	—
	52	51	25	14	—	11	—	—	—
	139	231	—	—	—	—	38	—	—
Cheyne for Incurable "	125	76	3	7	4	50	14	—	—
East Lond. Hosp for "	677	1,416	293	742	317	70	215	70,037	8,[illegible]
Evelina Hosp for Sick "	460	1,103	853		132	63	187	39,274	—
Home for Incurable "	78	34	—	—	—	26	3	—	—
Home for Sick "	135	229	150	—	144	—	19	3,582	—
Hospital for Sick "	781	1,062	—	—	—	—	—	63,208	—
North East Hosp for "	365	792	182	431	85	90	74	50,303	3,[illegible]
Paddington green for "	260	633	538		93	38	67	44,455	1,1[illegible]
St. Mary's for "	172	563	80	410	58	—	63	44,216	73
St. Monica's for "	104	71	12	19	—	30	—	—	—
Victoria Hospital for "	625	571	249		107	86	27	49,756	—
Victoria Home, Margate	31	60	15	4	—	33	—	—	—
"The Vine"	42	—	—	—	—	—	—	—	—
British Lying in Hospital	30	321	331	—	4	10	—	—	—
Clapham Maternity	36	401	401	—	—	—	—	10,069	—
East-end Mothers' Home	80	294	—	202	—	12	1	6,610	—
General Lying in	52	560	510	—	6	—	3	10,063	—
Queen Charlotte's Lying in	313	1,150	1,150		—	—	5	7,927	—
	365	597	514		114	46	3	8,937	—
	313	766	253	354	73	42	17	10,177	—
	83	189	—	—	—	15	1	11,365	—
	200	591	—	—	—	35	25	23,487	—
	220	1,027	—	—	—	41	75	37,357	—
Samaritan Free	117	517	55	412	30	30	22	21,502	—
Cancer	655	757	641		227	86	98	12,448	—
London Fever	1,042	629	—	577	—	106	17	—	—
Gordon for Fistula	30	185	19	172	—	7	—	3,604	—
St. Mark's "	156	3[illegible]2	21	306	—	21	2	5,[illegible]5	—
National for Diseases of Heart, &c.	83	10[illegible]	100	21	—	11	12	10,929	—
Female Lock	108	534	440		—	34	3	2,214	—
Hospital for Epilepsy, &c.	63	90	—	—	1	14	1	4,615	—
National for the Paralysed, &c	781	1,032	360	209	166	153	65	37,665	—
West-End for Nervous System	125	3[illegible]5	163	27	—	44	5	33,671	—
Central London Ophthalmic	47	102	402		—	18	1	[illegible],275	—
Royal Eye	208	570	—	—	—	22	1	52,927	—
Royal London Ophthalmic	625	1,919	—	—	—	55	1	23,210	—
Royal Westminster "	125	630	—	—	2	15	—	23,127	—
Western "	42	139	44	94	—	—	—	20,624	—
City Orthopædic	83	—	—	—	—	—	—	—	—
National "	104	303	149		—	54	—	3,476	—
Royal "	78	171	95	8	16	13	3	2,703	—
Royal Sea Bathing Infirmary	522	572	350	53	—	55	6	—	—
Hospital for Diseases of Skin	10	—	—	—	—	—	—	13,[illegible]	—
St. Peter's for Stone	44	572	543		—	9	19	37,[illegible]	—
Central London Throat and Ear	42	272	21	240	3	6	5	33,112	—
London Throat "	31	579	15	564	1	7	5	1[illegible],757	—
Metropolitan Ear and Nose	—	103	10	93	—	—	—	8,225	—
Royal Ear	10	203	203		—	—	—	8,618	—
The Dental	120	—	—	—	—	—	—	68,487	—
National Dental	83	—	—	—	—	—	—	18,611	—
	£15,559	29,152	5,674	5,012	1,383	2,471	1,665	1,255,[illegible]	11,1[illegible]
Estimated to supply omissions	—	172	5,105	8,195	5,[illegible]	278	236	16,[illegible]	7,[illegible]
Total	£15,559	29,324	10,779	13,237	2,[illegible]	2,749	1,871	1,271,[illegible]	21,[illegible]

May we remind our present readers that when it became apparent that the Royal Army Medical Corps would be overstrained in point of numbers by the call made upon it, and when it was, moreover, thought advisable to enlist the services of well-known civilian consulting surgeons, that there was one source only from which the auxiliaries needed could be drawn. That source was the hospitals. It was not to the extent or remunerative character of

to body and limb and the operations entitled thereby are matters of daily recurrence, and where ad possible facilities for observation and record as well as for operative performance are provided. Nor was it with regard to their private practices that any of the small band of all-round men who have worked or are working with our forces in South Africa were chosen. They were chosen because of the work which they had done and the experience

they had acquired in the hospitals for which we appeal to-day. And be it remembered that in the hospitals in which our surgeons, military and civil, now in South Africa began their professional education they acquired at an early stage of their careers more than professional skill. There they first gained knowledge of the value of organisation where life-saving has to be done on a large scale, and while learning the also by observation how to new the value of discipline in how to enforce it, or to obey it, as the occasion might demand. The men who have attended our sick and wounded abroad have gained in their hospitals at home the *esprit de corps*, the honourable traditions, the habit of instinctive devotion to duty which alone could have enabled them to earn the praise which they have earned in our hospitals on the field and at the base alike. We ask our readers also not to forget the devoted women who have aided them in their work, who also have acquired their knowledge and skill, their discipline and their devotion to duty, in hospitals in London and elsewhere; who, whatever toil they may have encountered in the years of their training and of their employment at home, have cheerfully encountered ten times that toil amid the hardships, anxieties, and dangers of the campaign.

Let us say again, in case we may not have said it plainly enough already, that any appeal on behalf of our hospitals on the ground of the good work done in the war is an appeal to rich and to poor equally. The letters of private and officer alike have spoken of the treatment all ranks have received when sick and wounded. We ask those who have received such letters to remember that every contribution to the Hospital Sunday Fund, however small, helps to swell its total, and that someone among their friends may have forgotten the claim of the hospitals and of Hospital Sunday who, however poor, might yet be grateful for being opportunely reminded. We want cheerful givers to the Fund and importunate beggars for it.

State-aided and Rate-aided Hospitals and Voluntary Hospitals.

Is the need so urgent? it may be asked by many. Undoubtedly it is. It may safely be said of almost every great hospital in London that were it a commercial concern, conducted for the sake of profit by those responsible for its solvency, or by men whose personal reputation as respectable members of society depended on the pecuniary prosperity of the institutions governed by them and associated with their names, it would have either to close its doors or cut down its expenses until an income was assured to it very greatly exceeding that which it at present enjoys. But to diminish the outlay of a hospital and cut down its expen .. .. perhaps crowded; and to turn .. .. beds may be ready for them means the loss to many sufferers of a last hope of health and strength. So the hospitals struggle on, living

TABLE III.—COTTAGE HOSPITALS AND CONVALESCENT HOMES.

Name of hospital	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes	Remaining under treatment.	Died.	Out patients' visits.	Accidents and emergencies
	£								
Metropolitan Convalescent	625	4,141	1,158	2,762	122	93	6	—	—
Boxhill "	344	1,803	544	1,231	79	35	4	—	—
All Saints "	417	3,506	1,084	1,459	—	113	2	—	—
Ascot Priory "	57	278	73	192	—	25	3	—	—
Chelsea Hospital for Women Convalescent	14	236	—	231	—	4	1	—	—
Mrs. Gladstone's Convalescent	63	—	—	—	—	—	—	—	—
Hahnemann "	31	198	127	18	4	26	3	4,075	6
Hanwell "	27	174	—	—	—	15	—	—	—
Herbert "	21	427	222	118	—	39	1	—	—
Herne Bay (Baldwin-Brown) Convalescent .	36	341	—	—	—	—	—	—	—
Herne Bay Mothers' Home	44	429	429	—	—	—	—	—	—
Homœopathic Convalescent	21	194	—	—	—	—	—	—	—
King's College "	63	387	82	276	—	11	1	—	—
Mrs. Kitto's "	83	312	—	—	—	—	—	—	—
London and Brighton Female Convalescent	10	2,275	—	—	—	10	1	—	—
Mary Wardell Convalescent	104	193	—	—	—	—	—	—	—
Morley House "	156	940	—	936	—	—	1	—	—
Police Seaside Home	52	—	—	—	—	—	—	—	—
St. Andrew's (Clewer) Convalescent	156	—	—	—	—	—	—	—	—
Do. (Folkestone) "	281	2,241	—	—	—	75	1	—	—
St. John's Home for Convalescent Children.	115	306	—	—	—	—	—	—	—
St. Joseph's Convalescent	52	611	358	214	—	51	3	—	—
St. Leonards on-Sea "	104	721	717	—	—	30	2	—	—
St Mary's "	17	97	97	—	—	7	—	—	—
St. Michael's "	31	214	—	—	—	—	—	—	—
Seaside "	146	—	—	—	—	—	—	—	—
Warley "	10	78	—	—	—	—	—	—	—
Friendly Societies "	21	489	—	—	—	—	—	—	—
Deptford Medical Mission Convalescent ..	21	—	—	—	—	—	—	—	—
Beckenham Cottage Hospital	52	111	1	88	—	17	5	—	21
Blackheath and Charlton Cottage Hospital	73	190	50	93	—	16	21	3,440	22
Bromley, Kent, " ..	89	381	46	220	20	28	19	—	93
Chislehurst, Sidcup, &c. " ..	42	160	18	125	—	8	7	—	—
Eltham " ..	31	138	12	103	—	12	9	—	15
Enfield " ..	50	172	12	149	—	11	11	—	35
Epsom and Ewell " ..	57	131	6	102	16	13	8	—	9
Hounslow " ..	10	—	—	—	—	—	—	—	—
Livingstone " ..	52	145	139	—	—	9	7	10	14
Mildmay " ..	62	—	—	—	—	—	—	—	—
Reigate and Redhill " ..	63	251	32	285	18	16	6	—	55
Sidcup " ..	38	144	5	120	12	5	2	420	28
Tilbury (Passmore Edwards) " ..	26	81	10	56	2	6	9	1,420	—
Wimbledon " ..	31	146	18	114	1	5	5	—	37
Establishment for Gentlewomen	133	151	10	128	—	13	3	—	—
St. Saviour's Hospital and Nursing Home ..	123	119	42	62	—	16	6	—	—
National Sanatorium for Consumption ..	83	259	—	—	—	51	3	—	—
Invalid Asylum	62	180	106	36	6	11	2	—	—
Firs Home	16	53	21	—	—	16	16	—	—
St. Catherine's Home	31	251	17	—	—	7	1	—	—
Friedenheim Home for the Dying	260	147	13	—	—	31	80	—	—
	£4,550	23,665	4,496	9,208	280	855	252	10,269	365
Estimated to supply omissions	—	3,443	3,589	7,397	—	279	31	3,757	54
Total..	£4,550	27,103	8,085	16,605	280	1,134	283	14,026	419

from hand to mouth, relying on the splendid generosity of the wealthy and the smaller but no less generous and welcome contributions of all citizens who may come to their aid.

And those to whom such is told may ask another question. waste, no avoidable loss either in

[illegible]

In distributing the [illegible] has been able to exer[illegible] vision over hospital [illegible] each institution the [illegible] must be represented [illegible] or necessaries supplied to the [illegible] of the institution is intended to benefit. It will be remembered that when, in the Diamond Jubilee year, 1897, the Prince of Wales [illegible] as the special objects [illegible] sought to commemorat[illegible] reign of our revered and [illegible] politan Hospital Sunday [illegible] (acting, no doubt, under the [illegible] turned for assistance and coöperation in regulating and organising the distribution of the resources placed at his command.

Some may say this year, as many on former occasions have said:—You ask us again to help to place the London hospitals upon a sound financial basis by charity, whereas, if they were the national institutions which you claim them to be, they should be aided from State or municipal funds. Look at the sum which a half-penny on the income tax would realise for them, or, if the rates should be selected to bear what must in the main be a metropolitan burden, consider that a penny in the pound is reckoned to be the rate that will supply the district voting for it with a free library. What is a free library compared with a hospital? Would not a far [illegible] for the sake of placing these [illegible] footing? Our answer is that [illegible] noble institutions are charities that we resist the [illegible] that they should depend on incomes paid to them by State or city under the compulsion of Acts of Parliament. In their origin and [illegible] the generos[illegible] not, and we would [illegible] tunity of showing sympathy for their poorer brethren; nor would we have those poorer brethren receive their help in trouble from any other source than the loving [illegible] feel for others in affliction,

[illegible] ment [illegible] recei[illegible] intro[illegible] the w[illegible] who [illegible] cease, [illegible] care, or [illegible] not afford to pay twice over, [illegible] they wo[illegible] for a Sta[illegible] hold th[illegible] and be[illegible] which i[illegible] can ha[illegible] it wou[illegible] Thus, [illegible] through their wisest and most [illegible] should have branches of a Government department aided by local municipal wisdom directing the internal affairs of our hospitals. We cannot believe that we should see better hospital administration under such a rule, and we should soon expect to hear of a shower of legacies and donations falling to the London School Board as to see charitable benefactions continue in such circumstances. The name, by the way, of the School Board reminds us that the schools which the Board maintains from the rates are open to all [illegible]

[illegible] al men, and any innovation [illegible] in the interests of rich and poor alike, [illegible] ne required by hospitals affords no [illegible] spitals would require to support them [illegible] cease [illegible] Dictio[illegible] [illegible] vention [illegible] of beds provided for [illegible] 41, whereas for [illegible] that the proportion of [illegible] ring poor might come nearer to that of Paris; [illegible] d see it made to approximate, not under the [illegible] of the law by taxing the whole or some already [illegible] tion of the greatness of the hospitals [illegible] ness of the institutions that they are asked to assist.

Rich and Poor Alike Should Give: A Tax on Pleasure.

In asking for more universal support for the Hospital Sunday Fund [illegible] influenced by the last balance-sheet of the Fund an[illegible] which gives [illegible] it, distinguis[illegible] from the "d[illegible] wealthy and [illegible] of last year with those of previous occasions [illegible] noticed that last year was distinctly a good year for the Fund. The total collected was £53,504, an aggregate larger than that of any previous year save 1895, when the sum reached was £60,361. Last year, however, as in 1895, the fact that the total stood out above previous totals was due, not so much to any notable increase in the gifts of the many, but to the fact that the generosity of the donors outside those subscribing in places of worship rose to an unusually high pitch. In 1895, out of the splendid total of £60,361, nearly £22,000 were privately given, and in 1899, out of £53,504, the individual donations came to over £15,000. A glance at the notes appended to the table that gives the progress of the Metropolitan Hospital Sunday Fund will prove to how few the Fund has to turn when expressing its gratitude for these princely gifts, and as a natural consequence with how little certainty the continued magnitude of such donations can be reckoned upon. Few can be expected to vie with Sir Savile Crossley in subscribing sums of a thousand or five hundred pounds annually; the note to the year 1891 shows that out of donations of £9019 a[illegible] the late Duke of Cleveland; while in [illegible] from the late Mr. [illegible] Stock Exchange, and three separate gifts of £1000, of which one, like the £10,000 and the £3400, came from a source largely affected by the present situation in South Africa. There was no South African boom last year, yet £15,000 were given in donations, so that we must hope that in 1900, in spite of their liberality to the war funds and to the funds in aid of the famine- and plague-stricken population of India, the wealthy will not forget the hospitals at home. When, however, we point to the increase of donations as distinct from collections in places of worship as largely accounting for the increase of the Fu[illegible] our object is to urge the [illegible] giver to inc[illegible] nd which must [illegible] ed upon as [illegible] fixed income. [illegible] ere must be but a limited supply of donors of the [illegible] of those we have mentioned and of the late [illegible] nes Wakley.

[illegible] year £23,194 represented the generosity of the general public, a body which in 1893 gave £[illegible],532, in 1897 £37,[illegible],

[1] See previous Hospital Sunday Fund supplements.

and in 1896 £40,501. Last year, therefore, although the gross total [illegible] gifts of the gener[illegible] three preceding y[illegible] to raise its subscr[illegible] this would only [illegible] on a population [illegible] London numbers [illegible] 3,840,000, even [illegible] merged tenth," which [illegible] of subscribing anything. [illegible] for the reception and [illegible] which admittedly includes many [illegible] tenth," but we can see no reason [illegible] working man for the aid afforded to [illegible] sickness or injury should not take a[illegible] that he is too independent to accep[illegible] in return. To the working poor, the[illegible] a gift which represents an economy of [illegible] month for each member of the family [illegible] bility. Nor would it represent an exc[illegible] ate gratitude for those benefits which the giver may himself some day receive at the hands of the hospital, and which hundreds of his fellow men and women of the working class receive daily. There are more ways than one, we admit, of looking at the subscription of a working man to a charitable object. Many will say that a shilling a year for a poor man with a wife and two or three children (each member of the family being represented by 2½d.) is an excessive amount, too much for any reasonable person to expect. In a measure this may be true, and we do not say that we expect to find subscriptions to the Hospital Sunday Fund from working men on such a scale; but at the same tim[illegible] a shilling once a year we cannot help [illegible] average working man, even with a family [illegible] does not regard a shilling as an excessiv[illegible] beer in a single week, for it will be [illegible] calculation eliminates more than three quarters of a million of the poorest part of the [illegible]

Still, in fixing on the p[illegible] and suggesting that his gift should be li[illegible] the present sum contributed by the public, we have no doubt suggested a possibility that we can never hope to see fulfilled. It is different when we turn to those more favourably situated and ask them to [illegible] fallen the task of keeping the [illegible] and that upon them we rely for raising it to a still higher point. Among suggestions for helping the hospitals to attain a fixed income it has been said that to tax theatres and places of amusement for their ben[illegible] a toll upon pleasure for the benefit of [illegible] a toll might well be levied upon many who [illegible] contribute anything to charity in the year we freely agree; but we would have it a voluntary one, levied by each man or woman upon himself or herself. Is the price that is paid without afterthought for the seat in the theatre pit or gallery too much for even the least well endowed to deny themselves occasionally, even if the denial involves the missing of a performance at the play? Is the price of the box or stalls [illegible] eriously affect the comfort of him who [illegible] perhaps several [illegible] ely on one occas[illegible] benefit his fellow-men. Pleasure is [illegible] of Englishmen and Englishwomen, [illegible] whether it is sought on golf links [illegible] ground [illegible] on the river, [illegible] public places [illegible] If the tax, then, be self-inflicted let it be levied with an [illegible] that those who will benefit by it [illegible] relief from pain. Let the giver of it, if he wants self-interest as well as [illegible] remember that the help he confers [illegible] some day come back a hundred-fold upon himself. He may not belong to the class with which accidents are frequent in their daily work, but some day a mish[illegible] the saving of his life may depend[illegible] succour. The doors of the nearest [illegible] him as widely as they do for the labourer or for the poorest beggar in the streets. His life may depend upon the application of some new discovery of science, and let him remember that it is in the hospitals that such discoveries are brought to perfection. But while we suggest such possible selfish motives it is primarily to charity that we appeal.

As the Population increases the Fund should increase.

[illegible] the general hospitals last year the Fund distributed [illegible], to the special hospitals £15,559, and such sums, we [illegible] are, mean important additions to the revenues of [illegible] We are anxious that the addition [illegible]; that the part played by the Fund in the [illegible]ork of charity should be larger. Above all, we wish [illegible] variations should be constant, and in one direction only, co[illegible] as rapid as may be, from yea[illegible] ast, all contributions told, the [illegible] was £53,504. Are we [illegible] e may be maintained, [illegible] the past ten years? 1898 fe[illegible] [illegible]y reason to anticipate that 1900 will be better [illegible] with war in Africa and with famine and plague in [illegible]

This is a terrible question for those who are actively engaged in the management of hospitals and who feel the anxiety, in all its keenness, without any power to evade it or remove its cause. They know the need of ample accommodation, of funds for repa[illegible] from debt, and of [illegible] parsimony. They watch the demand upon their space increasing as the population around them thickens, and they know that their income, which is inadequate even to maintain [illegible] increasing, is sta[illegible] o year. We can all [illegible] the £28,175 given [illegible]eral hospitals of London and the £18,958 [illegible] to over £9000, but only those who watch [illegible]vidual institutions from year to year know how welcome the extra hundreds of pounds were to them; how important it is to the [illegible] eceipts this year should not be by so [illegible] e tables we give will suffice to show any who care to note it how the different amounts of the Fund in a bad year and a good year affect each hospital to which the [illegible] those who have had experience [illegible] expenditure of large concerns will [illegible] form such estimates with accuracy even under favourable conditions. And thoughtful persons will realise how hard it is to keep within a margin of safety when the income is insufficient and when such as it is it fluctuates to the extent of hundreds or even thousands of pounds.

Of the cases that demand treatment in our London hospitals we can show no statistics. The fig[illegible] deal with those that have been [illegible] past year, but do not show how [illegible] treated had the accommodation and [illegible] the hospitals been sufficient to supply their needs; no lists are made of those turned away from the hospital doors. The 65,461 [illegible] the general hospitals constitute [illegible] those which we gave in our tables for 1896, 1897, and 1898, but if in this or any one year the number suddenly drops by four or five thousand it probably will not mean that there were less persons in London in need of aid; rather it will mean that owing to the condition of the hospitals' funds there were less beds ready to receive them. The increased number accommodated last year as in-patients may have distinct relation to the increased revenue of the hospitals through the larger amount of the Hospital Sunday Fund, and the splendid donations of the Prince of Wales's Hospital Fund. This is in the nature of speculation and conjecture. What is not either speculation or conjecture is t[illegible] this huge metropolis is from year to [illegible] London grows greater, not because [illegible] wealthier classes grow more numerous, although, no doubt, these to some extent increase in number. London grows greater because by the attraction of its wealth and by the promise of work which it is supposed to hold out to those without means of livelihood it draws from all parts of the country poor working-men with their wives and families; London grows greater because by the glamour of its opportunities and by the fame of the equal laws enjoyed by all in the British Isles it attracts from all parts of Europe many who are industrious and capable of useful work, many also who select it as a new home because where they come from they are oppressed. They are r[illegible] but it is to be feared that their [illegible] it may safely be said that of the thousands who yearly swell our population the greater number are of the class from which the inmates of

TABLE IV.—DISPENSARIES.

Name of dispensary	Hospital Sunday Fund award.	Out-patients' visits.
Battersea Provident	£80	29,818
Bloomsbury	11	—
Brixton, &c.	62	19,435
Brompton Provident	25	5,378
Camberwell	89	101,555
	12	3,584
	46	—
	17	2,023
	11	3,107
City	116	20,722
City of London and East London	26	79,518
Clapham General and Provident	27	18,837
Deptford Medical Mission	21	2,933
Eastern	31	11,038
East Dulwich Provident	29	9,731
Farringdon General	40	14,114
Finsbury	16	33,813
Forest Hill	42	6,525
Hackney Provident	11	1,503
	42	—
	57	23,085
	47	12,402
	10	4,751
	63	5,073
Kilburn, Maida vale, and St John's wood	42	3,710
Kilburn Provident Medical Institution	36	—
London	21	—
London Medical Mission	94	34,712
Margaret-street Infirmary for Consumption	—	—
Metropolitan	57	30,759
Notting hill	10	2,586
Paddington Provident	34	12,657
Pimlico	19	21,036
Portland town	18	8,255
	43	15,212
	19	13,129
	36	11,559
	68	23,412
	47	18,765
	47	3,000
	36	2,546
	35	5,544
	46	8,333
	38	—
	47	5,760
Stamford hill, Stoke Newington	60	14,192
Tower Hamlets	42	10,660
Walworth Provident	10	5,514
	8	4,437
Woolwich		
Estimated to supply omissions	£2,102	812,411
		120,812
Total	£2,102	933,223

hospitals are drawn, while the overcrowding which their arrival causes does not tend to benefit the public health Vast, therefore, as are the riches of London its poverty is vaster still, the poverty more than keeping pace with growth of wealth. In order to deal with this increase of poverty adequ[illegible] correspondingly rapid, regular incre[illegible] the Hosp[illegible] good years [illegible] even these [illegible] and it can[illegible] id or regular.

In introducing our appeal to our readers in 1896 we pointed to the total of over £60,000 reached in 1895. We urged that the sum collected should not be allowed to recede again to its former lower level; but we were obliged to admit that, having regard to the source of the sudden increase, we feared that it might do so. In 1896 the total was lower than in 1895. In 1897 it was lower again, and again it fell a little in 1898. If in 1899 it rose once more, it was, as we have pointed out, owing to the magnitude of the "donations." And yet the Hospital Sunday Fund should appeal to all in a way in which the individual appeals of hospitals and other institutions cannot do, and for this reason. While asking all to give, with the liberality that their means allow, we are aware that the subscription-list with its orthodox guinea is beyond the reach of many, while to many the publicity which it affords to their generosity offers no attractions. The bag and collection-box of the church, even the plate which gives a very modified publicity to the individual offering, should appeal to these in a way in which no more formal methods of subscribing can do. We are referring now to an enormous class, the class between rich and poor, the class with more or less fixed incomes, who are all competent to give something. It may not be a very great something, but it should be more per head than the twopence-farthing or twopence-halfpenny which represents, as we have shown, the average individual liberality of London towards the Fund [illegible] ich men and women [illegible] are brought up to [illegible] g on around them [illegible] irect appeals as the [illegible] is good and right, [illegible] life and the many sides of the subjects that come before them, should the great mass of the population learn to support the hospitals as a duty imposed upon them by their humanity. We appeal primarily to Londoners, but those who live far from London should remember that London hospitals do not exist for Londoners only. Very few of those who are sufficiently interested in the welfare of their fellows to subscribe liberally to their local hospitals, and who might think this a reason for having the Metropolitan Hospital Sunday Fund unaided, but can remember persons who have been helped to be treated in London. Surely this is a reason why those who live in the country should support the Fund which aids all London hospitals. We may also point out to country dwellers that it is in the schools of the London hospitals that the majority of the medical men who carry on the work of the hospitals in the country, and who practise among the inhabitants of [illegible] might well be imported this year into the donations to the Hospital Sunday Fund. The last year of the nineteenth century is rapidly running out, and should not be suffered to close upon the Hospital Fund without a special mark from the public of their sense of what hospitals have wrought during the last hundred years. In no previous century that the world has known have the discoveries of science been so astounding, so calculated to amaze absolutely anyone who, having inhabited [illegible] before, might be imagined as [illegible] In no [illegible] of science [illegible] g the [illegible] of our life been [illegible] urgery. It would be easy to multiply lists of surgical operations now possible that were not only undreamt of in 1800, but which, if conceived, could not have been performed with success. It is simpler to refer to the two great discoveries that have rendered others possible, and remind those who need to be reminded that antiseptic surgery and the use of anæsthetics are discoveries of the nineteenth century.

SUMMARY OF TABLES.

—	Hospital Sunday Fund award.	In patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies.
General Hospitals	£28,175	63,461	21,019	32,464	7,902	4,076	6,243	1,934,615	2 [illegible]
Special Hospitals	19,5[illegible]	29,324	10,779	13,237	2,765	2,519	1,871	1,211,204	21,[illegible]
Cottage Hospitals and Convalescent Homes	4,550	17,108	3,6[illegible]	16,605	250	1,124	254	14,[illegible]	415
Dispensaries	2,102	—	—	—	—	—	—	933,223	—
Total	£50,356	121,[illegible]	35,533	62,306	10,913	7,732	8,277	4,[illegible]	407,[illegible]

and in 1896, £40,501. [illegible] the gross total was the [illegible] gifts c[illegible] three [illegible] to raise its subscription to £40,000 as a normal figure, even this would only represent twopence halfpenny a [illegible] on a population of 3,840,000. Now the pop[illegible] London numbers [illegible] considerably more than 3,840,000, even [illegible] from it of the "submerged tenth" which may be taken as incapable of subscribing anything. The hospitals are designed for the reception and succour of the poor, a class which admittedly includes many [illegible] tenth," but we can see no reason [illegible] working man for the aid afforded [illegible] sickness or injury should not take [illegible] that he is too independent to [illegible] in return. To the working p[illegible] iggest that a gift which represents an ec[illegible] farthing a month for each member of the family is hardly an impossi[illegible] represent an excessive or disproportion[illegible] for those benefits which the giver may himself some day receive at the hands of the hospital, and which hundreds of his fellow men and women of the working class receive daily. There are more ways than one, we admit, of looking at the subscription of a working man to a charitable object. Many will say that a shilling a year for a poor man with a wife and two or three children (each member of the family being represented by 2½d.) is an excessive amount, too much for any reasonable person to expect. In a measure this may be true, and we do not say that we expect to find subscriptions to the Hospital Sunday Fund from working men on such a scale; but at the same tim[illegible] a shilling once a year we cannot help [illegible] average working man, even with a family [illegible] does not regard a shilling as an excessiv[illegible] beer in a single week, for it will be [illegible] calculation eliminates more than [illegible] of the poorest part of the populati[illegible]

Still, in fixing on the poorest cl[illegible] and suggesting that his gift shoul[illegible] the present sum contributed by the public, we have no doubt suggested a possibility that we can never hope to see fulfilled. It is different when we turn to those more favourably situated and ask them to [illegible] fallen the task of keeping the [illegible] and that upon them we rely [illegible] point. Among suggestions for [illegible] a fixed income it has been said that to tax theatres and places of amusement for their benefit would be to levy a toll upon pleasure for the benefit of distress. That such a toll might well be levied upon many who rarely or never contribute anything to charity in the year we freely agree; but we would have it a voluntary one, levied by each man or woman upon himself or herself. Is the price that is paid without afterthought for the seat in the theatre pit or gallery too much for even the least well endowed to deny themselves occasionally, even if the denial involves the missing of a performance at the play? Is the price of the box or stalls anything that will seriously affect the comfort of him who pays it ungrudgingly perhaps severa[illegible] a popular piece? Surely on one occa[illegible] benefit his fellow-men. Pleasure is [illegible] of Englishmen and Englishwomen, [illegible] whether it is sought on golf links or racecourse, on polo ground or lawn tennis court, at [illegible] on the river, or simply in the wearing of [illegible] public places or at private entertainments. If the tax, then, be self-inflicted let it be levied with an unsparing hand, remembering that those who will benefit by it ask for no pleasure, only for relief from pain. Let the giver of it, if he wants self-interest as well as charity for a motive, remember that the help he confers upon the hospitals may some day come back a hundred-fold upon himself. He may not belong to the class with which accidents are frequent in their daily work, but some day a mishap may lay him low so that the saving of his life may depend on the promptitude of succour. The doors of the nearest hospital will stand open for him as widely as they do for the labourer or for the poorest beggar in the streets. His life may depend upon the application of some new discovery of science, and let him remember that it is in the hospitals that such discoveries are brought to perfection. But while we suggest such possible selfish motives it is primarily to charity that we appeal.

As the Population increases the Fund should increase.

To the general hospitals last year the Fund distributed £28,175, to the special hospitals £15,559, and such sums, we are aware, mean important additions to the revenues of [illegible]s. We are anxious that the addition [illegible] that the part played by the Fund in the year's [illegible] be larger. Above all, we wish that its [illegible] constant, and in one direction only, constituting a steady increase, as rapid as may be, from year to year. The year before last, all contributions told, the total was £40,397; last year it was £53,504. Are we justified in hoping that last year's figure may be maintained, or must we anticipate a drop back to something nearer the average of the past ten years? 1898 fell below that average; have we any reason to anticipate that 1900 will be better than 1898, with war in Africa and with famine and plague in India? [illegible]

in. [illegible]

in all its keenness, [illegible] o evade it or remove its cause. They know the need of ample accommodation, of funds for repa[illegible] erhaps, of freedom from debt, and of [illegible] e necessity for daily parsimony. They wat[illegible] increasing as the population [illegible] ey know [illegible], which is inadequate even to maintain [illegible], is sta[illegible] e can all see at a glance tha[illegible] 75 given last yea[illegible] of London and the £18,958 of 1898 [illegible], but only those who watch the incomes of individual institutions from year to year know how welcome the extra hundreds of pounds were to them; how important it is to the good work that their receipts this year should not be by so many hundreds less. The tables we give will suffice to show any who care to note it how the different amounts of the Fund in a [illegible] affect each hospital to which the [illegible] those who have had experience [illegible] expenditure of large concerns will [illegible] form such estimates with accuracy even under favourable conditions. And thoughtful persons will realise how hard it [illegible] a margin [illegible] ome is [illegible] n such as [illegible] extent of hundreds or even thousands of pounds.

Of the cases that demand treatment in our London hospitals we can show no statistics. The figures before our readers deal with those that have been actually treated in the past year, but do not show how many might have been treated had the accommodation and pecuniary resources of the hospitals been sufficient to supply their needs; no lists are made of those turned away from the hospital doors. The 65,461 in-patients taken in by the general hospitals constitute a greater number than those which we gave in our tables for 1896, 1897, and 1898, but if in this or any one year the number suddenly drops by four or five thousand it probably will not mean that there were less persons in London in need of aid; rather it will mean that owing to the condition of the hospitals' funds there were less beds ready to receive them. The increased number accommodated last year as in-patients may have distinct relation to the increased revenue of the hospitals through the larger amount of the Hospit[illegible] splendid donations of the Prince o[illegible] This is in the nature of speculation [illegible] not either speculation or conjectu[illegible] this huge metropolis is from ye[illegible] London grows greater, not because [illegible] wealthier classes grow more numerous, although, no doubt, these to some extent increase in number. London grows greater because by the attraction of its wealth and by the promise of work which it is supposed to hold out to those without means of livelihood it draws from all parts of the country poor working-men with their wives and families; London grows greater because by the glamour of its opportunities and by the fame of the equal laws enjoyed by all in the British Isles it attracts from all parts of Europe many who are industrious and capable of useful work, many also who select it as a new home because where they come from they are oppressed. They are not oppressed in London, but it is to be feared that their destitution continues, and it may safely be said that of the thousands who yearly swell our population the greater number are of the class from which the inmates of

TABLE IV.—DISPENSARIES.

Name of dispensary.	Hospital Sunday Fund award.	Out-patients' visits.
Battersea Provident	289	29,846
Bloomsbury	11	—
Brixton, &c.	52	19,435
Brompton Provident	25	5,378
Camberwell "	89	101,585
Camden "	12	8,584
Chelsea, Brompton, and Belgrave Provident	46	—
Chelsea Provident	17	2,935
Child's Hill "	11	3,107
City	115	20,723
City of London and East London	26	79,548
Clapham General and Provident	27	13,857
Deptford Medical Mission	21	2,933
Eastern	31	14,082
East Dulwich Provident	29	9,731
Farringdon General	40	14,114
Finsbury	16	38,813
Forest Hill	42	6,545
Hackney Provident	11	1,508
	42	—
	67	28,085
	47	12,402
	10	4,761
	68	5,073
	42	3,710
	56	—
	21	—
	94	34,712
	—	—
	57	30,789
Notting hill	10	2,586
Paddington Provident	34	12,687
Pimlico	19	21,036
Portland town	18	8,283
Public	42	15,212
Queen Adelaide's	19	18,129
Royal General	36	11,559
Royal Pimlico Provident	68	63,412
Royal South London	47	18,765
St. George's and St. James's	47	8,000
St. George's (Hanover square) Provident	36	2,545
St. John's-wood and Portland town	35	5,544
St. Marylebone General	46	8,383
	38	—
	47	5,760
	50	14,162
	42	10,660
	10	5,514
	8	4,437
	4	12,154
Woolwich		
	£2,102	
Estimated to supply omissions		
Total	£2,102	963,223

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In introducing our appeal to our readers in 1896 we pointed to the total of over £60,000 reached in 1895. We urged that the sum collected should not be allowed to recede

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1896 the total was lower than

institutions cannot do, and for this reason. While asking all to give with the liberality that their means allow, we are ... subscription-list with its orthodox guinea is

bag and collection-box of the church, even the plate which gives a very modified publicity to the individual offering, should appeal to these in a way in which no more formal methods of subscribing can do. We are referring now to an enormous class, the class between rich and poor, the class with more or less fixed incomes, who are all competent to

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the average indiv
Fund. This is a men and
women read and brought
up to know and around
them. Not only by these pages and by such direct appeals as these, but by their knowledge of what is good and right, by their acquaintance with the facts of life and the many sides of the subjects that come before them, should the great mass of the population learn to support the hospitals as a duty imposed upon them by their humanity. We appeal primarily to Londoners, but those who live far from London should remember that London hospitals do not exist for Londoners only. Very few of those who are sufficiently interested in the welfare of their fellows to subscribe liberally to their local hospitals, and who might think this a reason for leaving the Metropolitan Hospital Sunday Fund unaided, but can remember persons who have been helped to be treated in London. Surely this is a reason why those who live in the country should support the Fund which aids all London hospitals. We may also point out to country dwellers that it is in the schools of the London hospitals that the majority of the medical men who carry on the work of the hospitals in the country, and who practise among the inhabitants of ... England, have acquired their

of a Great Century.

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who, having inhabited the globe during the century before, might be imagined as revisiting it during the later one. In no department of science has the revolution during the nineteenth century of all the conditions of our life been more marked than it has in medicine and surgery. It would be easy to multiply lists of surgical operations now possible that were not only undreamt of in 1800, but which, if conceived, could not have been performed with success. It is simpler to refer to the two great discoveries that have rendered others possible, and remind those who need to be reminded that antiseptic surgery and the use of anæsthetics are discoveries of the nineteenth century.

SUMMARY OF TABLES.

	Hospital Sunday Fund award.	In patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies.
General Hospitals	£28,175	65,461	21,019	32,464	7,962	4,076	6,183	[illegible]	[illegible]
Special Hospitals	15,559	29,324	10,779	13,237	2,768	2,549	1,871	1,341,204	21,921
Cottage Hospitals and Convalescent Homes	4,520	27,108	8,085	10,605	200	1,154	[illegible]	[illegible]	419
Dispensaries	2,102	—	—	—	—	—	—	963,223	—
Total	£50,356	121,893	39,883	62,306	10,948	7,789	8,277	[illegible]	[illegible]

and in 1896 £40,501. Last year, therefore, although the gross total was the [illegible] d, the [illegible] public [illegible] of the [illegible] s by £[illegible] [illegible] public were to raise its subscription to £40,000 [illegible] this would only represent twopence [illegible] on a population of 3,840,000. [illegible] London numbers about 4,500,000, or considerably more than 3,840,000, even after the deduction from it of the "submerged tenth" which may be taken as incapable of subscribing anything. The hospitals are designed for the reception and succour of the poor, a class which admittedly includes many besides [illegible] tenth," but we can see no reason why the [illegible] working man for the aid afforded to him and his in time of sickness or injury should not take a concrete form, implying that he is too independent to accept charity and offer nothing in return. To the wo [illegible] gest that a gift which represent [illegible] rthing a month for each memb [illegible] impossibility. Nor would it [illegible] portionate gratitude for those [illegible] himself some day receive at the hands of the hospital, and which hundreds of his fellow men and women of the working class receive daily. There are more ways than one, we admit, of looking at the subscription of a working man to a charitable object. Many will say that a shilling a [illegible] with a wife and two or three children [illegible] family being represented by 2½d.) is [illegible] too much for any reasonable person to [illegible] this may be true, and we do not say that we expect to find subscriptions to the Hospital Sunday Fund from working men on such a scale; but at the same ti [illegible] a shilling once a year we cannot hel [illegible] average working man, even with a fami [illegible] does not regard a shilling as an excessiv [illegible] beer in a single week, for it will be [illegible] calculation eliminates more than three quarters of a million of the poorest part of the population altogether.

Still, in fixing on the poorest class of possible contributor and suggesting that his gift [illegible] the present sum contribute [illegible] doubt suggested a possibility [illegible] fulfilled. It is different whe [illegible] ably situated and ask them t [illegible] fallen the task of keeping t [illegible] and that upon them we rely [illegible] point. Among suggestions f [illegible] a fixed income it has been said that to tax theatres and places of amusement for their benefit would be to levy a toll upon pleasure for the benefit of distress. That such a toll might well be levied upon many who rarely or never contribute anything to charity in the year we freely agree; but we would have it a voluntary one, levied by each man or woman upon himself or herself. Is the price that is paid without afterthought for the seat in the theatre pit or gallery too much for even the least well endowed to deny themselves occasionally, even if the denial involves the missing of a performance at the play? Is the price of the box or stalls anything that will seriousl [illegible] ho pays it ungrudgingly perha [illegible] of a popular piece? Surely on [illegible] to benefit his fellow-men. Pl [illegible] es of Englishmen and Englis [illegible] on, whether it is sought on golf links or racecourse, on polo ground or lawn tennis court, [illegible] on the river, or sim [illegible] public places or at [illegible]. If the tax, then, be self-inflicted let it be levied with an unsparing hand, remembering that those who will benefit by it ask for no pleasure, only for relief from pain. Let the giver of it, if he wants self-interest, as well as charity for a motive, remember that the help he confers upon the hospitals may some day come back a hundred-fold upon himself. He may not belong to the class with which accidents are frequent in their daily work, but some day a mishap may lay him low so that the saving of his life may depend on the promptitude of succour. The doors of the nearest hospital will stand open for him as widely as they do for the labourer or for the poorest beggar in the streets. His life may depend upon the application of some new discovery of science, and let him remember that it is in the hospitals that such discoveries are brought to perfection. But while we suggest such possible selfish motives it is primarily to charity that we appeal.

As the Population increases the Fund should increase.

To the general hospitals last year the Fund distributed £28,175, to the special hospitals £15,559, and such sums, we [illegible] aware, mean important additions to the revenues of [illegible] se institutions. We are anxious that the addition [illegible] uld be greater; that the part played by the Fund in the year's work of [illegible] bove all, we wish that its variati [illegible] in one direction only, constitut [illegible] rapid as may be, from year to y [illegible] all contributions told, the total was £40,697; last year it was £53,504. Are we [illegible] d in hoping that last year's figure may be maintained, [illegible] st we anticipate a drop back to something nearer the average of the past ten years? 1898 fell below that average; have we any reason to anticipate that 1900 will be better than 1898, with war in Africa and with famine and plague in India? [illegible] for those who are actively engaged in [illegible] pitals and who feel the anxiety, in [illegible] any power to evade it or remove its cause. They know the need of ample accommodation, of funds for repa [illegible] perhaps, of freedom from debt, and of [illegible] by the necessity for daily parsimony. They watch the demand upon their space increasing as the population around them thickens, and they know that their income, which is inadequate even to maintain the existing [illegible] ng, is sta- [illegible] We can all [illegible] t the difference between the £28,175 given [illegible] neral hospitals of London and the £18,958 [illegible] to over £9000, but only those who watch [illegible] to year know how welcome [illegible] ere to them; how important it is to the good work that their receipts this year should not be by so many hundreds less. The tables we give will suffice to show any who care to note it how the different amounts of the Fund in a bad year and a good year affect each hospital to which the Fund lends its aid, while those who have had experience in estimating the annual expenditure of large concerns will know how difficult it is to form such estimates with accuracy even under favourable conditions. And thoughtful persons will realise how hard it is to keep within a margin of safety when the income is insufficient and when such as it is it fluctuates to the extent of hundreds or even thousands of pounds.

Of the cases that demand treatment in our London hospitals we can show no statistics. The figures before our readers deal with those that have been actually treated in the past year, but do not show how many might have been treated had the accommodation and pecuniary resources of the hospitals been sufficient to supply their needs; no lists are made of those turned away from the hospital doors. The 65,461 in-patients taken in by the general hospitals constitute a greater number than those which we gave in our tables for 1896, 1897, and 1898, but if in this or any one year the number suddenly drops by four or five thousand it probably will not mean that there were less persons in London in need of aid; rather it will mean that owing to the condition of the hospitals' funds there were less beds ready to receive them. The increased number accommodated last year as in-patients may have distinct relation to the increased revenue of the hospitals through the larger amount of the Hospital Sunday Fund, and the splendid donations of the Prince of Wales's Hospital Fund. This is in the nature of speculation and conjecture. What is not either speculation or conjecture is that the population of this huge metropolis is from year to [illegible] grows greater, not because [illegible] classes grow [illegible] no doubt these to some extent [illegible] ndon grows greater because by the attraction of its wealth and by the promise of work which it is supposed to hold out to those without means of livelihood it draws from all parts of the country poor working-men with their wives and families; London grows greater because by the glamour of its opportunities and by the fame of the equal laws enjoyed by all in the British Isles it attracts from all parts of Europe many who are industrious and capable of useful work, many also who select it as a new home because where they come from they are oppressed. They are not oppressed in London, but it is to be feared that their destitution continues, and it may safely be said that of the thousands who yearly swell our population the greater number are of the class from which the inmates of

TABLE IV.—DISPENSARIES.

Name of dispensary.	Hospital Sunday Fund award.	Out-patients' visits.
Battersea Provident	£89	29,819
Bloomsbury "	11	—
Brixton, &c.	52	19,435
Brompton Provident	25	5,378
Camberwell "	80	101,555
	12	8,584
	46	—
	17	2,935
	11	3,107
	115	20,728
	26	79,519
	27	18,887
Deptford Medical Mission	21	2,933
Eastern	31	11,932
East Dulwich Provident	29	9,781
Farringdon General	40	14,114
Finsbury	10	33,813
Forest Hill	42	6,525
Hackney Provident	11	1,608
	42	—
	57	28,085
	47	12,402
	10	4,761
	68	5,073
Kilburn, Maida-vale, and St. John's-wood	42	3,719
Kilburn Provident Medical Institution	36	—
London	21	—
	94	34,712
	—	—
	57	20,789
	10	2,583
	34	12,687
	19	21,036
Paddington Provident	18	8,265
Pimlico	42	15,212
Portland-town	19	13,129
	30	11,559
	68	63,412
	47	18,765
	47	3,000
	36	2,545
	35	5,544
St. Marylebone	46	8,353
St. Pancras and Northern	38	—
South Lambeth, Stockwell, & North Brixton	47	5,760
Stamford-hill, Stoke Newington, &c.	501	14,182
Tower Hamlets	42	10,660
Walworth Provident	10	5,514
Wandsworth-common Provident	8	4,437
Westbourne Provident	14	12,154
Western	54	20,705
Western General	135	17,305
Westminster General	31	33,985
Whitechapel Provident	21	20,931
Woolwich "	11	1,427
	£2,102	812,411
Estimated to supply omissions	—	120,812
Total	£2,102	963,223

hospitals are drawn, while the overcrowding which their arrival causes does not tend to benefit the public health. Vast, therefore, as are [illegible] vaster still, the poverty [illegible] of wealth. In order [illegible] adequately there shou[illegible] increase in the funds [illegible] Hospital Sunday Fu[illegible] years at times, as the [illegible] these years are good save in comparison with worse ones, and it cannot be said either that the improvement is rapid or regular.

In introducing our appeal to our readers in 1896 we pointed to the total of over £60,000 reached in 1895. We urged that the sum collected should not be allowed to recede

but we were obliged to admit [illegible] rce of the sudden increase we [illegible] 1896 the total was lower than [illegible] in 1895. [illegible] in 1898. [illegible] pointed o[illegible] And yet the Hospital Sunday [illegible] way in which the individual appeals of hospitals and other institutions cannot do, and for this reason. While asking all to give with the liberality that their means allow, we are aware that the subscription-list with its orthodox guinea is beyond the reach of many, while to many the publicity which it affords to their generosity offers no attractions. The bag and collection-box of the church, even the plate which gives a very modified publicity to the individual offering, should appeal to these in a way in which no more formal methods of subscribing can do. We are referring now to an enormous class, the class between rich and poor, the class [illegible] competent to [illegible] the average individual liberality of London towards the Fund. This is an age of education, in which men and women read and think and in which children are brought up to know and understand all that is going on around them. Not only by these pages and by such direct appeals as these, but by their knowledge of what is good and right, by their acquaintance with the facts of life and the many sides of the subjects that come before them, should the great mass of the population learn to support the hospitals as a duty imposed upon them by their humanity. We appeal primarily to Londoners, but those who live far from London should remember that London hospitals do not exist for Londoners only. Very few of those who are sufficiently interested in the welfare of their fellows to subscribe liberally to their local hospitals, and who might think this a reason for leaving the Metropolitan Hospital Sunday Fund unaided, but can remember persons who have been helped to be treated in London. Surely this is a reason why those who live in the country should support the Fund which aids all London hospitals. We may also point out to country dwellers that it is in the schools of the London hospitals that the majority of the medical men who carry on the work of the hospitals in the country, and who practise among the inhabitants of country districts all over England, have acquired their training.

In Memory of a Great Century.

Lastly, something of the nature of a centenary celebration might well be imported into the donations to the Hospital Sunday Fund. The last year of the nineteenth century is rapidly running out, and should not be suffered to close upon the Hospital Fund without a special mark from the public of their sense of what hospitals have wrought during the last hundred years. In no previous century that the world has known have the discoveries of science [illegible] so astounding, so calculated to amaze absolutely anyone [illegible] before, [illegible] In no [illegible] ng the [illegible] fe been more marked than it has in medicine and surgery. It would be easy to multiply lists of surgical operations now possible that were not only undreamt of in 1800, but which, if conceived, could not have been performed with success. It is simpler to refer to the two great discoveries that have rendered others possible, and remind those who need to be reminded that antiseptic surgery and the use of anæsthetics are discoveries of the nineteenth century.

SUMMARY OF TABLES.

—	Hospital Sunday Fund award.	In patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies.
General Hospitals	£28,175	65,481	21,019	32,464	7,902	4,076	6,121	[illegible]	[illegible]
Special Hospitals	15,559	29,324	10,779	13,237	2,768	5,849	1,871	1,311,904	22,961
Cottage Hospitals and Convalescent Homes	4,550	17,108	3,055	10,005	231	1,134	252	[illegible]	419
Dispensaries	2,102	—	—	—	—	—	—	[illegible]	—
Total	£50,386	111,893	37,853	62,506	10,943	7,712	8,177	4,111,773	567,564

and in 1896 £40,501. Last year, therefore, although the gross total was the second highest on record, the gifts of the general public only exceeded the average of the three preceding years by £50. But if the general public were to raise its subscription to £40,000 a[illegible] this would [illegible] on a popu[illegible] London numbers about 4,500,000, or [illegible] 3,840,000, even after the deduction [illegible] merged tenth" which may be [illegible] of subscribing anything. The h[illegible] for the reception and succour [illegible] which admittedly includes many be[illegible] tenth," but we can see no reason wh[illegible] working man for the aid afforded [illegible] sickness or injury should not take [illegible] that he is too [illegible] in return. T[illegible] suggest that a gift which represents an [illegible] month for each member of [illegible] repre[illegible] e ben[illegible] some day receive at the [illegible] hundreds of his fellow men [illegible] receive daily. There are n[illegible] looking at the subscription of a working man to a charitable object. Many will say that a shilling a year for a poor man with a wife and two or three children (each member of the family being represented by 2½d.) is an excessive amount, too much for any reasonable [illegible] this may be true, and we do [illegible] subscriptions to the Hospit[illegible] men on such a scale; but at [illegible] a shilling once a year we [illegible] average working man, even [illegible] does not regard a shilling as [illegible] beer in a single week, for [illegible] more [illegible] the po[illegible]

Still, in fixing on the poo[illegible] and suggesting that his gift [illegible] the present sum contributed by the public, we have no doubt suggested a possibility t[illegible] fulfilled. It is different when [illegible] ably situated and ask them to [illegible] fallen the task of keeping the [illegible] and that upon them we rely [illegible] point. Among suggestions for [illegible] a fixed income it has been said that to tax theatres and places of amusement for their benefit would be to levy a toll upon pleasure for the benefit of distress. That such a toll might well be levied upon many who rarely or never contribute anything to charity in the year we freely agree; but we would have it a voluntary one, levied by each man or woman upon himself or herself. Is the price that is paid without afterthought for the seat in the theatre pit or gallery too much for even the least well endowed to deny themselves occasionally, even if the denial involves the missing of a performance at the play? Is the price of the box or stalls anything that will seriously affect the comfort of him who pays it ungrudgingly perhaps severa[illegible] f a popular piece? Surely on one occa[illegible] benefit his fellow-men. Pleasure is [illegible] of Englishmen and Englishwomen, [illegible] whether it is sought on golf links or racecourse, on polo ground or lawn tennis court, a[illegible] on the river, or simply in the wearing of [illegible] public places or at private entertainments. If the tax, then, be self-inflicted let it be levied with an unsparing hand, remembering that those who will benefit by it ask for no pleasure, only for relief from pain. Let the giver of it, if he wants self-interest, as well as charity for a motive, remember that the help he confers upon the hospitals may some day come back a hundred-fold upon himself. He may not belong to the class with which accidents are frequent in their daily work, but some day a mishap may lay him low so that the saving of his life may depend on the promptitude of succour. The doors of the nearest hospital will stand open for him as widely as they do for the labourer or for the poorest beggar in the streets. His life may depend upon the application of some new discovery of science, and let him remember that it is in the hospitals that [illegible] brought to perfection. But while we su[illegible] selfish motives it is primarily to charity that we appeal.

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To the general hospitals last year the Fund distributed £28,175, to the special hospitals £15,559; and such sums, we [illegible] mportant additions to the revenues of [illegible] We are anxious that the addition [illegible] that the part played by the Fund in the [illegible] r's work of [illegible] above all, we wish [illegible] t its variati[illegible] in one direction [illegible] y, constitut[illegible] rapid as may be, [illegible] n year to year. [illegible] all contributions [illegible] l, the total was £40,397; last year it was £53,504. Are we [illegible] ified in hoping that last year's figure may be maintained, [illegible] drop back to something nearer the [illegible] t average; [illegible] l be better than 1898, with war in Africa and with famine and plague in India? [illegible] engaged ir[illegible] anxiety, in [illegible] or remove its cause. They know the need of ample accommodation, of funds for repairs, of [illegible] from debt, and of work [illegible] parsimony. They watch [illegible] and they know [illegible] en to maintain the existing state of things, instead of increasing, is stationary [illegible] year to year. We can all see at a [illegible] between the £28,175 given last year to the general hospitals of London and the £18,958 of 1898 amounted to over £9000, but only those who watch the incomes of [illegible] year know how welcome [illegible] to them; how important it is to the good work that their receipts this year should not be by so many hundreds less. The tables we give will suffice to show any who care to note it how the different amounts of the Fund in a bad year and a good year affect each hospital to which the Fund lends its aid, while those who have had experience [illegible] l expenditure of large concerns will [illegible] s with accuracy even under favourable [illegible] oughtful persons will realise how hard it [illegible] a margin of safety when the income is [illegible] such as it is it fluctuates to the extent [illegible] thousands of pounds.

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Bloomsbury	11	—
Brixton, &c	52	19,435
Brompton Provident	25	5,878
Camberwell	89	101,555
Camden	12	8,681
Chelsea, Brompton, and Belgrave Provident	46	—
Chelsea Provident	17	2,935
Child's Hill	11	3,107
	115	20,723
	26	79,513
	27	13,837
	21	2,933
	31	11,932
Eastern	29	9,721
East Dulwich Provident	40	14,114
Farringdon General	16	38,813
Finsbury	42	6,525
Forest Hill	11	1,508
Hackney Provident	42	—
	57	28,085
	47	12,402
	10	4,761
	63	5,073
	42	3,719
	36	—
Kilburn Provident Medical Institution	21	—
London	94	34,712
London Medical Mission	—	—
Margaret-street Infirmary for Consumption	57	20,789
Metropolitan	10	2,586
Notting hill	34	12,087
Paddington Provident	19	21,036
Pimlico	18	8,258
Portland town	42	15,212
	19	13,129
	30	11,559
	68	63,412
	47	18,765
	47	3,009
	36	2,545
	35	5,544
	46	8,333
	38	—
	47	5,760
	50	14,192
	42	10,660
	10	5,514
	3	4,457
	14	12,154
	54	26,705
Western	135	17,305
Western General	31	33,955
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Woolwich	—	—
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Estimated to supply omissions	—	120,812
Total	£2,102	933,223

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SUMMARY OF TABLES.

	Hospital Sunday Fund award.	In patients.	Relieved.	Cured.	Convalescent at homes.	Remaining under treatment.	Died	Out-patients' visits.	Accidents and emergencies
General Hospitals	£28,175	65,461	21,019	12,464	7,202	4,676	6,163	1,933,[illegible]	£ 4,[illegible]
Special Hospitals	19,555	22,324	10,779	13,237	2,763	2,819	1,871	1,311,404	23,[illegible]
Cottage Hospitals and Convalescent Homes	4,5[illegible]0	27,108	3,[illegible]	10,6[illegible]	250	1,124	253	14,[illegible]	412
Dispensaries	2,102	—	—	—	—	—	—	933,223	—
Total	£[illegible]	121,[illegible]	35,553	62,336	10,213	7,759	8,277	4,[illegible],778	£37,[illegible]

and in 1896 £40,501. Last year, therefore, although the gross total was the [illegible] gifts [illegible] three [illegible] to raise its subscription to [illegible] this would only represent [illegible] on a population of 3,840,000. Now the pop[illegible] London numbers about 4,500,000, or considerably [illegible] 3,840,000, even after the deduction from it of the "submerged tenth," which may be taken as incapable of subscribing anything. The hospital [illegible] for the reception and succour of the [illegible] which admittedly includes many besides [illegible] tenth," but we can see no reason why the [illegible] working man for the aid afforded to him and his in time of sickness or injury should not take a concrete form, implying that he is too independent [illegible] offer nothing in return. To the working [illegible] suggest that a gift which represents an economy of less than a farthing a month for each member of the family is hardly an impossibility. Nor would it represent an excessive or disproportionate gratitude for those benefits which the giver may himself some day receive at the hands of the hospital, and which hundreds of his fellow men and women of the working class receive daily. There are more ways than one, we admit, of looking at the subscription of a working man to a charitable object. Many will say that a shilling a year for a poor man with a wife and two or three children [illegible] family being represented by 2½d.) is [illegible] too much for any reasonable person to [illegible] this may be true, and we do not say that we expect to find subscriptions to the Hospital Sunday Fund from working men on such a scale; but at the same time, when we suggest a shilling once a year we cannot he[illegible] average working man, even with a fam[illegible] does not regard a shilling as an excessi[illegible] beer in [illegible] for it will be [illegible] calculation eliminat[illegible] of the poorest part o[illegible]

Still, in fixing on [illegible] e contributor and suggesting that his gift should be his fair proportion of the present sum contributed by the public, we have no doubt suggested a possibility that we can never hope to see fulfilled. It is different when we turn to those more favourably situated and ask them to [illegible] fallen the task of keeping the [illegible] and that upon them we rely for raising it to a still higher point. Among suggestions for helping the hospitals to attain a fixed income it has been said that to tax theatres and places of amusement for their benefit would be to levy a toll upon pleasure for the benefit of distress. That such a toll might well be levied upon many who rarely or never contribute anything to charity in the year we freely agree; but we would have it a voluntary one, levied by each man or woman upon himself or herself. Is the price that is paid without afterthought for the seat in the theatre pit or gallery too much for even the least well endowed to deny themselves occasionally, even if the denial involves the missing of a performance at the play? Is the price of the box or stalls anything that will seriously affect the comfort of him who pays it ungrudgingly perhaps several times during the run of a popular piece? Surely on [illegible] bestow it to benefit his fellow-men. Pl[illegible] in the lives of Englishmen and English[illegible] in London whether it is sought on golf links or racecourse, on polo ground or l[illegible] on the river, or sim[illegible] public places or at [illegible] inflicted let it be levied with an unsparin[illegible] that those who will benefit by it ask for no pleasure, only for relief from pain. Let the giver of it, if he wants self-interest, as well as charity for a motive, remember that the help he confers upon the hospitals may some day come back a hundred-fold upon himself. He may not belong to the class with which accidents are frequent in their daily work, but some day a mishap may lay him low so that the saving of his life may depend on the promptitude of succour. The doors of the nearest hospital will stand open for him as widely as they do for the labourer or for the poorest beggar in the streets. His life may depend upon the application of some new [illegible] remember that it is in the [illegible] brought to perfection. But [illegible] selfish motives it is primarily to charity that we appeal.

As the Population increases the Fund should increase.

To the general hospitals last year the Fund distributed £28,175, to the special hospitals £15,559, and such sums, we are aware, mean important additions to the revenues of [illegible] e anxious that the addition [illegible] art played by the Fund in the [illegible] be larger. Above all, we wish [illegible] constant, and in one direction only, constituting a steady increase, as rapid as may be, year to year. The year before last, all contributions [illegible] the total was £40,397; last year it was £53,504. Are we [illegible] fied in hoping that last year's figure may be maintained, [illegible] just we anticipate a drop back to [illegible] average of the past ten years? 1898 fe[illegible] have we any reason to anticipate that 1900 will be better than 1898, with war in Africa and with famine and plague in India? [illegible]

in [illegible] in all its keenness, [illegible] evade it or remove its cause. They know the need of ample accommodation, of funds for repa[illegible] perhaps, of freedom from debt, and of [illegible] e necessity for daily parsimony. They watch the demand upon their space increasing as the population around them thickens, and they know that their income, which is inadequate even to maintain the existing state of things, instead of increasing, is stationary [illegible] year to year. We can all see at a [illegible] etween the £28,175 given [illegible] of London and the £18,958 [illegible] se who watch [illegible] to year know [illegible] ds of pounds were to them; how important it is to [illegible] eir receipts this year should not be by [illegible] The tables we give will suffice to show any who care to note it how the different amounts of the Fund in a bad year and a good year affect each hospital to which the [illegible] ile those who have had experience [illegible] ial expenditure of large concerns will [illegible] to form such estimates with accuracy even under favourable conditions. And thoughtful persons will realise how hard it is to keep within a margin of safety when the income is insufficient and when such as it is it fluctuates to the extent of hundreds or [illegible]

Of the cases [illegible] London hospitals we can show no statistics. The figures before our readers deal with those that have been [illegible] past year, but do not show how [illegible] treated had the accommodation and [illegible] the hospitals been [illegible] lists are made of those [illegible] The 65,461 in-patients taken in by the general hospitals constitute a greater number than those which we gave in our tables for 1896, 1897, and 1898, but if in this or any one year the number suddenly drops by four or five thousand it probably will not mean that there were less persons in London in need of aid; rather it will mean that owing to the condition of the hospitals' funds there were less beds ready to receive them. The increased number accommodated last year as in-patients may have distinct relation to the increased revenue [illegible] larger amount of the Hospit[illegible] donations of the Prince o[illegible] in the nature of speculation and [illegible] either speculation or [illegible] e population of this huge metropolis is [illegible] growing larger. London grows greater, not because the members of its wealthier classes grow more numerous, although, no doubt, these to some extent increase in number. London grows greater because by the attraction of its wealth and by the promise of work which it is supposed to hold out to those without means of livelihood it draws from all parts of the country poor working-men with their wives and families; London grows greater because by the glamour of its opportunities and by the fame of the equal laws enjoyed by all in the British Isles it attracts from all parts of Europe many who are industrious and capable of useful work, many also who select it as a new home because where they come from they are oppressed. They are not oppressed in London, but it is to be feared that their destitution continues, and it may safely be said that of the thousands who yearly swell our population the greater number are of the class from which the inmates of

TABLE IV.—DISPENSARIES.

Name of dispensary.	Hospital Sunday Fund award.	Out-patients' visits.
Battersea Provident	£89	29,840
Bloomsbury	11	—
Brixton, &c.	52	10,435
Brompton Provident	25	5,378
Camberwell	83	101,555
	12	8,584
	46	—
	17	2,035
	11	3,107
	115	20,722
	26	70,548
	27	13,837
Deptford Medical Mission	21	2,933
Eastern	31	14,032
East Dulwich Provident	29	9,731
Farringdon General	40	14,114
Finsbury	16	23,813
Forest Hill	42	6,525
Hackney Provident	11	1,508
	42	—
	57	28,085
	47	12,402
	10	4,761
	68	5,073
	42	3,710
	36	—
	21	—
	94	34,712
	—	—
	57	50,789
Notting hill	10	2,566
Paddington Provident	34	12,657
Pimlico	19	21,035
Portland town	18	8,855
Public	42	15,212
Queen Adelaide's	19	13,129
Royal General	36	11,559
Royal Pimlico Provident	68	63,412
Royal South London	47	18,765
St. Tarcy's	47	8,000
	36	2,545
	35	5,844
	40	8,833
	38	—
	47	5,760
	50	14,102
	42	10,660
	10	5,514
	3	4,437
	14	12,154
	54	26,705
	135	17,306
Westminster General	21	33,985
Whitechapel Provident	[illegible]	20,931
Woolwich	[illegible]	[illegible]
	£2,[illegible]	[illegible]
Estimated to supply omissions	[illegible]	[illegible]
Total	£2,102	983,223

hospitals are drawn; while the [illegible] arrival causes does not tend to [illegible] Vast, therefore, as are the riches of London its poverty is vaster still, the poverty more than keeping pace with growth of wealth. In order to deal with this increase of poverty adequately there should be a correspondingly rapid, regular [illegible] our hospitals. And although the [illegible] good even and d or regular.

In introducing our appeal to our readers in 1898 we pointed to the total of over £60,000 reached in 1895. We urged that the sum collected should not be allowed to recede [illegible] in 1895. It [illegible] in 1898. [illegible] pointed out, owing to the [illegible] but we were obliged to admit [illegible] ence of the sudden increase we [illegible] 1896 the total was lower than [illegible]

And yet the Hospital Sunday Fund should appeal to all in a way in which the individual appeals of hospitals and other institutions cannot do, and for this reason. While asking all to give with the liberality that their means allow, we are aware that the subscription-list with its orthodox guinea is beyond the reach of many, while to many the publicity which it affords to their generosity offers no attractions. The bag and collection-box of the church, even the plate which gives a very modified publicity to the individual offering, should appeal to those in a way in which no more formal methods of subscribing can do. We are referring now to an enormous class, the class between rich and poor, the class with more or less fixed incomes, who are all competent to [illegible] Fund. This is an age of education, in which men and women read and think and in which children are brought up to know and understand all that is going on around them. Not only by these pages and by such direct appeals as these, but by their knowledge of what is good and right, by their acquaintance with the facts of life and the many sides of the subjects that come before them, should the great mass of the population learn to support the hospitals as a duty imposed upon them by their humanity. We appeal primarily to Londoners, but those who live far [illegible] ... London hospitals do not [illegible] few of those who are [illegible] are of their fellows to subscribe liberally to their local hospitals, and who might think this a reason for leaving the Metropolitan Hospital Sunday Fund unaided, but can remember persons who have been helped to be treated in London. Surely this is a reason why those who live in the country should support the Fund which aids all London hospitals. We may also point out to country dwellers that it is in the schools of the London hospitals that the majority of the medical men who carry on the work of the hospitals in the country, and who practise among the inhabitants of country districts all over England, have acquired their training [illegible]

In Memory of a Great Century.

[illegible] a centenary celebration [illegible] into the donations to the [illegible] year of the nineteenth century is rapidly running out, and should not be suffered to close upon the Hospital Fund without a special mark from the public of their sense of what hospitals have wrought during the last hundred years. In no previous century that the world has known have the discoveries of science been so astounding, so calculated to amaze absolutely anyone who, having inhabited the globe during the century before, might be imagined as revisiting it during the latter one. In no department of science has the revolution during the nineteenth century of all the conditions of our life been more marked than it has in medicine and surgery. It would be easy to multiply lists of surgical operations now possible that were not only undreamt of in 1800, but which, if conceived, could not have been performed with success. It is simpler to refer to the two great discoveries that have rendered others possible, and remind those who need to be reminded that antiseptic surgery and the use of anæsthetics are discoveries of the nineteenth century.

SUMMARY OF TABLES.

—	Hospital Sunday Fund award.	In patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies.
General Hospitals	£28,175	65,451	21,019	32,464	7,902	4,076	6,123	1,[illegible],615	[illegible]
Special Hospitals	13,[illegible]	29,324	10,779	13,237	2,765	2,542	1,871	1,331,064	21,[illegible]
Cottage Hospitals and Convalescent Homes	4,550	27,103	8,[illegible]	10,[illegible]	[illegible]	1,154	[illegible]	14,[illegible]	[illegible]
Dispensaries	2,102	—	—	—	—	—	—	983,223	—
Total	£50,336	121,823	39,563	62,[illegible]	10,943	7,772	8,277	4,[illegible],772	[illegible]

Particularly appropriate is it to remind our readers of these at the present time, for during the raging war both these aids to surgery have produced a condition of things that without them would have been absolutely impossible. And preventive medicine is the child of this century. Again, let those who have friends in South Africa turn their minds thither and reflect on what our camps, filled with cases of enteric fever and dysentery, due to the conditions of warfare, the climate, and the country, would have become had not practical sanitation, combined with medical treatment, been brought to a high pitch of perfection by those responsible for the health of our troops. Let those who wish to compare the present with the not-far-distant past remember our military hospitals at Scutari, in which the death-rate is reckoned to have been between 400 and 500 per 1000, and reflect on the change wrought by modern organisation, sanitation, and surgery.

That the use of ether and chloroform, antiseptics, and x rays is not black art or witchcraft, everyone in the present year of grace is fully aware, but even in the eighteenth century Professor Roentgen might have been seriously accused of *diablerie*. Perhaps all do not realise [illegible] these are not [illegible] operating in [illegible] beings, but are the results of [illegible] anxious thought, and untiring research, carried on in institutions suited for the observation and investigation of the phenomena of injury and disease, while the mind that evolves the new thing as the result of observation and investigation is one that has received long and laborious training in those same institutions. There may be some, *laudatores temporis acti*, who at any rate profess to regret the introduction of railways, telegraphs, telephones, penny [illegible] who, while perforce they adr[illegible] at changes, deny that they bri[illegible] into the life of mankind. No human heart, however, can view without thankfulness those changes in our conditions which tend to alleviate the human suffering which, while man exists, will be in some measure his lot. And such of these changes as have occurred during the nineteenth century are in a great measure due to the hospitals for which we plead to-day.

In Conclusion.

We have now given reasons why *all* should contribute to the Metropolitan [illegible] Fund, laying special stress upon the word [illegible] in it rich and poor, dwellers in London, in its suburbs, and in far-off country towns and districts without distinction. We make the appeal to those who attend public worship on the Sunday on which the collections are made, and we ask them not to let any who may not be present with them forget the Fund or omit to contribute to it owing to ignorance of its claims upon them. To those who attend no place of public worship the Fund should appeal as closely as to those that do, for the hospitals dispense their boons without regard to character, conduct, or religion, drawing no distinction between forms of belief or unbelief, holding that the claim of physical misery imposes a universal duty.

In faith and hope the world will disagree,
But all mankind's concern is charity.

And so we ask all to give to the full extent of their power of giving because—

1. The war and other circumstances of the year seem to endanger the prosperity of the Hospital Sunday Fund and of the individual hospitals.

2. Because the hospitals have [illegible] tions that anyone can name in [illegible] war for those engaged in it; among whom names of dear ones will occur to individual givers, while all are their countrymen defending the honour and integrity of England and her Empire.

3. Because they are rich, whether their annual incomes are reckoned by thousands and hundreds of thousands, by hundreds or by tens of pounds, or by shillings paid weekly, compared with the poor for whom the hospitals are maintained and whose sufferings the hospitals struggle to alleviate.

4. Because they are in good health and it is the sick and the maimed who crave their aid.

5. Because they may some day themselves need the aid of the science which strives to perfect itself year by year by ceaseless work in our hospitals and constant efforts to diminish pain and arrest the progress of disease.

6. Because for all men, for all women, for all children, rich or poor, sick or well, it is good to give, good to exercise self-denial in order to give, good to know that the gift is on behalf of those in worse estate than the giver, on behalf of those who do not crave aid themselves but for whose sakes we crave it.

Wherefore let our readers select any reason, selfish or unselfish, from the above that may please them, or frame a fresh one for themselves; but in any case let them give. And in giving themselves let them see that they do not omit to urge others to give also.

THE METROPOLITAN HOSPITAL SUNDAY FUND.

Amounts received and disbursed in the year 1899.

Dr. RECEIPTS *for the year ending 31st October, 1899.*

1899.	£ s. d.	£ s. d.
To Balance at Bank of England, 1st Nov., 1898	1,421 1 11	
„ Balance in hands of Secretary	16 10 9	
		1,437 12 8
„ Collections made at Sundry Places of Worship	33,168 14 9	
„ Collections at Schools	25 6 2	
„ Donations	14,046 15 4	
„ Donations for Surgical Appliances	16 14 6	
„ Dividend on £45,346 1s. 3d. 2¾ Consols, per Executors to the Will of W. A. Guesdon, deceased	1,247 0 4	
		53,504 11 1
		£54,942 3 9

Cr. PAYMENTS *for the year ending 31st October, 1899.*

1899.	£ s. d	£ s. d.
„ [illegible]	47,398 15 6	
[illegible]	705 12 5	
[illegible]	2,095 16 3	
„ [illegible]	2,254 17 1	
		52,453 1 [illegible]
„ Rent	170 0 0	
„ Fuel, Gas, and Office Cleaning	20 19 10	
[illegible]	13 19 6	
[illegible]	237 15 3	
[illegible]	90 13 2	
[illegible]	259 9 11	
[illegible]	903 6 6	
„ [illegible]	6 0 9	
		1,702 4 11
„ Special Expenses— Special Church and Chapel Appeals		64 1 8
„ Balance at Bank of England, 31st Oct., 1899	717 9 7	
„ Balance in hands of Secretary	5 6 4	
		722 15 11
		£54,942 3 9

Audited [illegible] of November, 1899.

[illegible] PANNELL & Co., *Chartered Accountants*, 13, Basinghall-street, E.C.

*** In the preparation of the voluminous statistics of hospital work which have been here digested and exhibited in collected form (and which have been specially supplied to us in response to our applications, and are quite independent of any returns made to the Metropolitan Hospital Sunday Fund Committee) we have been greatly indebted to a large number of secretaries and other officers of the various medical charities of the metropolis. To them we desire, as on many previous occasions, to tender our sincere thanks.—ED. L.

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church or keeping a hospital going there is always the fear of the subscribers before the eyes of the responsible managers. In the building it is made a *sine quâ non* that it must be finished by such a date, while the decorations are handed over to a firm to complete at a fixed sum, instead of, as formerly, various artists being employed to carve or paint different portions at their ease. The modern hospital, too, has to issue reports; it is expected by the subscribers to show a good record not so much in quality as in quantity. Let an impartial observer look at the reports of any of the London unendowed hospitals and he will see what we mean "Funds are urgently needed to meet the ever-increasing work; the patients come to us from all parts of the kingdom; the out-patient department is far too small to treat the crowds which daily flock to us for relief," and so on. It is easy to point out faults, but the suggesting of a remedy is by no means easy and we shall be glad to see at what conclusions the suggested conference will arrive. A central hospital board may succeed in Manchester but in London the subject bristles with difficulties.

CORTICAL HYPERÆSTHESIA IN ACUTE ALCOHOLISM.

A LENGTHY paper with accounts of cases illustrating the above condition has been published in the *Archives de Neurologie*, May, 1900, by P Cololian and A. Rodiet of Magnan's Clinic. Cortical (cerebral) hyperæsthesia is manifested in its most marked form during the course of acute alcoholism. In such patients it is possible by external excitation to call up hallucinations in one or other of the sensory spheres, results due to the cortical hyperæsthesia which is present Lipmann was one of the first to note this hyperæsthesia—e g, as shown by the easy induction of visual hallucinations after pressure on the eyeballs Krafft-Ebing has also shown that merely closing the eyes will suffice to make visual hallucinations come forth. Magnan has noted that taps on the skin can give rise to sensations of biting or of the sting of an insect and may also indirectly evoke hallucinations of sight, hearing, or smell in some subjects. Blowing into the external auditory meatus will give rise to auditory hallucinations.[1] Mierzejewski[2] observed that at the onset of delirium tremens there exists such an excitation of the visual centre that impressions of colour leave a long-persistent trace, and hallucinations occurring at such moments take the same colour. He observed in an alcoholic subject that tapping of the skin with a mallet provoked auditory hallucinations in the form of voices uttering insults. In one of his theses Cololian has recorded instances of persecutory delusions arising from simple hallucinations[3] Stimulating the tongue with a piece of paper rolled to a point after closing the patient's eyes provoked intense illusions of taste, with grimaces of disgust. One patient said he tasted sulphate of soda or quinine and made a horrid grimace, another said it was absinthe, a third said it was sugar, while a fourth experienced merely an agreeable taste which he could not define The diagnosis of such cortical hyperæsthesia is of great practical importance for it occurs before the actual onset of the symptoms of agitation, tremor, and acute cerebral excitement of delirium tremens, and it is possible by immediate treatment to prevent or to mitigate the threatened attack Of the several cases recorded in the paper by Cololian and Rodiet the following may be taken as a typical and instructive one A man, aged 32 years, a bath attendant, was admitted to the infirmary of the police depôt at Paris on June 13th, 1899 He had never been arrested before His family history was as follows. His maternal grandfather was an alcoholic, his father was a sober man and was separated from his wife who drank wine and absinthe and who spent most of her money (which she had inherited) in drink and in dissipation. There were no children of the marriage except the patient His personal history was as follows. He had had convulsions during his youth, and typhoid fever (lasting two months) at the age of 13 years. At the age of 18 years the patient drank to excess His habitual drinking for 14 years thereafter was a small glass of "marc" on rising in the morning, white wine before breakfast, about a litre of red wine at each meal, and absinthe before dinner. After some time he had an accident and suffered from nervousness, and on medical advice he gave up taking absinthe to substitute for it almost immediately, however, a bitter liquor ("picon") Soon after this symptoms of alcoholism appeared—*viz*, insomnia with nocturnal hallucinations, tremblings of the hands, and cramps of the calves. At the beginning of 1898 he was seized in the middle of the night with an attack of delirium tremens, and more recently, and before admission to the infirmary, he had a second attack The patient had been married about a year. Before and during the first few days of his marriage he accused his wife of indifference, coolness, and deceit towards him with the connivance of her mother. For three months he appeared sad and depressed and spoke of shooting himself to put himself out of *ennui* On admission to the infirmary he appeared red and flushed, with brilliant eyes and a face covered with sweat. There were tremors all over the body, the pupils were equal, and there was no speech disturbance. The pulse was rapid, and the respirations were normal There was hyperæsthesia of the skin at the neck and on the chest, at the soles of the feet, and on the flexor surfaces of the fore arms. "In all these hyperæsthetic areas the least rubbing produced agitation and contortions of the body with movements of defence, and the patient experienced actual pain" Tapping produced similar effects, whereas pinching had less effect By Lipmann's method it was easy to provoke definite visual hallucinations of quivering flashes of light, sparks, and flames Buzzings and roaring sounds were induced by simple suggestion or blowing on the ears Touching the tongue with paper induced tastes of "powders and of absinthe" so strong and nauseous that he attempted to vomit. Smell was normal The cortical hyperæsthesia with its hallucinatory tendency subsided and a gradually developing melancholia succeeded. He was transferred to an asylum, his bad hereditary antecedents making the prognosis unfavourable.

NON-COMPLIANCE WITH ISOLATION LAWS

IN order to protect the members of the general community from contracting certain of the infectious diseases laws have been enacted which direct that all persons suffering from these diseases shall be isolated so as to prevent them from spreading the infection. When this cannot be done in private houses hospitals are provided by the authorities in which the necessary isolation can be carried out As a rule there is but little difficulty in inducing the patients or their friends (in the case of those in charge of children) to conform to these laws, but occasionally ignorance or stupidity compel force to be used An instance of this kind recently came before the Newmarket Petty Sessions. A man and his wife, who did not appear, were charged with wilfully exposing their daughter while she was suffering from scarlet fever The evidence showed that the child was conveyed a distance of 10 miles in a cab hired at a posting establishment On being told to keep her daughter carefully isolated the female defendant became very abusive Subsequently the child was found in the public streets, and the mother being again

[1] Lepona Clinique, 1897, p 207
[2] Archives Slaves de Biologie, March, 1898
[3] Les Alcooliques Perséculés, Thèse de Paris, 1897.

remonstrated with said she did not care about the law and should take or send her child just where she liked. It was also proved that the child had been sent to shops and allowed to play in the streets with other children, and another case of scarlet fever had already been reported. Mr. C. F. Gray, M.R C S Eng, one of the magistrates, most rightly said that the case was a very serious one as the child would be for some time in an infectious state. A fine of £2 10*s.* with £1 8*s.* 6*d.* costs was imposed. Unfortunately, since the proceedings had been instituted the parents with the child had left the town, thus still further running the risk of spreading contagion. It is exceedingly difficult to teach such persons as the defendants in the above case that laws are made not for one but for the many. Isolation of persons suffering from infectious diseases is not designed for the sole benefit of the patients but for the protection of the public. The community must be guarded from the acts of such wilful persons in the same way as from those of criminals. It is a crime wilfully to allow a child suffering from scarlet fever to play with other children; many deaths may be the result, and the law consequently deals sternly with such offenders.

ENTERIC FEVER IN SOUTH AFRICA.

THE lists of casualties which appear daily in the papers demonstrate only too plainly that we have not yet solved the problem of protecting large bodies of troops from the ravages of such diseases as enteric fever and dysentery. Much has been done in prophylactic measures against the former but very much more remains to be done. One of the greatest difficulties which confront the medical officers is to induce the men only to drink water which has been rendered as pure as possible by boiling or filtering. After a long march the average soldier will run any risk to obtain a draught of water, however bad, and the consequences of such action were seen after the march to Bloemfontein when the men partook freely of the water of the Modder which was defiled by the dead bodies of men and beasts. One of the main interests attaching to the medical aspects of this campaign will be to ascertain the results of the inoculation against enteric fever which was practised upon many thousands of the officers and men. We have been informed that measures have been taken to ensure careful records being kept as to the occurrence of enteric fever amongst the inoculated and the uninoculated, but it will be some time before such statistics can be carefully formulated and the value of such inoculation estimated.

PNEUMOCOCCIC OSTEO-ARTHRITIS.

IT is curious that pneumococcic arthritis which is a recognised, though rare, affection in France appears never to have been observed in this country. At the meeting of the Société Médicale des Hôpitaux of Paris on May 18th M Ch. Fernet and M. Lacapère read notes of a case recently under their observation. A strong man of alcoholic habits, aged 47 years, had an attack of pneumonia which commenced on Jan 6th. The crisis occurred on the seventh or eighth day. He entered hospital on Jan. 13th. Soon after his admission traces of the pneumonia—bronchial breathing and sub-crepitant râles in the lower lobe of the left lung—were found. Two or three days before the patient was admitted arthritis of the right wrist appeared. It was characterised by swelling which was rather marked on the dorsal aspect and which was accompanied by slight redness and pain. On Jan. 24th exploratory puncture gave exit to several drops of a liquid as clear as water which was found on bacteriological examination to contain the pneumococcus. On Feb. 6th the patient had completely recovered from the pulmonary disease, but there were still engorgement of the wrist and slight œdema of the back of the hand. The wrist was then immobilised on a splint and slight pressure was applied by means of wadding. On Feb. 14th the swelling had diminished, but fluctuation was still evident and lateral movements of the wrist were accompanied by crackling. On March 2nd the swelling had further diminished and the pain had disappeared. On March 22nd the wrist was still swollen and the cellular tissue seemed to be infiltrated. The axis of the hand was deflected outwards as if the radius was eroded at its extremity and the joint crackled on passive movement. Radiography showed on the sound side the bones of the forearm and the carpus clearly separated; on the diseased side the wrist was represented by a greyish mass, the ends of the bones of the forearm seemed to be in contact with the carpus, and the extremity of the radius was eroded and enlarged. There were thus evidently adhesions between the radius and ulna and the carpus. The case was one of pneumococcic periarthritis similar to two cases already reported to the society.[1] The lesions shown by the radiograph corresponded to those previously observed at a necropsy in another case of the disease. A similar rapid course, early erosion of the bones, and formation of adhesions have been observed in all cases. Ankylosis seems to be the natural termination. Pneumococcic osteo-arthritis is thus a special type of arthritis which is clearly distinct from pneumococcic synovitis.

COUNTY OF DURHAM SOCIETY FOR THE PREVENTION AND CURE OF CONSUMPTION.

THE above society has just opened its new sanatorium. The building is Horne Hall, at Stanhope, which stands in two and a half acres of garden, and the first instalment of patients entered on May 15th. At present there is only accommodation for 12 patients, but in the course of the summer it is intended to increase the number of beds to 20 by adding more bedrooms. The sanatorium will be maintained—(1) by ordinary subscriptions which may be allotted for the benefit of patients from particular districts or works; (2) by workmen's subscriptions, each man paying 3*d.* per quarter, and bodies of workmen subscribing regularly shall have a first claim on the beds to the full amount of their total subscriptions—e.g, if the total sum of their subscriptions amounts to half the cost of maintainence, half of the beds will be at their disposal without further payment; (3) by weekly payments by or on behalf of patients who do not belong to bodies of regularly subscribing workmen; and (4) by income from investments. There is to be a resident medical officer, who must be registered according to the Medical Acts, who shall devote all his time to the welfare of the inmates of the sanatorium and shall have his meals with them. He may have 21 days' holiday in the course of the year at times to be approved by the committee, and nothing is said about his getting any salary, although we suppose he is to have one.

URTICARIA HÆMORRHAGICA.

IN the *Intercolonial Journal of Australasia* of April 20th Mr. C. S Hawkes has published a case which is of interest both on account of the rarity of the condition present—hæmorrhagic urticaria—and the medico-legal question which might have arisen. A boy, aged 21 months, was let fall by his nurse. He was supposed to have struck the back of his head, but the accident appeared to have been a slight one and no notice was taken of it at the time. Next morning there was a somewhat tense swelling about two inches in diameter on the right side of the back of the neck, reaching up to the level of the occiput, with dark bluish discolouration in the centre as from a bruise. There were also two bluish marks "like bruises"

[1] See THE LANCET, Dec. 11th, 1897, p. 1548.

over the left lower ribs. In the afternoon the cervical swelling was tense and painful, and over the body were many typical urticarial wheals varying in size from a quarter of an inch to two inches in diameter. All the larger ones showed deep purplish discolouration, and there were some bluish marks on the skin, evidently where wheals had disappeared. Itching was considerable. On the first day the wheals were confined to the trunk; on the second day they spread down the arms and hands; on the third day they were thickly distributed over the trunk, legs, arms, and face, and the eyelids were so swollen that they could not be opened. The hæmorrhages were chiefly confined to the larger wheals, which appeared in successive crops. In 24 hours they began to turn from a dark bluish purple to a brown colour. They had disappeared by the fourth or fifth day. After the fifth day only ordinary wheals appeared. Two days later a most severe attack of ordinary urticaria occurred. At its height there were attacks of dyspnœa with sonorous and cooing rhonchi, which passed off in from a quarter to half an hour. For a few days the cry was very hoarse and there was evidently sufficient laryngeal swelling to cause some inspiratory retraction of the chest. As the urticaria disappeared bronchopneumonia supervened, which was followed by whooping-cough. During the hæmorrhagic period examination of the blood showed decided leucocytosis. It is to be regretted that further details are not given of this highly interesting case. Mr. Hawkes appears to consider that the injury had no relation to the eruption for he does not even discuss the question. However, the large cervical swelling seems probably to have been due to the fall, especially as it differed so much from the other cutaneous hæmorrhages. The facts may be regarded as evidence of the hæmorrhagic tendencies of the patient.

THE CATARRH PRODUCED BY A 2 PER CENT SOLUTION OF SILVER NITRATE IN THE EYES OF NEWLY-BORN CHILDREN.

It must have happened to many practitioners who follow Credé's teaching and introduce one or two drops of a 2 per cent. solution of silver nitrate into the eyes of newly-born children to find that the application sets up a good deal of catarrhal conjunctivitis. The question as to whether the occurrence of such an inflammatory reaction is the usual result of the treatment or not has aroused a considerable amount of controversy. Professor Leopold attributes the catarrh to a faulty technique; other authorities hold that it is the usual sequel and consider it a serious drawback to the treatment. With a view to settling the question Dr. H. Cramer[1] has investigated the effect of a 2 per cent. solution of silver nitrate upon the eyes of 300 newly-born children One drop of the solution is placed in each eye while the child is lying upon the back. The baby is then rolled over on to either side alternately and by the successive opening and shutting of the lids the lotion is spread all over the conjunctival sac. The eyelids and the surrounding parts are then carefully wiped dry with cottonwool. In all the cases the conjunctiva was found to react to a greater or less degree, varying from simple congestion and swelling to an acute inflammation. In 5 cases only out of 100 which were carefully observed was there no discharge, the effect being limited to some redness and swelling of the mucous membrane. In the remaining 95 cases there was an abundant discharge. In 73 cases it lasted about five days while in 27 it continued for a longer period of time. In 11 cases a secondary infection occurred with a recrudescence of the symptoms. Dr. Cramer is inclined to believe that the reaction is more marked in children who have been born after a difficult labour or who have presented by the face. In two cases of ectropion of the upper lid the inflammation was extremely marked. The length of time the discharge lasts appears to depend upon the presence or absence of organisms in the conjunctival sac. For the first 24 hours the discharge is aseptic, but after the second day it contains numerous organisms of various kinds. In all the cases of secondary infection staphylococci or streptococci were found to be present. These investigations tend to confirm the view that the use of a 2 per cent solution of silver nitrate is normally followed by a certain degree of conjunctivitis which tends to spontaneous cure and gives rise to no bad results. The fact that such a reaction does occur is no doubt the explanation of the unpopularity of this mode of treating the eyes of newly-born children with some medical men and with a great many monthly nurses. The dangers of ophthalmia neonatorum are, however, so great that there is no justification for neglecting any precautions that may tend to prevent the occurrence of this dread disease. There can be no doubt that the use of a 2 per cent. solution of silver nitrate is one of the most certain means of prevention, and its more general use would be of the greatest value in tending to diminish the very large number of cases of ophthalmia neonatorum which at the present time occur in midwifery practice.

[1] Centralblatt für Gynækologie, No. 9, 1900.

THE ALLEGED POISONOUS COPPER-COATED MAUSER BULLETS.

It has been stated pretty freely in the daily press that amongst other unfair devices adopted by the Boers in the present war was that of coating the Mauser bullet with a poisonous salt of copper—viz., verdigris. Strictly speaking, verdigris is basic acetate of copper, which may be obtained by allowing vinegar to come into contact with, or to evaporate on, a used copper coin. The same French word, however, has been applied, but wrongly, to the green rust (basic carbonate of copper) which forms on copper when in contact with moist air. Our Special Correspondent at the base also stated in a letter published in THE LANCET of May 5th, 1900, p. 1312, that he had seen a "clip" of Mauser cartridges the bullets of which had been dipped in verdigris, but in our issue this week he reports that on being submitted to a thorough analysis this green coating proved to be not verdigris but a mixture of paraffin wax and carbonate of copper, which, he adds, appears to have been used for the double purpose of preventing the cartridge suffering from damp and of supplying a hermetical closing between the brass capsule and the bullet, and thus preventing rust of the barrel. By the courtesy of Sir William Mac Cormac, who placed at our disposal some of these so-called copper-dipped bullets, we have been able to submit the coating as well as the nickel case which encloses the lead bullet to complete analysis. The results are of special interest in regard to the accusations made as to the sinister intentions of our enemy, and we are confident that the interpretation to which these results lead is correct and absolves absolutely the Boers from the charge of tipping the Mauser bullet with a poisonous salt. It is essential to state that the Mauser cartridge consists of a brass case (containing the explosive and detonator or cap) to the anterior end of which is attached a bullet of lead inclosed in a nickel jacket. The Mauser bullets which we examined were covered seemingly with a green coating extending from the apex of the bullet to about a quarter of an inch along the brass cartridge case. On scraping this wax carefully off, however, the first shavings proved to be quite colourless and, in fact, consisted of paraffin wax such as is used in making modern candles. As the scraping approached the surface of the nickel case the shavings became light green until on the surface itself the scrapings were quite green. The nickel

case proved to contain on analysis not only nickel but copper, and the green wax contained both those metals also. We have not the slightest doubt, therefore, that the bullets in the first instance were steeped in melted paraffin wax or wax candles solely to prevent fouling of the gun-barrel and to protect the nickel case against rusting, to which this metal is particularly liable, and that after a time both the copper and nickel of the case of the bullet entered into combination with the stearic acid (which is commonly added to wax candles) in the wax and turned it green. The same phenomenon is familiar to everybody in the green tears of a wax candle in a brass candlestick. It has been suggested that the colouring was of arsenical origin, but we failed to find the slightest trace of arsenic. The fact that the wax on the bullets contained precisely the same metals as were present in the case entirely sweeps away the suspicion that the Boers entertained a malicious intention and expressly coated their Mauser bullets with poisonous copper salts. This should be stated with some emphasis in order that our enemy may be treated with common fairness. Further, it is doubtful whether the bullet would carry the smallest amount of this green wax coating (considering its comparatively low melting point) to its billet. The metals only existed in traces. Many erroneous and contradictory statements have been made in regard to this matter and we are glad to be able to present such a satisfactory and, as we believe, perfectly true interpretation of the facts as revealed by analysis, which hitherto does not appear to have been carried out at that length or with that precision which the serious nature of the suspicion demanded.

THE HUXLEY LECTURE.

As will be seen by a reference to our advertisement columns Lord Lister has consented to deliver the third Huxley Lecture at Charing Cross Hospital on October 2nd. The lectureship was founded upon the death of Professor Huxley out of a sum raised by the medical school of Charing Cross Hospital and various friends in commemoration of Huxley having received his medical education at Charing Cross Hospital, and the subject appointed was that of Recent Advances in Science and their Bearing upon Medicine and Surgery. The first lecture was delivered by Professor Michael Foster in 1896 and the second in 1898, the lecture being biennial, by Professor Virchow. Lord Lister is a worthy follower of his two distinguished predecessors and his selection as lecturer in the present year is all the more fitting on account of our country being at war. The extraordinary and unprecedented success which the Royal Army Medical Corps has attained in the treatment of the wounded is due in very large measure to Lord Lister's world-renowned researches upon asepticism and its results

THE Helen Prideaux Memorial Scholarship, value £50, will be awarded in July, 1900, to a graduate of the London (Royal Free Hospital) School of Medicine for Women. Candidates must be registered medical women of not more than three years' standing on June 1st, 1900, and must send in to the trustees, under cover to the secretary, an essay on some medical subject, on or before July 15th, 1900. The subject chosen by each candidate may be connected with any department of medical or surgical practice. In estimating the relative value of the essays the trustees will attach special value to the evidence afforded of clinical work and of direct and personal experience.

AT a general monthly meeting of the members of the Royal Institution held on Monday, June 11th, Sir James Crichton Browne, treasurer and vice-president, being in the chair, the following motion was unanimously agreed to:—

The managers of the Royal Institution of Great Britain, on the occasion of the retirement of Sir Frederick Bramwell from the office of honorary secretary, desire to place on permanent record an expression of their high appreciation of the admirable way in which he has performed the duties of that office and of his signal services to the institution generally.

THE Ingleby Lectures of the Mason University College, Birmingham, will be delivered on Wednesday, June 27th and July 4th, at four P.M., in the medical lecture theatre of the College, by Dr. O. J. Kauffmann, who has taken for his subject "The Commoner Neuroses of Childhood, their Pathology and Treatment."

Staff Surgeon Henry Peacock (retired R.N.) died on June 5th in his eighty-eighth year. He qualified in 1837 and in 1839 entered the Royal Navy. Subsequently he was appointed medical officer to the Dockyard at Chatham and staff surgeon to the Royal Dockyard Battalion.

A REUTER'S telegram states that Dr. J. Farrell Easmon of Cape Coast, West Africa, died from pneumonia on June 9th.

THE WAR IN SOUTH AFRICA.

THE war chronicle for the past week is of a mixed but, on the whole, of a very satisfactory character. It is nevertheless disappointing to learn at this stage of the campaign, and despite all the experience which our army has had of the tactics of the enemy that we still appear to be unable to prevent isolated bodies of troops and detachments from being surprised, surrounded, and defeated by superior numbers of the enemy. The defeat and capture of the Sherwood Foresters' (4th Derbyshires) Militia at Roodeval was a regrettable business, notwithstanding that it can have no real influence on the course of the campaign. The direct result of the wrecking of some miles of railway by the Boers and the consequent interruption of Lord Roberts's line of communication cutting him off from his base at Cape Town put a temporary check on his military operations. These occurrences indicate that the spirit and activity of the Transvaalers and Free Staters are factors which have still to be taken into account. Nevertheless, with the occupation of the enemy's capitals, with the successes we have obtained in capturing Botha's Pass and Almond's Nek by Buller's troops, and the news from the Western side and elsewhere, taken in connexion with the overwhelming forces at our disposal, we may confidently assert that the enemy's back is broken. The Boer forces may strike a furtive blow here and there, successfully attack different points and intercept Lord Roberts's long lines of communication from time to time, and by making occasional raids and then skilfully retreating cause the war to drag on, but these efforts must inevitably only prove futile in the end. How soon that end may now come no one can tell, for just at the moment of our writing the welcome telegraphic news has arrived of Lord Roberts's successful attack on Botha's force, and of the defeat and complete rout of De Wet by Lord Methuen's troops. The most unsatisfactory part of the business has hitherto been the way in which the Boers have usually succeeded in retreating without loss of their guns and convoys or any material loss to themselves. The British have rarely succeeded in "cornering" them so as to compel their surrender. We hope that it is true what a telegram from Pretoria, dated June 5th, says—namely, that 150 officers and 3500 men whom the Boers held as prisoners had been released. The Boers had intended to take all the British prisoners with them on evacuating Pretoria, but were frustrated by the arrival of the British invading force. Mr. Kruger nevertheless succeeded in taking away about 900 with him as hostages in his retreat towards the East. The casualties in the Sherwood Foresters' Militia at Roodeval were 36 killed and 104 wounded, and the news of the disaster

appears to have been telegraphed by Major Stonham, the medical officer commanding the Imperial Yeomanry Hospital. Lady Georgiana Curzon, president of the Imperial Yeomanry Hospital Committee, has since received the following cable from the Military Secretary, Cape Town: "Imperial Yeomanry Field Hospital in action, Roodeval. All safe."

Large batches of sick and wounded are arriving in this country by different transports. The steamship *America* (Transport 79) reached the Albert Docks last Saturday and disembarked 14 officers and 310 men invalided from South Africa. The ship left Cape Town on May 12th and had a good voyage, only two deaths occurring on the way. The whole of the men, of whom about 50 suffered from the effects of wounds, benefited greatly in health. 80 lying-down cases were on board at the beginning of the voyage, but with six exceptions these were convalescent on arrival. Three men very ill with enteric fever were transferred to Denton Sanitary Hospital and there were three cases of a serious nature for the Herbert Hospital, Woolwich. Dr. C. F. K. Murray and Dr. L. H. Hitchens were in medical charge, having the assistance of three nurses.

The transport *Orotava* arrived on June 10th with about 600 sick and wounded soldiers from the front, nearly all convalescent, there being only some 12 bad cases on board on arrival. Most of the men were transferred to Netley and the remainder to Colchester. Other transports are on their way home and arrivals will, of course, be of frequent occurrence. Meanwhile, strong reinforcements are leaving this country for the front. The home barracks are crowded and recruiting is going on apace. The saying is no doubt true enough that if we are not a military, we are nevertheless a warlike, people.

The last return issued by the War Office showing the total casualties since the beginning of the war up to the end of last week gives the total (exclusive of sick and wounded now in British hospitals in South Africa) as 25,728. The list is made up as follows:—

—	Officers.	Non commissioned officers and men.
Killed in action	235	2,283
Died from wounds	63	551
Missing and prisoners (excluding those who have been recovered or released)	186	4,416
Died from disease	112	3,609
Accidental deaths	—	58
Sent home as invalids	664	13,431
Total	1260	24,463

The returns received by the last mail from the Portland Hospital in South Africa show: total admissions in hospital, 762; returned to duty, 108; sent to England, 98; convalescent, 258; deaths, 14; transferred to other hospitals at base, 133; remaining in hospital, 151, including 91 cases of enteric fever. In consequence of the fever epidemic 60 additional beds have been opened, making 160 in all, and [illegible] had been added [illegible] ital. The amount [illegible] ontein is abnormal [illegible]

Further additional stores sent from England were being received at the date of this communication—viz., May 18th

In consequence of the prevalence of the fever epidemic the Imperial Yeomanry Hospital has been compelled to provide a considerable number of additional beds, and large stores of hospital clothing, linen, &c., are being received. This reminds us that considering the enormous pressure on the lines of railway at the Cape there is much difficulty and delay in forwarding and distributing the stores sent out from this country. It would be well, then, for people forwarding gifts in kind to the hospitals and troops to try to find out beforehand whether supplies are procurable or not at the particular towns and stations to which they intend to despatch them, and, if they are, to forward cheques and money orders for their purchase locally. The diurnal variations of temperature in South Africa are already great and very trying. The nights are very cold and the troops—especially the sick and wounded—will need ample supplies of warm underclothing.

At the present time the sick in our hospitals altogether outnumber the wounded. The principal diseases are enteric fever and dysentery and sufferers from these complaints are sincerely to be pitied; they will stand in need of all that can be done for them in the way of good nursing and the most careful dieting. From what we have heard we may say that those who happen to know any of the nurses serving at the front and the particular hospitals to which they are attached would find it a good plan to send periodically any articles of clothing by parcels' post to their address for the use at discretion of the patients under their care. Supplies of this kind are often useful to meet emergencies or to provide for sick and wounded when leaving the hospital.

THE IMPERIAL YEOMANRY HOSPITAL.

BY ALFRED D. FRIPP, M.S., F.R.C.S.

Though there are still two of the English huts unfinished the Imperial Yeomanry Hospital has in all other respects reached at last its full state of development and I thought you might like to have a short account of some of the main features. The appended plan of the hospital grounds has been prepared by Dr. Barclay Black and with that plan in front of me I have jotted down a description of its various parts as one meets them in taking any visitor for a tour of inspection. Dr Black, who is my staff officer, superintends all the work of the cleanliness and latrine departments of the camp. His plan not being the work of a skilled surveyor does not pretend to be of more than approximate accuracy as to distance, but it is at least faithful in intention and in effect.

To take first the smaller half of the hospital, which lies to the right of the railway line as you arrive from Cape Town, we have a group of isolation tents, for, like other base hospitals, we have not been exempt from the occurrence of an occasional case of scarlet fever. Further to the right are the tents of the medical staff, the two marquees being occupied by the ten surgeons' dressers. The bell tents occupied by the detachment of about 100 orderlies are seen to be separated by the main drain and also by the main road which leads from the wards to the main latrine from the tents of the medical officers. The main drain is made of four-inch earthenware pipes and is fed by various sinks throughout the hospital grounds. No solid matter is allowed to be thrown into the sinks, nor any infected water from the enteric fever department (this is all carried by our natives along the route indicated not far from the laundry to the dumping ground), nor greasy water from the kitchens (this is used to feed the pigs), nor does the drain go near any latrine or any water-supply pipe. Practically the only thing thrown down the sinks is water that has been used for washing. The main drain discharges by means of a system of subdividing trenches on to a part of the veldt which has a good incline away from the hospital. Between the bell tents and the railway line is placed a galvanised iron building which is subdivided into a central dry canteen for the orderlies and two lateral compartments forming workshops for the carpenters and painters respectively. Then comes a large tent used by the orderlies as a mess-room, recreation-room, and bath-room, followed by a collection of hospital marquees which are used only when the hospital is over full for the temporary accommodation of convalescent patients awaiting a train for transfer to Cape Town. The main urinal and latrine are shown towards the bottom centre of the plan. It has separate compartments for the sergeants, the orderlies, and the hospital patients, and we consider it a masterpiece for the Karroo. The floor is cemented throughout and for four feet outside the corrugated iron walls it is inclined and grooved so efficiently that the four natives, who are always on duty there, can, when they are not busy carrying buckets away to the dumping ground, frequently flush out the whole enclosure by means of an armoured hose which has a good head of water from a standpipe. The washings are collected in a cement-lined pit just outside and are thence removed in buckets to the dumping ground. No buckets come back from the dumping ground to any part of the hospital without having undergone a prolonged soaking and subsequent thorough cleansing in a large tank of disinfectant at the dumping ground. The bedpans and the urine-receivers from all patients in the hospital who are not able to walk to this latrine are carried thither by the orderlies and left in a special annexe, clean utensils being taken back to the wards in their place. The excreta are removed to the disposing ground by the natives at [illegible]. For the enteric fever

and dysentery departments special disinfecting latrines are provided, as will be described later. To the right, in and near the laundry are (*a*) a Washington-Lyons disinfector capable of dealing with nine mattresses and many smaller articles in each batch; (*b*) a Russian bath for the treatment of stiff limbs which are so frequent both from rheumatism and from injury; (*c*) a blacksmith's forge; (*d*) a refuse-destructor, through which all paper, straw, small boxes, empty canned-meat tins, and other camp litter are passed, and the ash is then buried; and (*e*) a large filter plant by Messrs. Defries, which is driven by steam from the laundry and is large enough to cope easily with all the drinking water of the hospital. The laundry plant is large and efficient. It has been supplied by Messrs. Defries and is worked by men sent out by that firm, who are helped by four of the wardmaids and some 15 natives. It easily deals with the washing of the 700 white individuals at present in our camp. All of this plant is housed in corrugated iron sheds. All mattresses, bedding, and linen from the enteric fever and other infected wards are put through the Washington-Lyons disinfector at 7 A.M., having been stored, if necessary, overnight in an annexe of the enteric fever latrine between the huts occupied by enteric fever patients. The last point to note is the secondary well which has been sunk on the way to the station as a resource in case of emergency, but we have not yet had to fall back upon this water-supply, as that from the railway well at the station has proved amply sufficient for our needs.

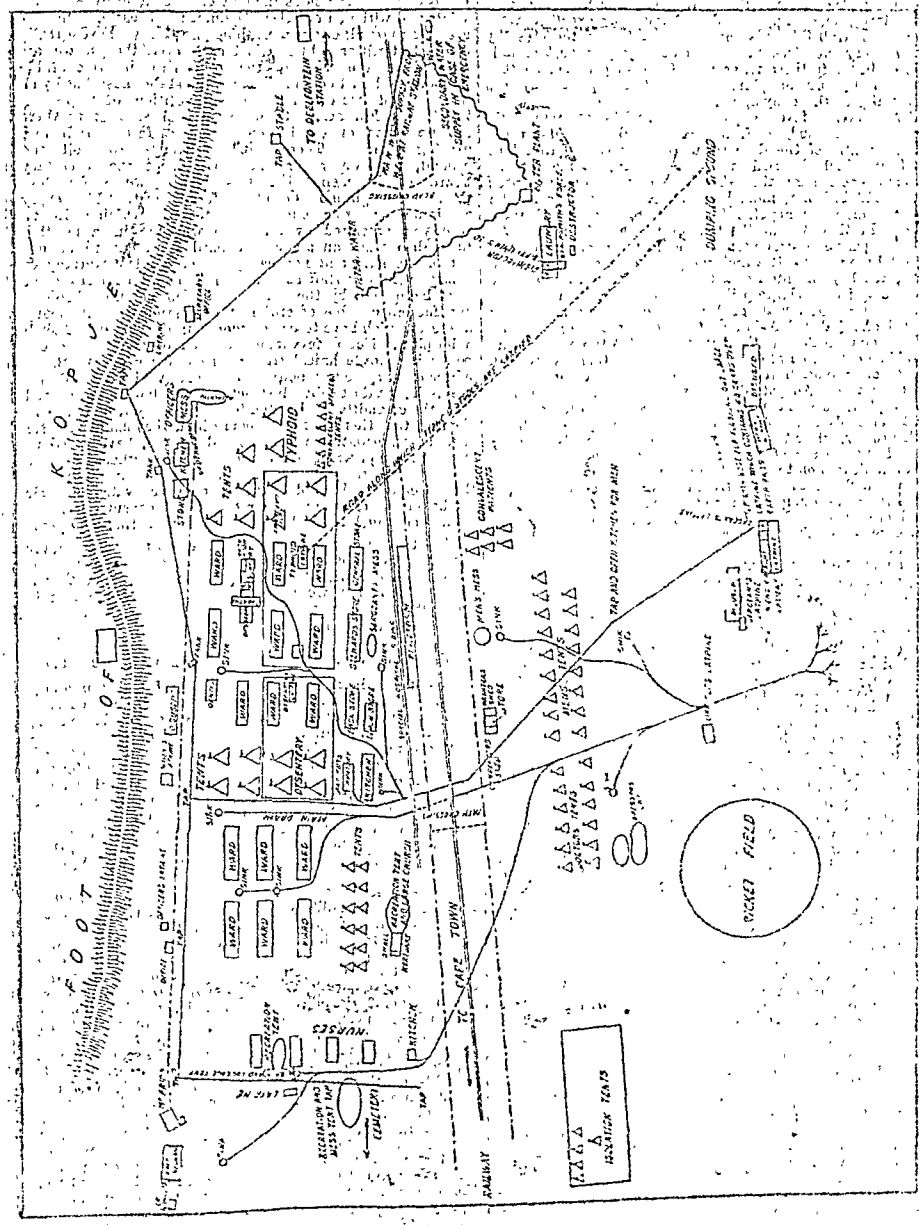
If we now retrace our steps to the main drain and walk up a slight natural incline to the railway line and cross the latter at the most southerly of the three level crossings indicated in the plan, and, starting from the extreme south of the hospital grounds, walk northward among the wards, we shall be going up a slight hill nearly all the way. The cemetery, a quarter of a mile off towards Cape Town, lies at our back. On our left-hand side is a group of three private residences and the sisters' quarters, which consist of: (*a*) four huts, the upper two of which, which are the largest, are occupied by the 29 day sisters, the next one by the 10 night sisters, and the fourth by the 10 wardmaids and the housekeeper (Miss Cheesman), whose services have been of the utmost value, for she not only attends to all the domestic arrangements of this department, but also superintends the laundry, which in itself is a very onerous and important task in view of our isolated position from the rest of civilisation; (*b*) the kitchen, which is seen close to the railway; (*c*) the luggage tent, which is placed between the two upper huts and opens into (*d*) the bath tent, which has its own supply of cold water from the main and of hot water from a boiler placed half way between the three private residences and the sisters' quarters, as well as its own sink just outside the tent for discharge into the main drain, the interior of the tent being separated by curtains into several bath rooms and the floor boarded; and (*e*) the latrine just behind the bath tent, which, like all the other latrines in the hospital, is worked on the bucket and-earth system and served by natives who withdraw the buckets by means of a trap-door at the back of the seats without going into the latrine. The group of six large huts, sent out from England by Messrs. Boulton and Paul of Norwich, with a foreman to put them up, are a great success. They are admirably suited to the climate which yields considerable extremes of temperature in 24 hours and they are well ventilated. The material employed is corrugated iron outside, wood inside, and felt between. Each will be provided with a verandah as soon as the carpenters have time to get to work on the many similar improvements required throughout the hospital. Hitherto they have all been busy with the absolute essentials of construction. Each hut accommodates 34 patients without any crowding. The middle one of the first row that we come to is full of officers and the one just above it is full of Yeomanry. Sinks are shown contiguous to all the huts throughout the hospital, and the water-supply is drawn by the orderlies in cans from stand-pipes placed at convenient distances outside the hut. Boiler tanks are also scattered about the hospital so that there is an ample supply of both hot and cold water. Each hut has a lean-to outside for washing-up purposes. Below these on the plan will be seen a group of a dozen tents, half "tortoise" tent and green in colour and half "hospital" marquee. Each tent is equipped to accommodate eight iron frame and spring mattress bedsteads permanently, with which luxuries the hospital is provided throughout by the Birmingham Bedstead Manufacturers, but each tent is in addition liable to have thrust upon it in times of emergency four or five trestle beds. Close to these tents is the patients' large recreation tent, which on Sundays is transformed into the body of a church. The chancel, which is sufficient for the needs of the week-day services, is formed by a small hut separated from the recreation tent by large folding-doors and from the mortuary at the altar end by a thick partition. The mortuary, like the latrines, has a cement floor and a table and galvanised iron walls. No dead body lies there for more than 24 hours. Five o'clock is the hour for funerals. These, of course, are military, though the salute is dispensed with for fear it should disturb those patients who are in a precarious condition.

Thanks to the kindness of friends at home there is a most excellent library and supply of periodicals. These are in great demand. The books are kept in cases in the recreation tent, and Mr. Atkins, one of the surgeons' dressers, performs the duties of librarian. Similarly Mr. William Turner, one of the surgeons, presides over the distribution of all the indoor games throughout the hospital and organises all the outdoor sports, including cricket, football, lawn tennis, golf, &c. All the requisites for these games have to be procured in Cape Town and they are very expensive. The ground, also, does not lend itself at all favourably to the necessary preparation of level areas, so that we have had great difficulties to overcome. Then there is a group of eight white "tortoise" tents, larger than the last, for they accommodate ten permanent bedsteads, and beside them will be seen patients' lavatory and bath hut; it has a cement floor sloping to a sink in the corner and a good water-supply. In the kitchen hut all hospital food is cooked and the cooks have stores and offices. A latrine is placed between the two acute dysentery wards. On the plan a line is seen drawn round the dysentery department; this indicates that four of the "tortoise" tents mentioned already are included. These four are used for the convalescent dysentery patients.

Above the dysentery department is shown another hut, and above that again the small hut used by Mr. Newland-Pedley as his store-room, work-room, and living-room, though the actual operative dental work is carried on in the second or spare operating theatre to be described later. Below the dysentery department are seen the huts that house the pack store and the linen store. Close together are the sergeants' mess tent; a group of five convalescent tents; small tents, each house a convalescent officer; the officers' mess, into which opens the officers' recreation room, the secretary's office, a small latrine, the orderly's room, the store and kitchen for the officers' mess, and the dairy, from which the milk for the entire camp is dispensed after sterilisation by several large Aymard sterilisers. Miss Brereton, in addition to her work in the operative surgical department, presides over the work of the dairy. Half way to the station are the stable and coach-house in which a couple of Cape carts, each drawn by two horses, a cart which carries the linen backwards and forwards to the laundry, and the riding horses of the various officers, both medical and combatant, are housed.

This leaves for description only the enteric fever department and the cross-shaped surgical building.

In the cross-shaped building shown in the upper third of the plan towards the centre are the operating theatres, the surgery and dispensary, the x-ray department, and the surgical store. The last-named forms the head of the cross and, with the two operating theatres, is in the charge of Miss Brereton, till lately the sister in charge of the pay wards at Guy's Hospital. In her surgical store are accumulated all the supplies of instruments, dressings, antiseptics, anæsthetics, splints, trusses, and other medical and surgical paraphernalia. It is separated by a roofed-in open-air lobby from the operating theatres, one of which is devoted, except in times of stress, to the dental surgeon. The two theatres form the cross-piece of the cross. The theatre used for surgical operations is admirably equipped and furnished, Messrs. Down Brothers, who executed the order for all the instruments, having presented a complete set of aseptic metal furniture, including washhand stands, stools, dressing-tables, and a raise-and-lower table. The wooden lining of the theatre has been painted white. There are two large slabs of corrugated glass which give an excellent top light. The wooden floor is covered with linoleum. The doors are four



Plan of the Imperial Yeomanry Hospital. Prepared by Dr. Barclay Black.

feet wide, giving easy access for the bearers from the open air or from the x-ray department. The long limb of the cross is also separated from the operating theatre by a roofed-in air-space and is occupied as to the end nearest the operating theatre by the x-ray department (which is singularly well equipped and is doing most excellent work under Mr. Hall Edwards), and as to the foot of the cross by the surgery and dispensary. The photographic dark-room is placed in the furthermost corner of the dispensary, so that the large store of plates shall not be spoiled by the proximity of the x-ray apparatus.

The enteric fever department consists of four huts which accommodate from 22 to 26 patients each. In the centre of the department is a corrugated iron hut, half of which is used as a disinfecting latrine for the infected excreta and the other half for the storing of used linen and bedding, including mattresses, until the regular hours which are appointed for the transference of these infected articles to the Washington-Lyons disinfector. All the bed-pans and urine utensils used in the department, and also all the water with which the patients have been washed, are carried by the orderlies to this enteric fever latrine and are there emptied into large pails containing izal and disposed on the concrete floor, while on the zinc shelf there are sets of zinc baths (labeled A and B) for the thorough disinfection of all the utensils. In the baths marked A the utensils are swabbed out with izal solution and they are then put to soak in a similar solution in baths marked B until required again in the wards. An intelligent native is always on duty at the typhoid fever latrine swabbing out the walls and floor and iron shelves, which are all sloped especially to facilitate this process, while two other natives are continually on duty carrying the pails of the disinfected excreta away by the route indicated on the plan to a special dumping ground in a natural hollow far removed from the camp. The pails brought back from the dumping ground are fished out from a large tank of carbolic and the dirty ones are put in their place to undergo a similar soaking before they go back to the latrine.

The staff of attendants on duty in the typhoid fever department is entirely separate from the rest of the sisters and orderlies. Thus one of the senior sisters is in charge of the nursing staff which consists of a day sister and a night sister for each hut and a day sister for every two tents and a night sister for every three tents. Similarly a special ward-master is in charge of the orderlies, of whom there are two on duty with each day sister and one on duty with each night sister. The day staff and the night staff are each on duty for 12 hours in this department, their occasional holidays being arranged for by there being always one extra sister and two extra orderlies in addition to those already mentioned. By this means not only is efficiency ensured among the attendants of the department but also uniformity in the methods adopted for carrying out the rules. These rules have been printed and given to every attendant and are strictly enforced. There is a special hut between the two left-hand wards for the use of all sisters engaged in the department and here they have their tea, &c., for the taking of any food by the attendants or even the preparation of food in the wards is, of course, strictly forbidden. There is also a special lavatory for the enteric fever attendants, so that they may be able to disinfect their hands as frequently as they like.

As a postscript to this short account of the plan of our grounds those interested in our hospital will be glad to hear that the longer we stop here the more pleased we are with the site. We are not free, of course, from many of the difficulties that beset all the military hospitals out here. For instance, we have to struggle with a very heavy visitation of enteric fever. This, by demanding the services of so many of our male and female staff, throws a severe strain upon our resources, for we have only 100 orderlies to the 160 orderlies of a general military hospital. Our sisters, also, often find it heart-breaking work to sustain the unequal battle against the never-ending invasion of vermin brought down by each train-load from the front. We are harassed, too, by the fact that the supply of milk is precarious and that eggs are extremely scarce. Fruit and fresh vegetables, except potatoes and onions, are absolutely unobtainable. On the other hand, we have many things to be thankful for. Our water-supply, for instance, is unimpeachable. The climate, too, is most healthy, sunny and warm in the day and not yet very cold at night. The distant scenery is distinctly attractive. Our specialists in ophthalmic and dental surgery and in x-ray work have proved a godsend. The same may be said with the utmost truth of our body of nursing sisters which is larger than usual. Nor must our masseur be forgotten. His assistance has been most efficacious in many cases of fractures and stiff joints and withered muscles. Again, it is a great gain that we are able to do all our own washing and that we have a really efficient steriliser which can tackle, even though we are isolated in the Karroo, the otherwise insurmountable difficulty of how to disinfect on a large scale. Last, but by no means least, we owe much to our position of "splendid isolation." For nearly 30 miles on each side of us there are no signs of civilisation except a few ostrich and grazing farms. There are no troops to soil the ground, the water, or the air, except the necessary guard of 50 men. For this reason we suffer less than most similar hospitals from dust. We enjoy an immunity from outside interference which will be readily appreciated by all those who are in a position to realise what an amount of hard work has to be got out of the staff and how easily the harmonious working of a large volunteer staff such as ours is could be upset, or at least hampered, by the existence in our neighbourhood of any factors capable of still further complicating the many interests which have to be considered in the running of such a hospital. Not a few ladies devoted to good works but possessing no technical training have come out to South Africa on purpose to "help in any capacity" in the military hospitals, but the explicit instructions, which we have received from the committee in London for whom we act, no less than the fact that there is not a room which they could hire for their accommodation within 29 miles of us, have saved us from the unpleasant duty which might otherwise have devolved upon us of telling these willing but unwanted souls that after a considerable experience of the value of their kindly meant offers, and after the fullest consideration, we would very much rather have their room than their company.

PS.—Of course, we should not have put the enteric fever patients into the huts so near the operating theatre if we had not been flooded with them before any other accommodation was available, but we have not had cause to regret this proximity.

Deelfontein, May 14th.

(FROM OUR SPECIAL CORRESPONDENT AT THE BASE.)

I mentioned in a previous letter[1] that I had seen a clip of Mauser bullets which had the appearance of being covered with a coating of verdigris. I am happy to be able to state that on being submitted to a thorough analysis this green coating is not verdigris but a mixture of paraffin wax and carbonate of copper which appears to have been used for the double purpose of preventing the cartridge suffering from damp and of supplying a hermetical closing between the brass capsule and the bullet, thus preventing rust of the barrel. This is vouched for by Dr. Impey of Cape Town and I am very glad to be able to put this matter at rest and thus clear up a baseless suspicion of the intentions of our "brother Boer."

The news for the past few weeks has been sufficiently exciting from a military point of view but has proved monotonous in a degree from a surgical aspect. The cases coming down from the front at present are, with very few surgical exceptions, entirely those of enteric fever and dysentery. Of these we have enough and to spare, every few days seeing a large convoy arrive. At present No. 1 General Hospital and No. 2 General Hospital are filled to overflowing. Fortunately, most of the patients are convalescent and simply awaiting passage home, but of course amongst the crowd there are sure to be some who will require careful treatment and nursing for a considerable period before they are put on board. The enteric fever roll of this campaign is likely to be a record one, though I am happy to be able to say that our percentages of recoveries are very satisfactory, which is undoubtedly due to the excellent arrangements that exist for medical treatment and nursing. The fact remains, however, that, with very few exceptions, these men will not be fit for duty for some considerable time. The voyage home is a great factor in their treatment and it rapidly builds up the patients in those cases in which extreme nervous prostration is a pronounced feature, and there are many such. In fact, it is rare to see patients who

[1] THE LANCET, May 5th, 1900, p. 1312.

have had even slight attacks and no complications escape the nervous sequel.

Since my last letter No. 3 General Hospital has been sent up to Kroonstad from Rondebosch and by this time it is in full swing. The hospital was accompanied by 30 nursing sisters, and in its place a convalescent hospital for 500 cases is to be established. Already huts are springing up where tents once stood. The transports have been leaving at frequent intervals with full complements of invalids, both officers and men, and a very great number must have gone home during the past month. The Surgeon General is at Bloemfontein, and Colonel McNamara (from Gibraltar) has succeeded Colonel W. F. Stevenson as principal medical officer of the lines of communication, the latter being at the front with the headquarters.

I am sorry to say that disease and hard work have been making themselves felt amongst the officers and men of the Royal Army Medical Corps. I hear that two officers have fallen victims to enteric fever at Bloemfontein and that a considerable number are on the sick list; but this was only to be expected—they are but flesh and blood like other men, though some people seem to think that they are machines and can go on for ever without rest or relaxation. This is a grim fallacy that will, I am afraid, have a rude awakening at the end of the war. Let us trust that the lesson may be taken to heart and that a more generous policy may be inaugurated in matters medical in the army of the future.

The winter rains have begun in this colony now and the mornings and evenings are cold and damp, but up-country the rains are over and the climate is charming.

A convalescent sanatorium for officers is to be established at Majesfontein at the end of this month and will relieve the pressure on the Claremont Officers' Hospital which during the past month has been very great.

The hospital ship *Princess of Wales* is lying in Simon's Bay and is, I hear, to be sent up the coast before coming home. She is an object of great curiosity to the inhabitants and is visited by numbers of people, who return amazed at the pitch of perfection attained in her fitting up.

Claremont, Cape Colony, May 23rd.

THE NEW CLINICAL LABORATORIES OF THE WESTMINSTER HOSPITAL.

ON June 12th Lord LISTER presided over the ceremony inaugurated by the governors of the Westminster Hospital for the official opening of the new clinical laboratories which have recently been added to that hospital. The proceedings consisted of a reception in the board room of about 100 guests by Sir John Wolfe Barry (chairman of the House Committee), Dr W. H. Allchin (senior physician to the hospital), and Dr. W. S. Lazarus-Barlow (pathologist to the hospital).

Sir J. WOLFE BARRY explained that the clinical laboratories had been instituted for the elucidation of disease and thus to assist in relieving the suffering poor. The formation of such a department enabled surgeons and physicians to approach the treatment of disease with absolute scientific knowledge as compared with the greater difficulties that they had in times past.

Dr. LAZARUS BARLOW said that before inspecting the laboratories he would like to call the attention of those present to one or two points of importance. The Westminster Hospital endeavoured to keep abreast of research work so as not only to give the very best chances to the patients, but also, speaking from a utilitarian standpoint, to render the most efficient return possible to the hospital subscribers for the money received. The House Committee had spared no expense in making the laboratories as perfect as possible in regard to equipment. The fundamental requirements in clinical laboratory work were that the bacteriological portion must be divided from the histological portion. It was necessary that the bacteriological investigations should be carried on with an absence of dust, and for that reason the two departments were divided from one another by a glass partition with a swinging door. For histological work light was an important consideration, and as far as natural light was concerned each investigator would be provided with a north light. For artificial light eight pendant electric lamps of 16 candle power had been provided and the walls and the ceilings had been lined with white encaustic tiles. There was an ample supply of hot and cold water and great attention had been paid to the drainage. With the exception of where the drains were actually under the flooring they were open earthenware channels specially constructed and lined with vitreous enamel. Every drain was most carefully trapped and the drainage system of the laboratory was entirely distinct from the hospital drainage. By making the fittings in the cupboards moveable and providing five manholes cut through the flooring all the drains could be thoroughly inspected in about 15 minutes. There was an ample supply of gas and there were 39 electric plugs which could be used for the purposes of motive power or for lighting. He would draw their attention particularly to a cupboard capable of holding 5000 microscopic slides, the idea being to preserve specimens so that any case which returned to the hospital after a lapse of some years could be discussed with the aid of the original sections prepared when the patient first came in. This would afford any observer the opportunity of forming a fresh opinion from the original specimen in case the individual judgment of the original pathologist was not accepted in every detail. All apparatus necessary for clinical work had been procured and was ready for use, but the hospital had not been asked for any funds to pay for research apparatus of a more or less speculative character. The laboratories were of such a kind that it was justifiable for the hospital to pay for their upkeep towards the advancement of scientific research. Dr. Lazarus-Barlow then read a letter of congratulation on the opening of the laboratories from Professor W. H Welch of the Johns Hopkins University, Baltimore.

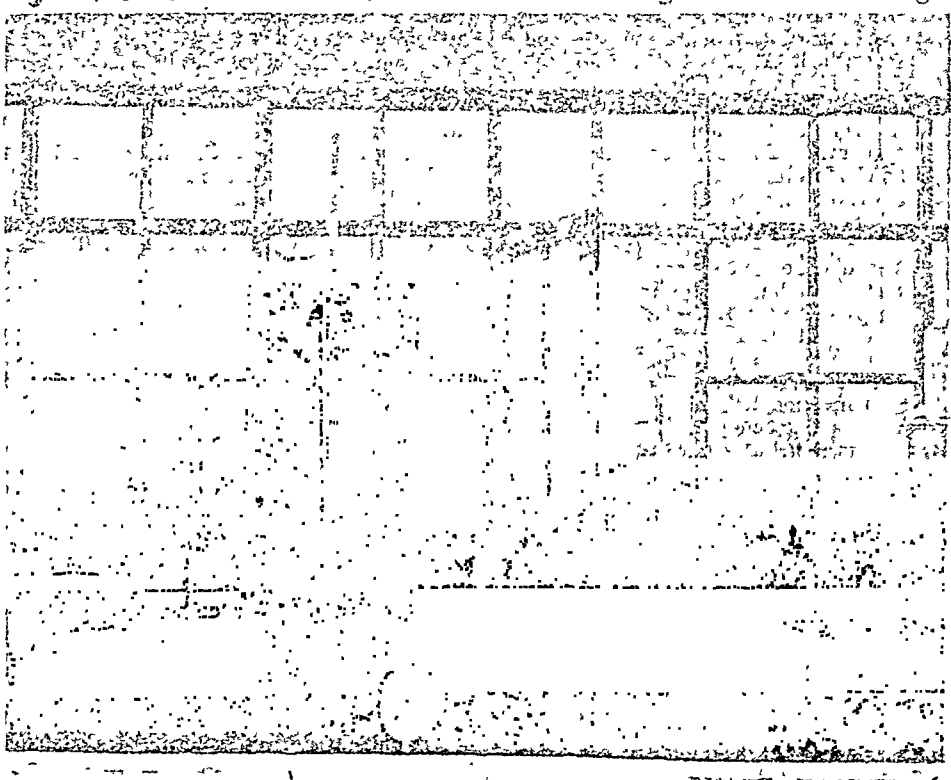
A visit was then made to the top floor of the hospital where the laboratories are situated and there Lord Kelvin put in motion a motor to shake some tubercle bacilli in carbolic acid and Lord Lister made a cultivation from some tubercle bacilli derived from the original tubercle discovered by Koch in 1884

On re-assembling in the board room Lord LISTER gave an address in which he said that the clinical laboratories they had inspected would enable the physicians of the hospital to bring to bear on their cases the most advanced knowledge and the most refined methods of investigation. Many a diagnosis that otherwise would be obscure would be made clear Successful treatment was directly proportionate to correct diagnosis. He was convinced that the work carried on there would not only benefit the patients in that hospital but would also unfailingly extend the boundaries of knowledge so as to promote the now rapid advance of pathological and therapeutical research. There was another important way in which service would be rendered and that was the powerful means the laboratories would afford for sound practical knowledge to the student There was now a tendency to look askance at medical schools connected with hospitals and to grudge the money spent on their maintenance and extension. There could not possibly, he conceived, be a greater mistake Without the opportunity of practical instruction afforded by hospitals the education of the rising generation of medical men would be absolutely impossible, and it might be fairly discussed whether the educational services rendered by hospitals were not of greater importance and benefit to the welfare of the community than their direct advantages to the patients treated in them. He considered it a matter for which the governing body of the Westminster Hospital was to be congratulated, and he thought that the public owed a debt of gratitude to them for wisely and boldly devoting a large sum of money to the creation of these laboratories. He felt sure that before many years were over it would be recognised that these laboratories were amongst the most important means which hospitals could contain of doing good service to the community. Lord Lister concluded with a complimentary reference to the appointment of Dr. Lazarus-Barlow as pathologist to the hospital.

Dr. W. S. CHURCH (President of the Royal College of Physicians of London) said that he would not be in a position to properly treat his patients at the hospital with which he was connected unless he had the advantage of the experimental work in the clinical laboratory. A great charity in the largest sense of the word would be effected by affording facilities for the investigation of disease leading to a decrease in the necessity for so many beds at the hospital

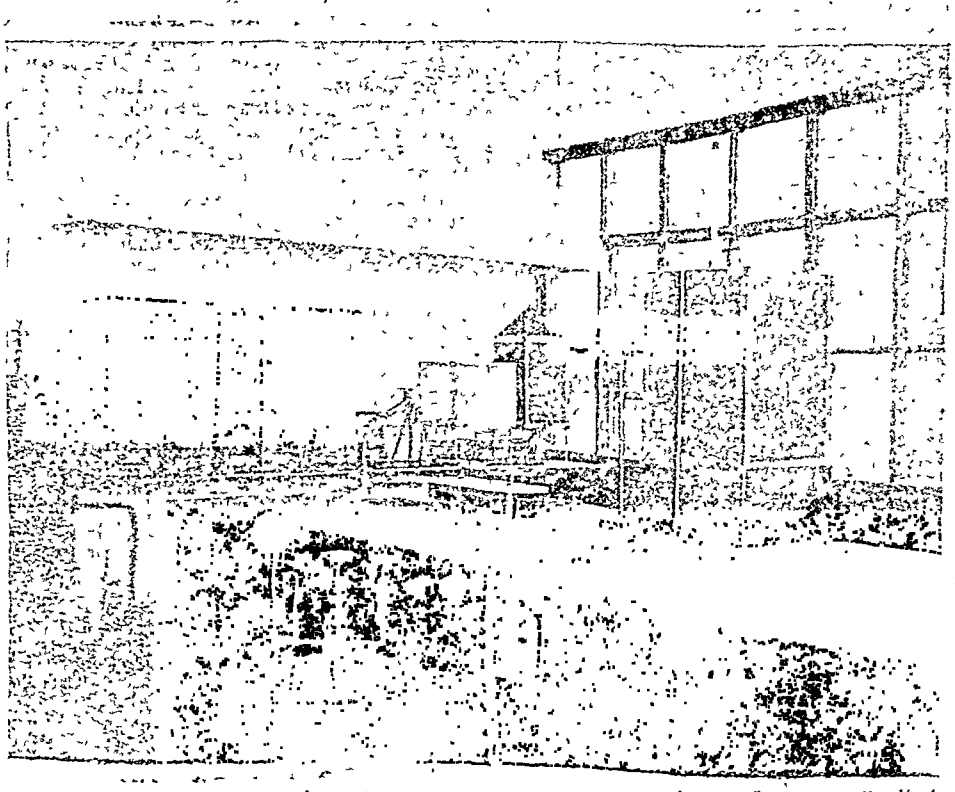
Sir WILLIAM MACCORMAC (President of the Royal College of Surgeons of England) referred to the creation

FIG. 1.



A general view of the two Laboratories

FIG. 2.



A corner in one of the Laboratories.

of similar laboratories at St. Thomas's Hospital five years ago and said that the greatest possible advantage had accrued in the treatment of the patients, the accuracy of diagnosis lending itself materially to increasing the certainty of success.

In the course of the ceremony the architect of the new buildings, Mr. H. Percy Adams, was introduced to Lord Lister and Lord Kelvin, and the excellence of the work, which was carried out by Messrs. Baird and Tatlock, received special notice.

A vote of thanks to Lord Lister was proposed by Lord KNUTSFORD, by Dr. ALLCHIN supported by Mr. [illegible] staff.

Lord LISTER briefly replied and the proceedings terminated.

THE ANNUAL MEETING OF THE BRITISH DENTAL ASSOCIATION.

THE British Dental Association celebrated its twenty-first anniversary and held its annual meeting on Saturday, Monday, and Tuesday, June 2nd, 4th, and 5th, in Leeds. At the general meeting held on the first day in the Central Hall of Yorkshire College, the retiring President, Mr. J. H. Mummery read a valedictory address previously to vacating the chair in favour of the new President, Mr. George Brunton.

The treasurer's report which was submitted to this meeting showed that during the year the membership had considerably increased and numbered, at the end of 1899, 1089. The balance shown at the end of the year amounted to £1900. The secretary's report, which dealt principally with legal business and matters of discipline, called attention to a case which arose out of the use of the title "dentist" and the description "dental establishment." The result of the trial was the infliction of a penalty, the presiding magistrate remarking that the case must act as a warning to the defendant and others and that it was the duty of the bench to protect the public and they would do so.

After other business a hearty welcome was given to M. Burt, a delegate from the International Dental Congress to be held in Paris this year. M. Burt cordially invited the members of the British Dental Association to attend that Congress.

Subsequently the meeting was thrown open to visitors and a large number of ladies attended. Alderman JOHN GOUDON, the mayor of Leeds, in a humorous speech welcomed the members and visitors to the city, and the PRESIDENT expressed on behalf of the association his thanks to the mayor for this welcome.

In his address the PRESIDENT alluded to the progress which dentistry had made and called to mind some of the great names connected with the dental profession. In the chemical lecture theatre of Yorkshire College during the afternoon several interesting lectures were given, and social gatherings terminated the first day's proceedings.

On the morning of the second day several important papers were read, among them being one by Mr. LLOYD WILLIAMS (London) on the Teaching of Mechanical Dentistry in Dental Schools. This was followed by a long and interesting discussion. The reader of the paper urged that the dental surgeon needed the continual exercise of manual dexterity to a greater degree than in any other branch of surgery and that the conditions required almost microscopic exactitude. Three years in the laboratory, he maintained, was barely time to enable the student to obtain a grasp of his work.

In the afternoon Mr. T. CHARTERS WHITE, the president of the Microscopical Section, gave an address on Photo micrography, and demonstrations of crown work and other subjects filled the business portion of the time. Later in the afternoon a reception was held in the Medical School in Thoresby-place, and in the evening the annual dinner was held at the Hôtel Métropole. Mr. George Brunton, the President, occupied the chair and among those present were Mr. J. H. Mummery (ex-President of the association), Mr. T. Pridgin Teale, F.R.S., Professor De Burgh Birch (dean of the Yorkshire College Medical Department), Mr. J. Smith Turner, Mr. C. S. Tomes, F.R.S., M. Burt, Mr. T. R. Jessop, Mr. P. Canton, Professor T. Wardrop Griffith, Mr. Storer Bennett (chairman of the representative board of the association), Dr. A. G. Barrs, Dr. E. F. Trevelyan, Dr. J. Spottiswoode Cameron (medical officer of health of Leeds), Mr. T. S. Carter, Dr. T. Churton, Dr. J. F. W. Silk, Dr. J. B. Hellier and Mr. J. P. Pink (secretary of the association).

In responding to the toast of "The City and Trade of Leeds" Alderman HARDING said that he was glad that a school of dentistry for Leeds had been foreshadowed.

Mr. T. R. JESSOP, who proposed the toast of the evening, said he would like to see the British Dental Association amalgamated with the British Medical Association and occupying a position as a section of that association.

Mr. J. SMITH TURNER responded.

With the toast of "The Visitors" the name of Mr. Pridgin Teale was coupled.

In reply Mr. TEALE spoke of the interest taken by the General Medical Council in dental matters and from this he augured good things.

The work during the morning of the third and closing day principally consisted of various demonstrations of practical work in dentistry. In the afternoon the general meeting was continued in the chemical lecture theatre, where Mr. Norman G. Bennett (London) read a paper on the Need for the Recognition of the Association of Dental Surgeons by the War Office and Admiralty. Mr. Bennett said that between the years 1875 and 1895 one in every 138 recruits for the army was rejected on account of defective teeth. At the present time the facilities for obtaining the benefits of conservative dentistry in the service were nearly as meagre as they were 20 years ago, the list of instruments supplied to surgeons at the army station hospitals being quite inadequate for any useful purpose. The instruments supplied to the naval surgeons were certainly better than those given to the army. He contended that the conditions laid down with reference to recruits of both services were unduly severe, and referred to a question recently answered in the House of Commons by Mr. Goschen, who stated that the number of men and boys rejected on account of bad teeth was as large as 25 per cent. Reviewing the conditions prevailing in other countries, Mr. Bennett said that the United States were markedly in advance of other nations. For several years efforts had been made to bring about the appointment of dental surgeons in the army, and a Bill with a likelihood of becoming law was now before the House of Representatives, which provided for the appointment of contract dental surgeons with no rank—or possibly ranking with the civil surgeons who were with the English army in South Africa—to attend to the wants of the soldiers. A discussion followed in which the urgency and need for dental assistance in the services were insisted upon.

Subsequently a motion was carried requesting the Representative Board of the Association to seek steps to further the proposal to provide proper dental aid to the army and navy.

An informal reception by the President at the Hôtel Métropole brought the proceedings of a well-attended Congress to a close.

It was decided to hold the next annual meeting in London in August, 1901, and Mr. S. J. Hutchinson, consulting dental surgeon to University College Hospital, was chosen president-elect.

THE MEDICAL, SURGICAL, AND HYGIENIC EXHIBITION.

(Continued from p. 1[illegible])

Foods and special foods were well represented and some new food products have been brought forward during the past year which are worthy of consideration. Plasmon, for example, is a cleverly prepared white powder, consisting of the proteids of milk together with the mineral substances, which is soluble almost completely in water. According to our own analysis, which at the present time is not completed, it consists broadly of one tenth of milk salts and nine-tenths of milk proteid. This interesting preparation has been spoken of so favourably that we are at the present time submitting it to further

analysis in THE LANCET Laboratory, and on the results being obtained we shall be able to describe it more fully. Plasmon is used with advantage in raising the food value of biscuits, beef extract, and chocolate, all of which preparations were exhibited by the Plasmon Syndicate, Limited, of 55, Duke-street, Grosvenor-square, London, W. Messrs. G. Nelson Dale and Co., Limited, of 14, Dowgate-hill, London, E.C., devoted the space on their stall exclusively to the exhibition of specimens of "Hipi," a pure mutton essence. We have shown in our analytical records that this essence possesses a high nutritive value and affords an agreeable change from various beef extracts. It yields a broth of excellent flavour containing pronounced stimulating and nutritious properties. The well-known Milkmaid brand of condensed milk was amongst the exhibits of the Anglo Swiss Milk Co. of 10, Mark-lane, London, E.C. The specimens included unsweetened, sterilised, and enriched milk known as ideal milk and cocoa, chocolate, and coffee and milk. It is satisfactory to add that this company take care in the preparation of their condensed milk not to eliminate the important article of food milk-fat during concentration. We have before referred to the excellence and convenience in use of Cerebos salt, which is in the condition of fine powder which does not cake through damp and which contains further added phosphates. This preparation was shown by Cerebos, Limited, of Newcastle-on-Tyne and 3, Maiden-lane, London, E.C. The Hovis Bread Flour Company of Macclesfield showed an assortment of their products, the basis of all of which is Hovis flour, which contains the germ of wheat unimpaired. Under the name of "Lemco" the well-known Liebig Company's extract of beef is in future to be known. Its composition and its mode of preparation leave no doubt of its nutritive value and it serves besides as a stimulant to the assimilative processes. The same company (of 9, Fenchurch-avenue, London, E.C.) exhibited specimens of Peptarnis which, as we have shown, contains a high proportion of peptones. It is therefore easily digestible without objectionable flavour and is valuable where weakness of the digestive system exists especially as a sequel of disease. Messrs. Fairchild Brothers and Foster of Snow-hill-buildings, London, E.C., presented to view their well-known food products which are, in the main, so constituted as to be admirably adapted for invalid use or in those cases where digestive capacity is impaired. The exhibit included pure specimens of pepsin and the zymines for producing peptonised milk. Some good meat preparations were shown by Messrs. Cooper and Co. of 80, Gloucester-road, South Kensington, London, W. These included meat-juice, beef essence, chicken, mutton, turtle, and veal essence, which are all supplied in glass jars bearing the distinctive title "Globena." These preparations appear to constitute such an excellent series of easily digestible and nourishing foods that we propose shortly to submit them to analysis in THE LANCET Laboratory. The Manhu Diabetic Foods deserve particular attention, since although they contain the cereal carbohydrates, yet it is stated that these are so broken up as not to affect the diabetic patient in the same manner as starch. Indeed, instances are quoted where these foods apparently have given benefit to diabetic patients. Our own analysis has shown that these foods consist of cereal flour which has been submitted to a process which practically dextrinises the starch. The question remains whether dextrine metabolises in the same way as does starch. It seems to us that this point is worth investigation, but it may be stated that chemically dextrinised starch is even more easily converted into sugar than is starch itself. The evidence of chemistry in the laboratory, however, is not always in accordance with physiological experience. In their published testimonials together with analysis and reports we notice that Messrs. Irving, Son, and Jones, of Liverpool, and of 88, Charing Cross-road, London, W.C., bring forward very little clinical evidence, and it would be more satisfactory if the statements in favour of these foods containing a great percentage of carbohydrates could be confirmed by well-known authorities on glycosuria. These remarks apply with equal force to the Cheltine Foods which are prepared by Worth's Foods Syndicate, Limited, of Cheltenham. These foods contain the derivatives of starch or dextrinised carbohydrates as the result of a special process, so that the proportion of carbohydrates is just the same as in wheaten flour. On the tin of Cheltine Food it is stated that the food cannot be converted into sugar—a statement which is quite incorrect. We have found, as we expected to find, that the food readily yielded sugar on hydrolysis. We repeat that testimonials based on analytical data are of no value whatever. What is wanted is clinical evidence, and clinical evidence alone, and this should not be difficult to obtain. We are glad to find that Messrs. Cadbury Brothers draw attention to the fact that there are strong grounds for objection to the addition to cocoa of certain foreign substances. This resource is quite unnecessary and, indeed, pernicious, especially having regard to the fact that cocoa alone is an excellent food as well as a stimulant, having a salutary action upon the nerve centres. Some excellent specimens of their admittedly pure articles were shown by Messrs. Cadbury Brothers of Bournville, near Birmingham. Milk foods were well represented at the exhibit of M. Henry Nestlé of 48, Cannon-street, London, E.C., the condensed Swiss milk being a notable example of this sort of preparation which contains a maximum amount of butter fat. Milk companies were well represented, especially in the direction of specially prepared milks. A notable example was that of the Aylesbury Dairy Co. of St. Petersburg-place, Bayswater, London, W. Here were shown all kinds of modified milk preparations, comprising sterilised milk and cream, humanised milk, peptonised milk, specially prepared whey, cream milk for infants, milk sugar, and a special sterilised food. The exhibit also included specimens of Koumiss which has been used with advantage in the early stages of phthisis. Excellent also are the milk preparations of the Friern Manor Dairy Farm of 20, Farringdon street, London, E.C. The humanised milk of this company is prepared by Dr. Gaertner's process which presents special points of advantage, especially in regard to the requirements of infants. The Frame Food Company of Lombard-road, Battersea, London, S.W., showed their well-known extract which contains the nutritive principles of wheat bran, including a large proportion of soluble phosphates. Several food preparations were shown which are enriched with Frame Food, thus raising undoubtedly their nutritive value. Somatose, as we have shown in an analysis from THE LANCET Laboratory, consists practically of albumose derived from the digestion of beef. It is a practically tasteless and odourless powder soluble in water. It is, moreover, a powerful food and is well adapted also as a therapeutic adjuvant where the process of nutrition is feeble. The exhibit which was arranged by the British Somatose Company of 165, Queen Victoria-street, London, E.C., included the interesting compound of somatose with iron which possesses the advantages over the ordinary iron preparations of causing no gastric disturbance or constipation. Messrs. Cosenza and Co. of 95, Wigmore-street, Cavendish-square, London, W., exhibited the Maggi's Consommé and Cross Star soups which have proved so valuable in the preparation of soup for invalids and also for transport purposes, as evidenced by their adoption for hospital use in the present war. Special foods were a feature, also, of the exhibit of Messrs. Callard and Co. of 65, Regent-street, London, W. The specimens included food for the diabetic, food for reducing weight, food adapted for the rheumatic and gouty, and a food for patients in whom the digestive functions are easily disturbed. The Excel Milk Co. of 38, Vauxhall-bridge-road, London, S.W., showed specimens of their sterilised milk. Apart from the efficient process of sterilisation we have shown in our analytical records that the milk is of very high quality. Messrs. J. and G. Cox, Limited, of Edinburgh and Eastcheap-buildings, London, E.C., presented an attractive series of specimens of their "sparkling" gelatin. We have examined this gelatin in THE LANCET Laboratory and were able to report very favourably of this product. It is well adapted for culinary purposes and is convenient also for the making of wine or beef-tea jelly, more especially on account of its purity. A very interesting series of preparations of milk was presented to view by Messrs. Welford & Sons' Dairy Co., Limited, of Elgin-avenue, Maida Vale, London, W. The specimens shown included asses' milk, humanised milk peptonised milk, ordinary sterilised milk, and sparkling Koumiss. The company carry on their business under strict medical supervision and on lines of organisation in accordance with modern knowledge. They further undertake to prepare modified milk in accordance with the directions which a medical man may think fit to prescribe. The Protene foods have been already fully described in the analytical records from THE LANCET Laboratory in THE LANCET of

Nov 5th, 1898, p 1207. Protene food itself is essentially pure milk proteid; its food value is therefore evident Several food preparations are now made by the Protene Co, Limited, of 36, Welbeck street, London, W, in which the normal food value is considerably raised by the addition of protene Messrs Broomfield and Co of 83 Upper Thames street, London, E C, devoted their stall to the exhibition of specimens of Albene which is described as a pure, highly refined vegetable fat which is suggested as an efficient substitute for cooking purposes for lard, margarine, and butter One advantage of it is that it does not get rancid It presents the appearance of purified and refined cocoanut oil A very interesting series of foods suitable for diabetics, dyspeptics, and invalids was shown by Messrs G Van Abbott and Son, of 104, Wigmore street, Cavendish square, London, W. The series comprises a selection which should enable the medical man to select exactly what he requires for any particular instance The gluten loaf seems specially worthy of commendation The Bovril Company, Limited (152 166, Old street, City road, London, E C) exhibited many forms of beef preparations, including extracts and raw juices, and a number of preparations of undoubted nutrient character. Indeed, the list of the company's specialities comprises a complete invalid dietary in addition to a number of foods for everyday use Close by the Bovril preparations was a stall devoted to the exhibition of Vitol, which is manufactured by the Bovril Company As we have pointed out in our analytical records, this preparation presents the composition of not only a complete food, but also of a food containing elements that are readily assimilable

An exhibit which attracted considerable attention was the Dowsing method of applying radiant heat and light in the treatment of rheumatism The apparatus consists of a series of elongated electric incandescent lamps placed within reflectors at the side of the bed. By this method, of course, light as well as heat rays are brought to bear upon the patient The apparatus may be viewed in working order at the offices of the Dowsing Radiant Heat Co, Limited, 24, Budge row, Cannon street, London, E C The specialities of the Domen Belts Co of 456, Strand, London, W C, are well known Abdominal belts for all kinds of abnormal conditions were shown as well as the "stoop cure" and other appliances More scientific, perhaps than many of the other exhibits was that of Messrs W Watson and Sons of 313, High Holborn, London, W C Here were shown the requisite apparatus and accessories connected with the application of the x rays to medical practice In addition there were microscopes and microscopical preparations and photo-micrographic accessories Messrs Wodderspoon and Co, of 7, Serle street, Lincoln's Inn, London, W C, showed an excellent series of temperature, hour, and diet charts Surgical instruments were well represented in an excellent selection especially adapted to meet the requirements of aseptic surgery by Messrs Mayer and Meltzer of 71, Great Portland street, London, W Surgical instruments were also a feature of the exhibit of Messrs John Weiss and Son of 287, Oxford street, London, W, but they showed also some interesting [illegible] of sterilising both instruments [illegible] Burke and Co of 6, Wool Exc[illegible] ndon, E C, presented to view their excellent surgical and sanitary dressings, the basis of which is Petanelle wool. Petanelle wool, besides being light and highly absorbent, serves also as a check to fermentation and putrefaction—a property which is of decided advantage

The exhibit included Petanelle disinfecting powder the absorbent containing the antiseptic and disinfectant being a peat substance Messrs Anderson, Anderson, and Anderson, of 37, Queen Victoria street London, E C, showed a number of indiarubber [illegible] apted especially for medical use [illegible] for its water-beds, water cus[illegible] r Harry Cox of 10 11, and 28, Cursitor street, Chancery lane, London, E C undertook the demonstration of x rays with the very latest and best apparatus for the purpose Examples were shown of x ray outfits supplied by him for the present war The improved instep arch sock, the invention of Mr Holland, of 40, South Audley street, Grosvenor square, London, W, is now made in three forms—namely, the ordinary sock for moderately flat feet, the low sock for severe cases, and the broad sock for long standing cases Besides this appliance, which is well known as an aid in the treatment of flat foot, other similarly interesting exhibits were shown such as cork boots for the lame and boots for corns on the soles of the feet A very useful series of accessories for the use of nurses was submitted for inspection by Mr William K Stacy of 4, Newgate street, London, E C It would be impossible in the space at our disposal to mention every individual specialty shown on the well stocked stall of Messrs Southall Brothers and Barclay, Limited, of Birmingham The exhibit included every sort of medical and surgical appliance besides the sanitary preparations to which this firm gives special attention A very useful little appliance, and one which we have mentioned favourably before, is the Instra Warmer, which was exhibited by Messrs D Blair and Co of 6, Strand on the Green, Chiswick The principle of this invention—namely, that depending upon the slow combustion of a charcoal rod—is now applied not only to pocket-warmers but to chest-warmers, foot warmers, food-warmers, and to anklet-straps also The chief features of the exhibit of Messrs S Maw, Son, and Thompson, 7 to 12, Aldersgate street, London, E C, were perhaps the aseptic instruments and dressings, but there were besides a great number of recent surgical and medical appliances which afforded an interesting subject of inspection for medical men The patent appliances for the lame made by the O Connor Extension Company, of 2, Bloomsbury street, London, W C, are well known It is worthy of remark that the appliances of this company were accepted by the War Office for use in South Africa

Sanitary appliances and preparations are a distinct feature of this exhibition, but this year the space devoted to this section seemed to be smaller than on the previous occasion Probably the sanitary appliance which first attracted the attention of the visitor as he entered the hall was the Blackburn Electric Fan and Motor Doubtless the air in the building owed its freshness to this ventilator The three fans employed for the purpose were supplied by the Blackburn Ventilating Co of 63, Fore street, London, E C The stall of Messrs A Boake, Roberts and Co of Stratford, E, was devoted chiefly to specimens of sulphur dioxide for fumigation purposes The gas liquefied by cold and pressure is contained in cylinders The exhibit also included a fluid preparation of phenol called "Lozar" In a more or less solid form a special wood fibre is employed for absorbing it which possesses advantages for this purpose A very comprehensive series of disinfectant preparations the composition of which is based mostly on Sanitas was shown by the Sanitas Co, Limited, of Bethnal green, London, E The exhibit included, however some other disinfectant and antiseptic preparations The chief advantage of Sanitas is that while it is a distinct and efficient disinfectant it is very agreeable by reason of its pleasant pine like smell The exhibit of Messrs J Defries and Sons of 147, Houndsditch, London, E C, afforded an opportunity of demonstrating three interesting and, we may add, scientific appliances These were several forms of the Pasteur Chamberland Filter, an illustration of the equitx disinfecting apparatus, and Scurfield's simple ventilation indicator The last-named instrument affords a quick and fairly accurate way of estimating the carbonic acid in the air, the process being based on the classic method of Pettenkofer According to the results of experiments quoted by Messrs Newton Chambers and Co of Thorncliffe (near Sheffield) and 331, Grays Inn road, London, W C, Izal is an effective germicide, and it is stated that over 9 000 000 gallons of this fluid have been ordered for the use of the army in South Africa Medical Izal is said to be four times as powerful as a germicide as absolute phenol and is also said to be non poisonous and non corrosive The exhibit included preparations of Izal such as lint, wool gauze bandages, "perles," &c Messrs Major and Co of Sculcoates Hall, exhibited chiefly their Lucryl preparations Lucryl itself is a very agreeable and powerful antiseptic and disinfecting fluid We have dealt with its composition in the Analytical Records of THE LANCET Laboratory The Berkefeld Filter Company of 121, Oxford street, London, W, gave a demonstration of their well known filters, the tubes of which are composed of a specially prepared kieselguhr The advantage of these filters is that while they are rapid in action they yield a sterile filtrate Jeyes disinfectant fluids have now been a long time before the public and on all sides excellent reports have come to hand of their germicidal activity The exhibit of the company (of Cannon street, London, E C) contained a great number of [illegible] compounds and preparations

A variation in the [illegible] of the exhibits [illegible]

described is afforded by mineral waters and other beverages, which, moreover, are not without medical interest. For example, the Bellawattee Company, of 244, Oxford-street, London, W., exhibited a great number of patterns of their patent teapot which provides against an excessive amount of tannin entering into the infusion of tea. The device is quite simple and effectual. Stower's lime-juice cordial and clarified lemon-squash were the two specialities exhibited by Messrs. Alexander Riddle and Co., of 36 and 38, Commercial-street, London, E. The wholesomeness of these preparations and their adaptability for the easy production of a beverage are established, the materials used being of the best kind and no objectionable ingredients being added. We have been able to speak in favour of the purity of these preparations in our analytical records, but the case is somewhat overstated, we think, when the manufacturers assert that the cordial "materially assists the digestion and is practically invaluable to dyspeptic dispositions." Specimens representing the various natural mineral waters of Vichy and Carlsbad were shown by Messrs. Ingram and Royle, Limited, of 26, Upper Thames-street, London, E.C. The exhibit also included bottles of Hunyadi Janos, a natural aperient water which was exhaustively dealt with by THE LANCET Special Analytical Commission on Natural Mineral Waters in THE LANCET of Dec. 5th, 1896, p. 1622. Lastly may be added the medicated wines of Messrs. Stephen Smith and Co., of Malmesbury-road, Bow, London, E. These included an excellent coca wine prepared from the leaf and therefore not containing the chemically prepared alkaloid; keystone beef wine; and keystone burgundy—preparations of distinct merit as we have already shown in our analytical columns.

There were also exhibited a selection of objects of interest to the medical man but of a miscellaneous character, as exemplified in the medical books, charts, and diagrams shown by Messrs. John Bale, Sons, and Danielsson, of 83, 85, 87, and 89, Great Titchfield-street, Oxford-street, London, W. Again, several typewriters were exhibited possessing some novelty; amongst these were the instrument of the Oliver Typewriter Co., 42, Poultry, E.C., and that of the Williams Typewriter Co., of 104, Newgate-street, London, E.C. Lastly, the Blickensderfer typewriter attracted some attention, since it may be fitted with a special wheel for writing medical prescriptions. The machine may be inspected at 9, Cheapside, London, E.C. Many of the stalls were devoted to the exhibition of new publications. Amongst the publishers represented were Messrs. Rebman, Limited, of 129, Shaftesbury-avenue, London, W.C., Messrs. John Bale, Sons, and Danielsson, 83, 85, 87, and 89, Great Titchfield-street, Oxford-street, London, W., and the Scientific Press, Limited, of 28 and 29, Southampton-street, Strand, London W.C.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 5473 births and 3748 deaths were registered during the week ending June 9th. The annual rate of mortality in these towns, which had been 18·4 and 17·7 per 1000 in the two preceding weeks, further declined to 16·8 last week. In London the death-rate was 15·9 per 1000, while it averaged 17·5 in the 32 provincial towns. The lowest death-rates in these towns were 8·0 in Birkenhead, 11·4 in Swansea, 12·1 in Derby and in Burnley, and 12·3 in Croydon; the highest rates were 19·9 in Sheffield, 21·3 in Salford, 23·1 in Manchester, and 24·8 in Liverpool. The 3748 deaths in these towns included 386 which were referred to the principal zymotic diseases, against 443 and 423 in the two preceding weeks; of these, 128 resulted from measles, 111 from whooping-cough, 65 from diphtheria, 30 from scarlet fever, 27 from diarrhœa, 24 from "fever" (principally enteric), and one from small-pox. The lowest death-rates from these diseases last week occurred in Norwich, Nottingham, Birkenhead, Huddersfield, and Newcastle; and the highest rates in Cardiff, Derby, Oldham, and Blackburn. The greatest mortality from measles occurred in Bristol, Cardiff, Derby, and Sunderland; from whooping-cough in Liverpool, Manchester, Oldham, and Gateshead; and from diarrhœa in Blackburn. The mortality from scarlet fever and from "fever" showed no marked excess in any of the 33 towns. The 65 deaths from diphtheria included 24 in London, seven in Leeds, six in Leicester, four in Cardiff, and four in Sheffield. One fatal case of small-pox was registered last week in Oldham, but not one in any other of the 33 large towns. There were 11 small-pox patients under treatment in the Metropolitan Asylums Hospitals at the end of the week, against three, five, and seven on the three preceding Saturdays; four new cases were admitted during the week, against three and four in the two preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on Saturday last, June 9th, was 1754, against 1784 and 1759 at the end of the two preceding weeks; 203 new cases were admitted during the week, against 221, 216, and 194 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had declined from 417 to 266 in the five preceding weeks, rose to 268 last week, but were slightly below the corrected average. The causes of 52, or 1·4 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Cardiff, Nottingham, Bolton, Oldham, and in 10 other smaller towns; the largest proportions of uncertified deaths were registered in Portsmouth, Birmingham, Liverpool, Blackburn, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 19·6 and 18·6 per 1000 in the two preceding weeks, further declined to 18·3 during the week ending June 9th, but exceeded by 1·5 per 1000 the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 13·3 in Paisley and 15·8 in Aberdeen to 19·9 in Glasgow and 21·5 in Greenock. The 564 deaths in these towns included 19 which were referred to measles, 17 to whooping-cough, seven to diarrhœa, six to scarlet fever, five to "fever," and three to diphtheria. In all 57 deaths resulted from these principal zymotic diseases, against 85, 76, and 73 in the three preceding weeks. These 57 deaths were equal to an annual rate of 1·9 per 1000, which was 0·2 per 1000 above the mean rate last week from the same diseases in the 33 large English towns. The deaths from measles, which had been 10 and 16 in the two preceding weeks, further rose last week to 19, of which 14 occurred in Glasgow and four in Edinburgh. The fatal cases of whooping-cough, which had been 36 and 25 in the two preceding weeks, further declined to 17 last week, and included 14 in Glasgow and two in Aberdeen. The deaths from diarrhœa, which had increased from nine to 25 in the four preceding weeks, declined again last week to seven, of which four were registered in Glasgow and two in Dundee. The fatal cases of scarlet fever, which had been seven, three, and one in the three preceding weeks, rose again to six last week and included four in Glasgow and two in Paisley. The deaths referred to different forms of "fever," which had been six, two, and one in the three preceding weeks, rose again last week to five, of which four occurred in Glasgow, where two of the three fatal cases of diphtheria were also registered. The deaths referred to diseases of the respiratory organs in these towns, which had been 84, 94, and 104 in the three preceding weeks, further rose last week to 106, and were 13 in excess of the number in the corresponding period of last year. The causes of 24, or more than 4 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 25·2 and 21·9 per 1000 in the two preceding weeks, rose again to 23·1 during the week ending June 9th. During the past four weeks the death-rate in the city has averaged 23·3 per 1000, the rate during the same period being 16·4 in London and 18·4 in Edinburgh. The 155 deaths belonging to Dublin registered during the week under notice were eight in excess of the number in the preceding week, and included 10 which were referred to the principal zymotic diseases, against nine, five, and three in the three preceding weeks; of these, five resulted from whooping-cough, two from diphtheria, two from diarrhœa, one from "fever," and not one either from small-pox, measles, or scarlet fever. These 10 deaths were equal to an annual rate of 1·5 per 1000, the zymotic death-rate during the same period being 1·6 in London and 1·2 in Edinburgh. The fatal cases of

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING MAY, 1900.

(Specially compiled for THE LANCET.)

Sanitary Areas.	Estimated population in the middle of 1900	Notified Cases of Infectious Diseases: Small pox.	Scarlet fever.	Diphtheria *	Typhus fever	Enteric fever.	Other continued fevers	Puerperal fever.	Erysipelas	Cholera.	Total.	Annual rate per 1000 persons living	Deaths from Principal Infectious Diseases: Small pox.	Measles.	Scarlet fever	Diphtheria †	Whooping cough	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa	Total.	Annual rate per 1000 persons living	Deaths from all causes	Death rate per 1000 living	Deaths of Infants under one year to 1000 births
LONDON	4,539,129	9	1278	1160	1	240	8	20	449	—	3165	7·2	1	299	29	129	230	—	38	—	49	775	1·8	7253	16·6	120
West Districts.																										
Paddington	130 104	—	12	22	—	5	1	—	10	—	50	4·0	—	17	—	4	10	—	—	—	2	33	2·6	222	17·8	135
Kensington	173 603	2	31	51	—	8	—	—	15	—	87	5·2	—	28	—	1	2	—	1	—	3	35	2·1	351	15·1	141
Hammersmith	110 203	—	23	18	—	7	—	1	10	—	60	5·7	—	31	—	2	—	—	2	—	—	35	3·5	199	18·0	139
Fulham	146,323	—	50	53	—	4	1	—	13	—	121	9·3	—	1	1	1	2	—	1	—	1	7	0·6	165	14·1	91
Chelsea	96 715	1	23	22	—	2	—	—	8	—	56	6·0	—	1	—	2	2	—	—	—	2	7	0·8	164	17·7	154
St. George Hanover-square	81 133	1	21	9	—	0	—	—	5	—	42	5·4	—	1	1	1	2	—	1	—	1	7	0·9	96	12·3	107
Westminster	51 657	—	10	10	—	7	—	1	5	—	34	6·9	—	4	—	1	1	—	—	—	—	7	1·4	91	18·4	260
St. James Westminster	21 457	—	5	2	—	—	—	—	2	—	15	7·0	—	1	—	—	—	—	—	—	—	2	1·0	29	14·1	122
North Districts.																										
Marylebone	130 771	—	34	29	—	4	—	—	13	—	92	6·9	1	7	1	4	4	—	—	—	3	20	1·5	261	19·5	117
Hampstead	51 706	—	20	5	—	1	—	1	2	—	29	3·7	—	3	—	—	—	—	—	—	3	6	0·4	10	10·2	65
St. Pancras	235 551	—	45	48	—	10	—	2	21	—	137	5·8	—	13	—	9	12	—	1	—	3	44	1·9	330	16·6	115
Islington	301 541	—	82	64	—	21	—	2	28	—	197	5·4	—	27	4	14	9	—	3	—	1	58	1·7	515	15·3	107
Stoke Newington	35 718	—	10	4	—	1	—	1	5	—	23	6·7	—	—	—	—	2	—	—	—	—	2	0·6	38	11·1	90
Hackney	226 910	—	60	50	—	14	2	3	25	—	162	7·5	—	4	2	5	14	—	2	—	2	32	1·5	250	13·4	101
Central Districts.																										
St. Giles	36,670	—	10	9	—	2	—	—	9	—	30	8·5	—	3	—	1	2	—	—	—	—	6	1·7	72	20·4	87
St. Martin-in-the-Fields	11 965	—	2	1	—	1	—	—	—	—	4	3·5	—	—	—	—	—	—	1	—	—	1	0·9	24	21·1	143
Strand	25 745	—	4	7	—	1	—	—	1	—	13	6·0	—	—	—	2	2	—	—	—	2	6	2·8	41	18·8	71
Holborn	23 182	—	7	8	—	2	1	—	6	—	24	5·6	—	5	—	1	3	—	—	—	1	10	3·5	79	18·2	250
Clerkenwell	65 007	—	15	15	—	2	—	—	8	—	43	6·8	—	10	1	2	8	—	—	—	1	22	3·5	136	21·5	153
St. Luke	40 656	—	9	12	—	3	—	—	7	—	31	8·0	—	7	—	1	1	—	—	—	2	10	2·6	93	23·9	79
City of London	26,522	—	14	11	—	1	—	—	3	—	29	11·2	—	—	1	1	2	—	—	—	—	4	1·5	62	24·0	179
East Districts.																										
Shoreditch	120 641	1	34	39	—	6	—	—	15	—	95	7·3	—	9	2	5	6	—	—	—	3	25	2·2	239	20·7	154
Bethnal Green	128,831	—	40	55	—	7	—	1	16	—	119	9·1	—	12	1	4	11	—	—	—	1	29	2·3	243	18·5	144
Whitechapel	82 250	—	50	32	—	—	—	1	10	—	93	12·4	—	3	1	1	2	—	—	—	1	8	1·0	159	23·0	110
St. George-in-the-East	47 76	1	30	29	—	3	—	1	8	—	68	14·5	—	3	—	3	1	—	1	—	—	8	1·7	85	18·1	83
Limehouse	1[illegible]	—	19	13	—	1	—	—	6	—	40	7·1	—	9	—	2	15	—	—	—	—	26	4·5	129	22·5	181
Mile End Old Town	113 761	1	71	55	—	2	—	—	10	—	99	9·1	—	10	—	—	6	—	—	—	2	19	1·7	206	18·9	115
Poplar	170 [illegible]	—	25	41	1	21	1	2	21	—	112	6·6	—	11	—	2	14	—	4	—	—	31	1·9	321	19·6	126
South Districts.																										
St. Saviour Southwark	23 054	—	12	16	—	—	—	—	3	—	33	14·4	—	—	—	5	1	—	—	—	1	7	3·1	57	24·9	234
St. George Southwark	69 [illegible]	—	30	24	—	4	—	1	11	—	70	12·0	—	3	1	2	5	—	—	—	2	13	2·2	137	23·5	151
Newington	125 172	—	45	48	—	4	—	—	11	—	108	8·8	—	3	2	3	4	—	2	—	2	22	1·8	219	18·3	142
St. Olave Southwark	19 900	—	3	3	—	—	—	—	1	—	7	6·7	—	—	—	—	1	—	—	—	—	1	1·0	17	16·3	28
Bermondsey	1[illegible]	—	47	43	—	10	—	—	7	—	80	10·3	—	1	1	3	11	—	5	—	1	22	2·7	148	19·1	107
Rotherhithe	31 [illegible]	—	5	9	—	5	—	—	2	—	21	8·3	—	5	1	2	4	—	—	—	1	13	3·3	73	18·5	123
Lambeth	317 [illegible]	—	77	62	—	33	2	—	25	—	204	6·8	—	10	3	14	15	—	3	—	1	44	1·5	435	14·9	116
Battersea	17 [illegible]	—	30	13	—	10	—	—	10	—	66	5·7	—	10	2	2	15	—	4	—	—	34	2·0	200	17·5	169
Wandsworth	317,614	—	[illegible]	44	—	11	—	1	19	—	147	5·6	—	17	—	—	2	—	1	—	3	23	1·1	274	14·2	117
Camberwell	2[illegible],457	—	60	61	—	5	—	—	22	—	147	6·1	—	7	1	7	14	—	2	—	3	35	1·4	333	13·1	161
Greenwich	1[illegible]	—	57	75	—	11	—	—	23	—	131	7·4	—	10	1	4	1	—	1	—	5	24	1·9	229	15·3	121
Lewisham (exclusive of Deptford)	1[illegible]	—	57	57	—	4	—	—	6	—	63	9·5	—	1	—	3	7	—	1	—	1	12	1·3	129	14·4	103
Woolwich	41[illegible]	—	14	8	—	1	—	—	4	—	28	8·0	—	1	—	—	1	—	—	—	—	2	0·5	84	21·1	187
Lee	40[illegible]	—	5	9	—	5	—	—	3	—	22	7·4	—	—	—	—	1	—	1	—	—	3	0·8	50	12·8	145
Plumstead	[illegible]	—	32	37	—	2	—	2	9	—	77	1·2	—	4	1	5	1	—	—	—	1	12	1·9	89	14·2	59
Port of London	—	—	1	1	—	3	—	—	—	—	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including [illegible] of membranous croup.

† Including deaths from membranous croup.

whooping-cough, which had been one, three, and none in the three preceding weeks, rose again to five last week. The two deaths from diphtheria showed an excess over the average of recent weeks. The fatal cases of diarrhœa, which had been two, none, and one in the three preceding weeks, rose to two last week. The mortality from "fever," corresponded with that in the preceding week. The 155 deaths in Dublin last week included 29 of infants under one year of age and 23 of persons aged upwards of 60 years; the deaths of infants were equal to the number recorded in the preceding week, but the deaths of elderly persons showed a considerable decline. Eight inquest cases and four deaths from violence were registered; and 60, or nearly two-fifths, of the deaths occurred in public institutions. The causes of 12, or nearly 8 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING MAY, 1900.

IN the accompanying table will be found complete statistics relating to sickness and mortality in each of the 43 sanitary areas of London. With regard to the notified cases of infectious diseases in the metropolis, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 7·2 per 1000 of the population, estimated at 4,589,129 persons in the middle of the year. In the three preceding months the rates had been 7·0, 6·6, and 6·2 per 1000 respectively. The rates were considerably below the average in Paddington, Kensington, St. George Hanover-square, Hampstead, St. Martin-in-the-Fields, and Rotherhithe; while they showed the largest excess in City of London, Whitechapel, St. George in the East, St. Saviour Southwark, St. George Southwark, and Plumstead sanitary areas. Nine small-pox cases were notified during May, of which two belonged to Kensington, two to Marylebone, and one each to Chelsea, St. George Hanover-square, Shoreditch, St. George-in-the-East, and Mile End Old Town sanitary areas; seven small-pox patients were admitted into the Metropolitan Asylums Hospitals during May, and seven remained under treatment at the end of the month. The prevalence of scarlet fever showed a further slight increase upon that recorded in recent months; among the various sanitary areas this disease was proportionally most prevalent in City of London, Whitechapel, St. George-in-the-East, St. Saviour Southwark, St. George Southwark, and Plumstead. The Metropolitan Asylums Hospitals contained 1735 scarlet fever patients at the end of May, against 1827, 1654, and 1619 at the end of the three preceding months; the weekly admissions averaged 198, against 152, 162, and 174 in the three preceding months. The prevalence of diphtheria showed a marked increase upon that in the preceding month; the proportional prevalence of this disease was greatest in City of London, Bethnal Green, St. George in the East, St. Saviour Southwark, Bermondsey, and Plumstead sanitary areas. There were 1209 diphtheria patients in the Metropolitan Asylums Hospitals at the end of May, against 1402, 1236, and 1131 at the end of the three preceding months; the weekly admissions averaged 172, against 165 148, and 135 in the three preceding months. The prevalence of enteric fever in London showed a continued decrease from that recorded in recent months; among the various sanitary areas this disease was proportionally most prevalent in Westminster, St. Martin in the Fields, Poplar, Bermondsey, Rotherhithe, and Lee. The Metropolitan Asylums Hospitals contained 176 enteric fever patients at the end of May, against 274, 263, and 208 at the end of the three preceding months; the weekly admissions averaged 24, against 40, 36, and 27 in the three preceding months. Erysipelas was proportionally most prevalent in Marylebone, St. Giles Holborn, St. Luke, St. George-in-the-East, and St. George Southwark sanitary areas. The 20 cases of puerperal fever included three in Hackney, and two each in St. Pancras, Islington, Poplar, and Plumstead sanitary areas.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various sanitary areas of the metropolis, the deaths occurring in the public institutions of London having been distributed among the sanitary areas in which the patients had previously resided. During the five weeks ending June 2nd the deaths of 7283 persons belonging to London were registered, equal to an annual rate of 16·6 per 1000, against 20·4, 19·1 and 20·2 in the three preceding months. The lowest death-rates last month in the various sanitary areas were 10·2 in Hampstead, 11·1 in Stoke Newington, 12·3 in St. George Hanover-square, 12·8 in Lee, 13·1 in Camberwell, and 13·2 in Wandsworth; the highest rates were 22·5 in St. George Southwark, 22·8 in Limehouse, 23·9 in St. Luke, 24·0 in City of London, 24·9 in St. Saviour Southwark, and 28·2 in Holborn. During the five weeks of May 775 deaths were referred to the principal zymotic diseases in London; of these, one resulted from small-pox, 299 from measles, 29 from scarlet fever, 129 from diphtheria, 230 from whooping-cough, 38 from enteric fever, and 49 from diarrhœa. These 775 deaths were equal to an annual rate of 1·8 per 1000, against 1·8, 1·7, and 1·8 in the three preceding months. The lowest death-rates from these diseases last month occurred in Fulham, Chelsea, St. George Hanover Square, Hampstead, Stoke Newington, St. Martin-in-the-Fields, and Lee; and the highest rates in Hammersmith, Holborn, Clerkenwell, Limehouse, St. Saviour Southwark, and Rotherhithe sanitary areas. The fatal case of small-pox belonged to Marylebone sanitary area. The 299 deaths from measles were 94 below the average number in the corresponding periods of the ten preceding years; this disease was proportionally most fatal in Kensington, Hammersmith, Holborn, Clerkenwell, St. Luke, and Mile End Old Town sanitary areas. The 29 fatal cases of scarlet fever showed a decline of 47 from the corrected average number; the greatest proportional fatality from this disease occurred in City of London, Shoreditch, St. George Southwark, Newington, Rotherhithe, and Woolwich. The 129 deaths from diphtheria were 55 below the average number in the corresponding periods of the ten preceding years; among the various sanitary areas this disease was proportionally most fatal in Islington, Strand, St. George in the East, St. Saviour Southwark, Newington, and Plumstead. The 230 fatal cases of whooping-cough showed a decline of 86 from the corrected average number; this disease showed the highest proportional fatality in Strand, Holborn, Clerkenwell, Limehouse, Battersea, Bermondsey, and Rotherhithe sanitary areas. The 38 deaths referred to enteric fever were slightly in excess of the average number in the corresponding periods of the ten preceding years; among the various sanitary areas this disease was proportionally most fatal in Westminster, St. Martin in the Fields, St. George in the East, Poplar, Bermondsey, and Battersea. The 49 fatal cases of diarrhœa showed a marked decline from the corrected average number; the greatest proportional fatality from this disease was recorded in Marylebone, Strand, Holborn, St. Luke, Shoreditch, and St. George Southwark sanitary areas. In conclusion, it may be stated that the aggregate mortality from these principal zymotic diseases in London during May was more than 26 per cent. below the average.

Infant mortality in London last month, measured by the proportion of deaths of children under one year of age to registered births, was equal to 120 per 1000. The lowest rates of infant mortality were recorded in Hampstead, St. Giles, Strand, St. Luke, St. George-in-the-East, and St. Olave Southwark sanitary areas; and the highest rates in Westminster, Holborn, Clerkenwell, City of London, Limehouse, and St. Saviour Southwark.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Surgeons: M. H. Knapp to the *Doris* and S. T. Reid to the *Gleaner*.

ROYAL ARMY MEDICAL CORPS.

Major James McM. Bolster, from half-pay, to be Major, with precedence next below C. J. Addison, vice T. A. P. Marsh, deceased. The undermentioned Surgeons on probation to be Lieutenants:—Charles Henry Carr, Edmund Bennett, Francis Pius Lauder, Arthur Charles Adderley, John Tobin, George Edward Leary, and Herbert Ernest Weston. Lieutenant-Colonel Henry J. Michael retires on retired pay in consequence of ill-health. Surgeon-Captain A. Mifsud, Royal Malta Artillery, is granted the temporary rank of Captain whilst serving in Egypt.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain Henry John MacKay, 2nd Volunteer Battalion the Wiltshire Regiment, to be Surgeon-Captain; Surgeon-Captain W. J. Harnett to be Surgeon-Major.

VOLUNTEER MEDICAL STAFF CORPS.

The Woolwich Companies: Mowbray Taylor to be Surgeon-Lieutenant.

VOLUNTEER CORPS.

Artillery: 2nd Hampshire (Southern Division, Royal Garrison Artillery): Herbert Fox to be Surgeon-Lieutenant. *Rifle:* 1st Dumbartonshire: William Buchan Armstrong to be Surgeon-Lieutenant. 1st Volunteer Battalion the Highland Light Infantry: Surgeon-Lieutenant P. F. Shaw to be Surgeon-Captain. 2nd Volunteer Battalion the Worcestershire Regiment: Herbert Bree Emerson to be Surgeon-Lieutenant. 2nd Volunteer Battalion the East Yorkshire Regiment: Surgeon-Lieutenant H. J. C. Godfrey resigns his commission.

VITAL STATISTICS OF THE GERMAN NAVY.

The statistical information contained in the subjoined table has been compiled from the official returns issued by the medical department of the Imperial German Navy.

From April 1st to March 31st.		1895-96.	1896-97.
Average strength		21,477	21,675
Admitted	per 1000	847 6	860 6
Discharged to duty	" "	706·8	716 8
Died in hospital	" "	1·4	0 9
Invalided	" "	116 5	115 5
Remaining	" "	22 9	27 4
Number constantly sick ...	" "	37 2	39 8
Average duration of cases	days	14·5	15·3
Total death-rate	per 1000	4 8	2·9
General diseases	" "	61 3	64 9
Infectious "	" "	26 4	29 9
" " Foreign Service	" " *	98 0	101·5
Infectious diseases, Home Waters	" " *	5 0	5 7
Infectious diseases, African Stations	" " *	268·3	368·3
Infectious diseases, Pacific Stations	" " *	205·0	457 4
Infectious diseases, enteric fever	" "	0 5	1 8
			1895 97.
Infectious diseases, dysentery	" "		0 4
" " intermittent fever	" "		23 5
Infectious diseases, influenza	" "		10·1
" " phthisis pulmonalis	" "		2 9
Infectious diseases, hæmoptysis	" "		0 7
Diseases of respiratory system	" "		100·2
" circulatory "	" "		26 7
" digestive "	" "		123·1
Ophthalmic diseases	" "		38·9
Venereal "	" "		133·0

* Local strength.

The deaths from disease during the two years were caused as follows: enteric fever, 8; dysentery, 3; intermittent fever, 4; influenza, 3; sunstroke, 3; pneumonia, 10; pleurisy, 6; phthisis pulmonalis, 13; circulatory affections, 6; other diseases, 24; total 80. The deaths from accidents amounted to 72, and there were 15 suicides—11 occurring in the commissioned ranks. Throughout the biennium the navy remained free from cholera, yellow fever, and small-pox; the immunity from the last-named scourge being unquestionably due to careful revaccination. The considerable prevalence of venereal affections is ascribed to the absence of supervision at foreign ports, especially those under English control. In conclusion, Dr. Wilm points with pride to the fact that during the period under report there were less sickness and mortality in the German navy than in any other. The only blot seems to have been a local but severe outbreak of follicular conjunctivitis which was due to the incautious acceptance of two recruits from Western Prussia who were suffering from granular lids.

TRANSVAAL WAR NOTES.

A field hospital, composed entirely of volunteers, has embarked on the *Tagus* for duty with the Rhodesian field force. The *Daily Telegraph* states that "this is the first mounted field hospital sent out."

With the object of relieving the pressure on the accommodation at the Military Hospital, Devonport, caused by the frequent arrivals of the sick and wounded soldiers from South Africa, a field hospital of 50 beds has been established at Staddon Heights, Plymouth, under the charge of Lieutenant-Colonel J. W. Belcher, R.A.M.C.

Of the 300 invalid soldiers who arrived at the Royal Military Hospital a fortnight ago less than 20 now remain, the rest having been discharged on furlough. On June 6th another party of over 200 arrived under the medical charge of Civil Surgeon Blackiston.

The General of Communications, Cape Town reports that Captain Smithson, R.A.M.C., was discharged from hospital for duty during the week ending May 27th.

THE ROYAL ALBERT HOSPITAL, DEVONPORT.

On June 9th Princess Henry of Battenberg laid the foundation stone of the new Nurses' Home and other buildings of the Royal Albert Hospital, Devonport. At the hospital gate Her Royal Highness was received by members of the Reception Committee, which included Lord St. Levan, Admiral Cardale, and Mr. J. May and Mr. T. Leah, who represented the medical staff. The Royal Albert Hospital, which has been doing a most useful work for nearly 40 years, was named after the late Prince Consort by his permission, and he expressed a wish to lay the foundation stone, but unfortunately His Royal Highness died shortly after his desire was made known.

TRANSVAAL WAR CASUALTIES.

The following, attached to the Royal Army Medical Corps, are reported seriously ill at Kroonstad:—Civil Surgeon R. W. Jameson and Civil Surgeon Robertson.

Civil Surgeon H. Bryant, R.A.M.C., died from enteric fever at Bloemfontein on June 7th.

Major Hathaway, R.A.M.C., has been severely wounded in the recent operations near Pretoria.

In connexion with the scheme for the introduction into barracks in India of punkah pulling by mechanical agency an additional sum of Rs.40,000 has been sanctioned, and the Government of India has called for a full report at the close of the hot weather on the various systems tried.

Correspondence.

"Audi alteram partem."

THE CANNON-STREET HOTEL MEETING AND DR. GLOVER.

To the Editors of THE LANCET.

SIRS,—With the permission of the chairman of the Beckenham and Penge Medical Society I forward the following correspondence for publication. Trusting you will kindly find room for it,

I am, Sirs, yours faithfully,

J. G. GLOVER.

BECKENHAM AND PENGE MEDICAL SOCIETY
Oakwood avenue, Beckenham, June 6th, 1900.

[illegible]

only a few [illegible]
and Medical [illegible]
the Cannon-[illegible]
some very [illegible]
they helped [illegible] it a useful [illegible] which would [illegible]
guard the public and be acceptable to the [illegible] profession. In consequence of the manner in which the meeting was conducted, the

.ve under consideration the
the Corporate and Medical
doubtless do at their next
general meeting. Meanwhile, I am directed
regret we all feel at the action taken at
yourself and to assure you of our continued
I remain, dear Dr. Glover, yours very truly,
F. ALEX. BARTON, Honorary Secretary.

ne 8th, 1900
DEAR MR. BARTON—I am
our society for
the expression
Hotel meeting
and its action
should agree on
all details of
midwives, but I
believe the agreement is deeper than is thought, and it will be much promoted by generously construing each other's views of the best way to attain the end we all aim at—the saving of the life of poor lying-in women and securing for all serious midwifery the advantage of medical attendance. Kindly convey to your society my best thanks and believe me,
Yours very truly,
J. G. GLOVER.

F. Alex. Barton, Esq., B.A., L.R.C.P. Lond., &c.

THE TREATMENT OF RECENT SPRAINS AND DISLOCATIONS.

To the Editors of THE LANCET.

SIRS,—I am pleased that such an eminent authority as Mr. W. H. Bennett[1] has corroborated the soundness of the treatment of recent dislocations and sprains which I advocated in THE LANCET in 1898.[2] For over 10 years I have treated those and similar lesions by massage and movement, both active and passive, and I have never once had cause to regret my actions. My chief reason for writing to you two years ago, as it is now, was to try to influence medical men to treat such lesions in a way that weakness and stiffness could not remain. It is a notorious fact that bonesetters make their living and their widespread reputations by such cases falling into their hands. Since I have treated my cases in the way which I described in THE LANCET two years ago I have never had the annoyance of an irregular practitioner interfering with any of my uncompleted cases.

I am, Sirs, yours faithfully,
WM DOIG, M.D. Edin.

Galashiels, N.B., June 9th, 1900.

"ON THE RELATIVE VALUE OF SYMPTOMS OF ACUTE PERITONITIS."

To the Editors of THE LANCET.

SIRS,—I have read Mr. Stanmore Bishop's admirable article on the Relative Value of Symptoms of Acute Peritonitis, published in THE LANCET of June 9th, and should like to endorse almost all that he has written. There are the very widest differences of opinion among practitioners as to the presence or absence of acute peritonitis in cases in which interference is required; and the teaching almost deserves the term which Mr. Stanmore Bishop has applied to it. But I fear even muscular rigidity is not an absolute criterion. It is scarcely more certain than the rest. I have watched throughout a case of acute septic peritonitis which proved fatal within five days in which the abdomen was from first to last perfectly soft, without a trace of muscular rigidity. And if not characteristic muscular rigidity, at least a very close imitation of it is often present in cases of abdominal cramp in which there is no suspicion of inflammation. There is, in fact, no single characteristic symptom of acute peritonitis which is present invariably in all cases alike. All of them are wanting sometimes, and the sooner this fact is recognised the more readily will the diagnosis be made. Muscular rigidity is one of the most constant, but its constancy is not absolute.

I am, Sirs, yours faithfully,
Wimpole street, W., June 11th, 1900. C. MANSELL MOULLIN.

[1] THE LANCET, June 2nd, 1900, p. 1569.
[2] THE LANCET, Feb. 2nd, 1898, p. 465.

MEAT-SUPPLY OF CARDIFF.—The Cardiff Health Committee on June 1st considered the allegation that inferior meat was sold in the local market. A sub-committee had been appointed to go into the whole question, and after a thorough investigation they agreed with the statements and recommended the appointment of an additional inspector who should be a
conversant
with the trade. Af
the Health
Committee passed a resolution requesting the medical officer of health to draw up a list of the duties necessary to ensure efficient inspection.

THE UNIVERSAL EXHIBITION AT PARIS

(FROM OUR SPECIAL CORRESPONDENT.)

An Unparalleled Number of Visitors.—Order Reigns.—The Exhibition is Ready.

To have visited the Exhibition when it opened in April, and even during the earlier part of May, and then to return again at the commencement of June is to experience sensations that can be compared with the delightful feeling of freshness and calm that follow after a summer storm. The wagons, carts, railway trucks; the drivers, porters, labourers, masons, and workmen, have disappeared. The hurry and bustle are over. The loud, and sometimes angry, cries of those who were struggling to hasten on the work are now replaced by the satisfied voices, the murmurs of admiration from the vast crowds of spell-bound visitors. The sharp stones that cut the feet, the deep ruts made by heavy carts, the pitfalls, the planks and rafters, the empty packing-cases with their sharp protruding nails, have all been removed and safe, dry, and smooth gravel walks greet us on all sides. To the clouds of white chalk and plaster dust has succeeded the sweet air from numerous beds of beautiful flowers or artistically devised clusters of trees and shrubbery. Here and there large palm trees wave their plume-like branches as if to salute the visitors. The air comes fresh and clear from the well-watered verdure and the loudest noises are those of laughter, exclamations of delight and surprise, or of some strange music from a gipsy band or a group of Orientals, negroes and Arabs, rhythmically beating their tomtoms or giving weird expression on deep-toned flutes to an indefinable melody that recalls the nomadic life of the dwellers of the desert. In a word, the Exhibition is now complete. Here and there may be belated exhibitors whose installations are not yet quite in order, but these are so few, far between, and exceptional that they are but as minute specks on the vast and magnificent picture that invites the admiration of the whole world. The promise made has been fully kept. The Exhibition has been completed earlier in the year than any of the preceding universal exhibitions. Nor have the public been slow to acknowledge this fact. Already the number of admissions has beaten all previous records, for there were more than half a million visitors both on Whit-Sunday and on Whit-Monday; and since then even on the ordinary weekdays the admissions have exceeded 200,000. Indeed, it is anticipated that in the height of the season the crowds will exceed the limits of safety. Consequently all the entrances have been connected by telephone to a central office. Here, hour by hour, messages are received from each gate, additions made, and a record is kept as to the number of people actually within the Exhibition. Should this number exceed a certain fixed maximum then the gates will be closed for a while so as to prevent too great a crush. This is a wise and necessary precaution. Even as matters now stand, those who are not satisfied with merely walking round but want to examine minutely some of the exhibits had better devote the morning to serious study. They will then have elbow-room and better opportunities for talking to the exhibitors and for obtaining information. This doubtless involves lunching within the Exhibition, where the restaurants are naturally a good deal dearer than in the town; but as the admission ticket is sold at a discount and can now be obtained for 6*d.*, it is no great loss to leave the Exhibition for meals and there are numerous cheap restaurants outside. Wealth is more evenly distributed in France, there are not so many large fortunes as in England, therefore the greater part of the catering is done for that very numerous class of thrifty people who know how to live well for a small expenditure. It is a happy country for those who possess a modest competency and the fear of spending too much need not deter such from visiting the Paris Exhibition.

THE PAVILION OF THE TOWN OF PARIS.

The more frequent the visits to the Exhibition and the more careful the examination of the wonders displayed, the more hopeless the task of description becomes. The details are of such absorbing interest and of such widespread importance that the difficulty is to know what to leave out, what to cut down to a few sentences—in fact, to use a Parliamentary idiom, how best to massacre the innocents. Take as an

example the exhibits of the town of Paris. We are all the guests of this beautiful capital and naturally anxious to know how the town is governed. Besides, it is the second largest metropolis in Europe and certainly the most beautiful and attractive, so that there must be much to learn concerning its methods of administration. Finally, the municipal authorities have organised a unique exhibition where every detail of their administrative work is set forth in a most graphic, realistic, and intelligible manner. But it is not a letter or two, it is a volume, and a very big and a very useful volume, that could be written on this one single exhibit. The pavilion of the town of Paris is situated on the right bank of the Seine, close to the Pont des Invalides, and faces the magnificent Italian Palace that is on the opposite side of the river. Entering by the door nearest to the bridge, the first rooms to the left contain exhibits that relate to the history of Paris. There are quaint edicts dating back some centuries and concerning the government of the town, pictures of old Paris, and some remarkable historical curiosities, including the cradle of the King of Rome, lent by the Emperor of Austria because it was the work of the celebrated Parisian bronze chasers Odiot and Thomire. On the right hand side of the entrance there are first of all the exhibits of the Paris Municipal Laboratory, where, however, the Ravachol bombs, explosive sardine boxes, and other anarchists' contrivances are not shown; yet this laboratory is best known to the general public as the place where suspicious parcels are examined in case they contain explosives. But, needless to say, the real work of the laboratory is of a much more serious character, though it attracts less public attention. Indeed, it has always been a source of trouble with sanitary reformers that the public will take the greatest interest in an explosion of dynamite that an often as not does no harm at all, while an outbreak of disease which brings many thousands prematurely to the grave fails to awaken public attention. Dynamitards provide more sensational news for the papers than the studies of [illegible] ibition all honour is rendered [illegible] about the former. The Paris [illegible] proud of its bacteriological researches, and for this purpose has a special department called the "Salle de Pasteur." It shows photographs of colonies of the bacillus coli and isolated bacilli, of the typhoid bacillus, micrographic photographic apparatus, Dr. Roux's culture stove, and other aids to bacteriology. M Ogier has an apparatus for taking samples of water. The bottle stands on a heavy slab of lead, to which it is held by a brass frame, and can be used without touching with the hand while taking the sample. Further, all the apparatus used for testing and analysing tea, coffee, chicory, milk, alcohol, &c, is displayed. In a word, the visitor can see the applications of chemistry and bacteriology to the preservation of water- and food-supplies.

The next room contains the exhibits of the municipal veterinary department with very fine wax models of diseased meat, an exhibit which cannot fail to alarm a good many people and which prompted a visitor to exclaim somewhat appropriately, "Almost thou persuadest me to become a vegetarian." Perhaps, also, as a warning to the frequenters of cheap restaurants who have a weakness for *civet de lapin*, there are side by side the skeletons of a rabbit and a cat. With the exception of the heads the likeness between the two suggests how easy it would be to substitute the one for the other. Another department deals with the vegetable supply of Paris and there are maps showing from what parts of the country the various vegetables are obtained, together with pictures of the mushrooms that are edible and those that are poisonous. This exhibit includes the methods for detecting the effects of poisonous alimentary substances. Here is shown the apparatus devised by Professor Marey to record cardiac movements and a pump where a vacuum is produced by a fall of [illegible] act [illegible] is gases from the blood. [illegible] the allotted to the demograph[illegible] population may be studied; and by its side there is a very large division containing every sort of information, plans and drawings concerning the domains of the town, its parks and gardens, its district town halls, the lands which it has bought in the provinces for asylums, convalescent homes, &c.

The next department, though most serious and technical, is so arranged that it does not fail to attract the general public and serves as a useful object lesson. It deals with the hospitals which, with but a few exceptions, are all under the management of the municipality. Here we find a little scenic effect. It consists of an old-fashioned four-poster bed, such as was employed at the old Hôtel Dieu a hundred years ago, and in which no less than four patients had to sleep. These patients are represented by life-sized lay figures. Three are in bed, one with his head at the bottom of the bed and his feet up by the faces of the other two patients. The fourth patient is sitting at the foot of the bed, so that the visitors may see the style of clothes that used to be provided in the hospitals. Indeed, these clothes are about the only satisfactory thing shown. By way of warming and ventilating there is a huge earthenware and portable receptacle that looks like an urn. Inside this some sort of smokeless fuel, presumably charcoal, used to be burnt, and it was brought close to the bed of the patients, thus helping still further to poison the atmosphere. The bed, bed-table, chairs, &c, are of wood. Immediately opposite there is a modern iron hospital bed and aseptic furniture such as is now used in the hospitals. In no case is wood employed, but only enamelled iron or hardware. Then there are the spittoons with a cone-shaped inner pan dipping into water which contains in solution some antiseptic. There is also a cylinder which can hold 14 spittoons. Below by means of a gas-burner water is warmed. There is a safety valve on one side, a thermometer on the other, and the steam generated disinfects the contents. These are now used in nearly all the hospitals though but a short time ago they were employed only in cases of phthisis. In another corner there are samples of the wheat, flour, &c, employed at the municipal bakery where the bread for all the hospitals is made. Next to this is a compartment which is fitted up more like a small drawing-room. This contains exhibits from the archives of the Public Assistance, a term which comprises poor relief, hospitals, and asylums. On the walls are several oil-paintings and these are the portraits of some of the best-known philanthropical benefactors. Then there are a number of documents, some parchment manuscripts illustrating former systems of poor relief, and a very fine illuminated mass book used in the hospital chapels. Round this little drawing-room there is all that relates to the care of infants and little children, notably those who are abandoned by their parents. There are models of hospitals for children, maternity hospitals, and specimen baby incubators. The latter are more useful as historical records, for they are very inferior to the more modern and improved types. There is also a glass partition that can be built up round a cot, so as to isolate the patient from the rest of the ward, and yet the patient remains visible from the ward. By the side of the kits provided for abandoned children there is a collection of strange tokens left with the children so that they may be ultimately recognised and reclaimed. Each child must wear up to the age of eight years a bead necklace to which a small medal is attached bearing a number. This number corresponds with the entry made in the book that records all that is known about the child. In frames there are diagrams and statistics setting forth, for instance, that while the number of children receiving public assistance in 1848 amounted to 13,000, 50 years later this help was extended to 28,000 children. Then come tables of the average number of children abandoned at the Hospice des Enfants Trouvés in periods of five years. The highest figure was 6800 and this dates back as far as the years 1770 74. In spite of the great increase of population there were only 4700 children thus abandoned from 1893 to 1898. During this century the maximum of abandoned children was 5603 in 1831, and the minimum was 2260 in 1876. Interspersed in different rooms are large glass cases containing elegant and elaborate costumes for ladies and other articles of clothing, embroidery, &c, all made by these abandoned children or other inmates of municipal asylums. There are likewise plans and drawings of various sanatoria, notably that of Hendaye for "scrofulous" children, and a very interesting and large album containing drawings and x ray photographs showing the results attained at Berck sur-Mer in the treatment of Pott's disease. These were collected by Dr. V. Mérand, the chief surgeon in charge of this great establishment, where there are 710 beds for children needing sea air and sea bathing.

The next compartment is devoted to the meteorological work done by the city and in the centre there is a plan of Paris with a large number of pins so placed as to indicate

the whereabouts of the meteorological stations established in the capital. Attached to this service there is a bacteriological department which systematically and periodically tests and records the amount of microbes found in the atmosphere of the town. At the same time the air is analysed for ozone and for carbonic acid and the apparatus used is shown. Indeed, it is working in this section with the result that while no ozone has been found there is often an excess of carbonic acid. On the walls there are diagrams that represent an immense amount of labour. One gives per season, another per month, the meteorological variations recorded during the last 100 years. Below in the same columns are the variations in the prevailing diseases. Naturally this latter phase of the work is more ample and better classified during the latter part of the century. Still, such information as is available so as to establish the relationship between climate and disease is there, and all on the one chart. The next compartment might be called the municipal business department. It represents the money-realising services controlled by the municipality, such as the public markets, the omnibus lines, the Bercy wine depôt, the cemeteries, the museums, historical monuments, and the like. After that we come to the inspection of the habitation and its sanitary control. Here are models of the disinfecting stations which show how carefully the infected side is separated from the other side and how the attendants purify their uniforms, change all their clothes, and take a douche before they are allowed to go from one side to the other and mix with the general population. Dummy figures represent the attendants in their uniforms and also that worn by the nurses who help to remove the fever cases to the isolation hospitals. On the walls there are diagrams showing the prevalence of various contagious and infectious diseases in different parts of the town and also the quarters where it is necessary to disinfect most frequently. Finally, there are specimens of different clothing materials before and after disinfection. This is an important room for English visitors inasmuch as the French were much behind the English in practising disinfection, but now that it has become the custom their methods and their precautions are more minute and perfect than is usually the case in England. There is consequently a good deal to be learnt here. The next compartment indicates what has been done in organising relief by means of work—that is, in places where, under certain conditions, some sort of work is given and relief is granted when the task has been accomplished. This is a new and interesting institution founded so as to prevent the pauperisation of the destitute. This brings the visitor to the end of the right-hand side of the oblong pavilion of the City of Paris. There still remain the centre, the other side, and the galleries above. The questions of road surveying, drainage, sewage farms, water, gas, electric light, pneumatic motive power, domestic drainage, police, technical and other schools, primary education, &c., have still to be dealt with. Thus it will be seen what large and important exhibits are comprised in this one pavilion, and when from its balconies the visitor looks out on the miles and miles of Exhibition ground, thickly studded with other such pavilions, palaces, and enormous buildings, and thinks that they all contain objects of beauty and of interest, it does not seem like an exhibition but an entire world that is stretched out before him.

Paris, June 10th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Ravages of Famine and Cholera.—The Decline of Plague.—More Plague Rules.

THE enormous area of the famine and the terrible ravages of cholera have put all interest in the plague quite in the background. Although the total numbers under famine relief have not increased much during the past week, nothing could surpass the heartrending accounts of distress which are arriving at Simla from official and non-official sources. In some of the famine districts the mortality from cholera is appalling. In some places the natives refuse all outside assistance and they believe cholera to be a demon who is to be avoided by means of exorcisms and *poojahs* (prayers). At Bhagalpore the medical men tried to purify the wells, but there was such a row about it that they had to desist. As has been repeatedly recorded before, where cholera and plague are concerned ignorance and fear render the natives heartless. In some places when a member of the family is attacked by the disease he or she is shut up in the house with a pitcher of water and left to die, while the rest—it may be parents, sister, wife, or husband—run away to avoid the infection. They may return to drag the corpse out of the hut and leave it in the open field to be food for the pariah dogs or the carrion birds. Help or sympathy is utterly wanting. In other places, again, groups may be seen lying beneath the trees, some dead and many dying. No attempt is made to remove the dead. The people have simply sat down there to die and they wait for death.

In view of this widespread and terrible distress it is satisfactory to find that plague is decreasing. The plague mortality throughout India last week was only 1214, as compared with the 1566 deaths which occurred the week before. Calcutta reported 170 deaths; Bombay city 342 deaths; Karachi 139 deaths; and Aden 59 deaths. With the satisfactory decline of plague it is astonishing to hear that the following addition has been made to the plague regulations in Bengal: "In any case in which the subdivisional magistrate or health officer thinks fit he is authorised to isolate the village or part of the village in which a case of plague is believed to have occurred by cordons, patrols, or in such other manner as he may think expedient. ..... No inmate of such village or part of a village shall leave the same or hold any communication with any other persons, and no other persons shall enter the same," &c. When it is known that the present Lieutenant-Governor avoids anything like compulsion in enforcing any of the existing regulations it will be obvious that this will be, as many other rules are, practically a dead letter. The Mahomedans in Benares met on May 11th and resolved to memorialise the Government against the plague rules to be introduced in the city. They have just discovered that they are contrary to the words of the Prophet. It is at least curious that this has not been noticed before. If it has been, however, I have not heard anything about it.

May 17th.

PLAGUE IN AUSTRALIA.

(FROM A SPECIAL CORRESPONDENT.)

THE returns of plague in Sydney for the week ending April 28th are as follows: Remaining at the beginning of the week, 70; admitted, 27; died, seven; remaining at the end of the week, 76. The total cases are now 156 and the total deaths are 53; the number discharged recovered is 27. Total "contacts" isolated, 924; "contacts" remaining, 260; cases among "contacts," five.

There is little of interest to record beyond the figures given above, only the number of cases has again approached the highest experienced in any preceding week. The rat-killing crusade hardly flourishes, and, indeed, the prevention of plague, in so far as it depends on destruction of rats, begins to appear impossible. It has been proposed that the ancient sport of ratting should be revived; it is a more hopeful suggestion than many others. In the meantime the capitation fee has been raised to 6*d*. Tubes containing cultures of some bacterium said to be capable of causing an infectious disease among rats have just been received from the Pasteur Institute; it was sent for on the independent testimony of an observer who, after watching its effects, felt sure that such an epidemic had been so caused. It is believed to be Danysz's microbe, but unfortunately has been forwarded accompanied only by those circulars which have been printed for information of the laity. However, it will not take very long to find out its characters and whether it is (as alleged) harmless to domestic animals, &c. The bacillus typhi murium certainly has not in this country the powers ascribed to it and, on the other hand, is fatal to many small birds at all events. It kills only the rats which eat food infected with it; very soon the whole colony becomes frightened and decamps, but no spreading illness is set up by it. This was ascertained in the laboratories of the department more than two years ago with the approach of plague in mind and has been checked by repeated experiments in the

field conducted under circumstances very favourable to observation. In all probability the speaker at the Berlin Conference on plague who suggested that rats especially disliked sulphurous acid because certain factories where water containing this body was constantly present were free from them, was right in his inference. This has long been known here and the practical use made of the knowledge during several years past has been the following. In fumigating ships for the purpose of destroying rats the quarantine staff are accustomed to burn quite small quantities of sulphur in the upper parts for the purpose of driving the rats into the holds and bilges. Retreat being then prevented they are very easily killed by burning more sulphur in the proportion of about three pounds per 1000 cubic feet. Unfortunately, sulphur damages many kinds of cargo, such as sugar, coffee, tea, &c. Still, those who suggest the substitution of carbon dioxide little understand the difficulties or the uses of sulphur. In attempting to prevent the introduction of plague it is absolutely essential that an island should be available on which cargoes might be landed for destruction of rats in them and while the nearly empty holds are fumigated. For obvious reasons cargo could not safely be landed from suspected ships on the mainland; and, indeed, the island should be a small one. But, as regards infected cities, if the plague does not itself kill off the rats how can any other communicable disease be expected to do it? The approach from France of a present of Yersin's serum, heralded with much circumstance, was anxiously regarded. The parcel has now come to hand and has been obligingly presented by the Consul-General, through the hands of the representative of the Pasteur Institute at Sydney. It consists of 120 cubic centimetres of serum and the equivalent of 10 cubic centimetres in dry form. These are very interesting exhibits and now occupy a place of honour on the shelves of the laboratory museum. The cleansing of portions of the city proceeds apace. A good enough thing in itself, it has no effect on the progress of the epidemic. Those who are of opinion that the virus can become localised in the soil will doubtless give it greater value than does the present writer. In other respects it is good exactly as far as it has gone It is an attempt to repair in a hurry the effects of long neglect, and unless there is reform in the attitude of local authorities towards the health laws and the organisation of which the foundations have been laid by the department, in a few weeks the state of affairs must become as bad as it was before the cleansing. There are signs of an awakening, however. To provide machinery and to see it utterly neglected—to find the central health authority regarded as a local authority and expected to do the work of local authorities in every part of this extensive country—has been a disappointing and even an enraging situation But epidemics are the sanitarian's opportunity and this one will yield its harvest in due time no doubt.

April 29th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Annual Report of the Medical Officer of Health of Liverpool for 1899.

THE report on the health of the city of Liverpool during the year 1899 by Dr. E. W Hope, the medical officer of health, is an elaborate octavo volume of 234 pages. It is illustrated with a large map of the city and a diagram showing the birth rate and death-rate in each of the districts of the city during 1899, together with the number of deaths of infants under one year out of every 1000 born and the estimated population per acre, excluding docks, quays, &c. The figures representing these four rates are printed in different colours, whereby comparisons of the corresponding rates in the 11 districts can be readily made. At the foot of this diagram is shown the birth-rate of the whole city during 1899, which was 33 6 per 1000 of the inhabitants, and the death-rate, which was 24·3 per 1000 The area of the city comprises 20¼ square miles with an [illegible] 663,645 persons. The death-rate ve[illegible] districts; the lowest death rate w[illegible] district, where it was 10·1 per 1000. [illegible] Exchange district, where it was 33·7 [illegible] ally large proportion of deaths occ[illegible] hospitals. The death-rate was higher by 0·9 per 1000 than in the preceding year, a fact attributed mainly to the prevalence of influenza which accounted for 203 deaths; but influenza was also associated with a large number of cases of fatal illness involving chiefly the respiratory system. A regrettable feature of the report was the increase in the number of [illegible]

Dr. Hope again drew attention to the limitation of hospital accommodation; no provision had yet been made for measles and whooping-cough, whilst that for diphtheria was wholly inadequate. An interesting feature of the report was the increasing demand for accommodation in the city infectious hospitals. The present number of beds available for the various forms of infectious sickness is 460. Of these 37 are apportioned to small-pox cases, 20 to typhus fever, 75 to typhoid fever, 288 to scarlet fever, 30 to diphtheria, whilst 30 beds had to be kept for isolation purposes. Plans had been approved by the Local Government Board for the erection of small-pox wards for the accommodation of 44 patients at Fazakerley. Dr. Hope showed that at the [illegible] recent outbreak of small-pox at the Liverpool Workhouse, which is now happily subsiding, may impress the Health Committee with the necessity for an increase in the number of beds for that disease. In a large seaport like Liverpool, with its extensive immigrant population, the dangers of infection from foreign ports cannot be over-estimated. There has been recorded in THE LANCET of May 26th and June 2nd the importation of a case of small-pox at Queenborough from Russia which found its way to Stalybridge, leading to deplorable results. It is to be hoped that a better supervision is exercised in Liverpool over ships arriving from the Continent; at the same time it would be always possible for an individual in the incubative stage of small-pox to pass muster even at that port, hence the necessity for an ample provision of beds in case of an outbreak of the disease in Liverpool. The steady decline in every form of tuberculosis is a satisfactory proof of the progress of sanitation in Liverpool. The report emphasised the fact that not only had every form of the disease diminished but at every age-period there had been a marked decline in the mortality from this cause; especially had this been the case in the earlier years of life, which was of the first importance There had been a great increase in the number of references to and from the school board authorities chiefly relating to children who had come from infected houses and who were attending school. Special and systematic visits were made to courts and alleys with the object of ensuring the cleanliness of the domestic offices and the surfaces of the courts. Another satisfactory feature was the diminution in the number of courts and alleys owing to the demolition of low-class property for the extension of business premises or to the removal of insanitary property by the Insanitary Property and Artizans' Dwellings Committee. During the last nine years 733 courts had been demolished. An unsatisfactory feature of the report was the continuance of smoke nuisances to a very serious extent in spite of the infliction of heavy fines. The onerous and responsible work connected with the ambulance and disinfecting departments is fully described in the report and reflects much credit upon the respective staffs. The growing practice of the use of preservatives in the food-supply had been a matter of grave concern to the health authorities. Some of the preservatives under certain conditions had a poisonous effect. The total number of samples taken for chemical analysis was 1522, and the total number taken for bacteriological analysis reached 505. The work of the [illegible] (2) the examination of foodstuffs [illegible] examinations of water supplied [illegible] to the city; [illegible] into suspected cases of rabies, anthrax, glanders, &c; (4) examinations for diagnostic purposes in suspected cases of diphtheria, typhoid fever, tuberculous sputa, &c.; and (5) special investigations, in[illegible] the condition of the artificial foods supplied to [illegible] giving rise to summer diarrhœa. The report also [illegible] with the milk-supply to the city much on the same [illegible] last year, but pointing out that the Health [illegible]tee are seeking powers to still further safeguard [illegible]portation of milk into the city. The difficulties in the

The German Ambulances with the Boers.

A second letter from Dr. Hildebrandt, one of the German medical officers to the Red Cross ambulances with the Boer army, has been published in the *Munchener Medicinische Wochenschrift*. In this communication, which was dated from Pretoria on April 7th, he referred to the occurrences after the capture of Jacobsdal by the British troops, a turn of events with which he was well satisfied, not only because the ambulance had then plenty of work, but also because the British authorities were much more agreeable to deal with than the Boers. The members of the ambulance had to pay for food and, in fact, for everything they wanted, and they were hindered in every way when they made requests for the sake of the wounded. The British authorities, on the other hand, met their wishes as much as possible. One of the surgeons and two attendants caught enteric fever. After the battles near Jacobsdal the ambulance had to provide for about 120 wounded soldiers, the majority being serious cases, but it fortunately happened that the wounds inflicted by modern rifle-bullets required operation only very seldom; wounds of the brain, however, where suppuration often ensued had to be operated on in many instances. The majority of intestinal wounds healed by conservative treatment. The ambulance received not only Boers but also British officers and men.

June 11th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Bacillus of Hospital Gangrene.

AT a recent meeting of the Vienna Society of Physicians there was an interesting discussion on the Etiology of Hospital Gangrene. It was introduced by a paper communicated by Dr. Matzenauer, an assistant in Professor Neumann's clinic for syphilis and dermatology, who stated that he had observed 22 cases of hospital gangrene situated on the penis and prepuce. On microscopical examination he found that the ulcers showed an inflammation causing early coagulation - necrosis of the tissues. In all these cases, especially at the junction of the inflamed and the necrotic tissues, there was a bacillus which could be stained by Weigert's method and seemed to be anaerobic. Cultures of the bacillus could be obtained only with difficulty and inoculation experiments did not give any result. Dr. Matzenauer pointed out that these gangrenous ulcers did not produce any enlargement of the inguinal glands. Some of the speakers were of opinion that the cases ought not to be called hospital gangrene, a disease which had hardly been seen for the last 30 years. It was, therefore, improbable that no less than 22 cases of that extinct disease should have occurred in one ward of the clinic in the course of the last three years, and the general opinion of the meeting was that the cases described by Dr. Matzenauer were merely phagedenic chancres and ulcers. On the other hand, it was admitted that the ulcers described by him showed the clinical signs attributed to hospital gangrene by various authors, and that as the bacillus discovered by him was found in all the cases it might be the cause of the disease, even though the experiments made on animals gave no result.

Peculiar Corpuscles in the Blood of Syphilitic Persons.

Dr. Lostorfer of Vienna has published a preliminary communication in which he states that some days after the appearance of a chancre, but before the coming out of the syphilitic eruption, small round corpuscles of the size of the blood-granules, having a peculiar lustre, are to be found in the blood of the patients. These corpuscles aggregate after some hours in groups of from two to 20, forming oblong bodies. After three days they begin to disappear, especially when mercurial treatment has been commenced, and after 20 or 25 inunctions they can no longer be found Dr. Lostorfer could not find these corpuscles either in the blood of healthy persons or in that of patients suffering from other diseases than syphilis. Professor Paltauf confirmed this statement of Dr. Lostorfer; he said that these corpuscles were not stained with the ordinary staining solutions; they became more visible on the addition of acetic acid, and he believed that they were products secreted by tissues or coagula, but he could not state if they had a specific character. More than 20 years ago Dr. Lostorfer caused an animated controversy among the leading histologists by his alleged discovery of specific corpuscles in the blood of syphilitic patients, but on the present occasion he did not mention whether his recently discovered corpuscles were similar to those found before

June 11th.

Obituary.

GEORGE EDWARD WILLIAMSON, F.R.C.S. ENG.

DEATH has been very busy in the ranks of the medical profession at Newcastle-upon-Tyne during the last 12 months, seven well-known medical men having died. The latest of these is Mr. G. E. Williamson who succumbed to an acute attack of pleuro-pneumonia on Wednesday, June 6th. On the previous Thursday Mr. Williamson did his work in the Royal Infirmary, apparently in his usual health. Before leaving the institution, however, he complained to his house surgeon of not feeling well, and on arrival at his house in Eldon-square he had a rigor and retired to bed. Dr. D. Drummond saw him the same evening and found him to be suffering from an attack of pneumonia which ran a very acute course and terminated fatally on the sixth day. Throughout his illness he was most assiduously attended by his old friend Dr. Drummond and by Dr. J. D. Wardale, who for some years has acted as his assistant in the ophthalmic department of the Royal Infirmary.

Mr. Williamson was born at North Shields 48 years ago and received his medical education at the London Hospital, where he was a distinguished student and held several resident appointments. He also studied for a time in Paris. In 1874 he received the diploma of M.R.C.S. Eng. and in 1875 that of L.S.A.; in 1878 he was admitted F R.C.S. Eng. He came to Newcastle to be house surgeon in the Royal Infirmary and was subsequently assistant to the late Mr. Heath, until in 1879 he commenced practice on his own account as an ophthalmic surgeon. He had already shown his inclination towards this branch of professional work while attending the Royal Ophthalmic Hospital, Moorfields, and he eventually made a reputation which led to his being appointed ophthalmic surgeon to the Royal Infirmary and lecturer in physiology in the University of Durham College of Medicine in Newcastle. On the death of Professor Arnison a few months ago Mr. Williamson became the colleague of Professor F. Page in the chair of surgery and was engaged up to the time of his death in conducting his operative surgery class.

He was till quite recently honorary secretary and treasurer of the North of England Branch of the British Medical Association and a representative of the branch on the General Council of the Association. At the meeting of the Association in Newcastle in 1893 he presided over the section of Ophthalmology, his address at the opening of the section being on the subjects of refraction testing and medical education in ophthalmology. Mr. Williamson was connected for 12 years as honorary surgeon with the Northern Counties Institution for the Deaf and Dumb and he took a very active interest in the Surgical Aid Society. The deceased was held in the highest esteem by his medical colleagues as well as by a wide circle of friends in the city, and much sympathy is felt for his widow and five young sons. The funeral took place on June 9th at St. Andrew's Cemetery, Moor Edge, in presence of a numerous assemblage.

THOMAS FITZ-PATRICK, M D., M.A. DUB., M D. CANTAB., M.R C.P. LOND.

DR. THOMAS FITZ-PATRICK of 30, Sussex-gardens, Hyde Park, W., whose death is announced, was a distinguished graduate of Dublin University, obtaining his M.D. degree in 1862 and his M.A. in 1864. He was admitted M.D. of Cambridge in 1867 and M R C.P. Lond. in 1868. In 1856, the same year in which he was awarded the silver medal of the Pathological Society of Dublin for his work on "Chronic Diseases of the Liver," he indicated his future successes in his profession by passing, at a competitive examination, for the post of assistant surgeon in the service of the Honourable East India Company. His

health, however soon broke down and after practising for some years in Ireland he settled to private practice in London He married in 1865 Agnes Letitia, youngest daughter of the late William Robinson, LL D, of Tottenham, Middlesex, of the Inner Temple, Barrister at law, J P, and deputy lieutenant of the county He became a Fellow of the Royal Medical and Chirurgical Society and served as a member of its council in 1894–95, he was also a member of the Clinical Society of London Dr Fitz Patrick was, however, far more than a talented physician He was a *savant* in its highest sense and a linguist of high order, conversing in Italian, German, and French almost as fluently as in his own language, while his attainments as a classical scholar were far above the average Moreover, he could read modern Greek with as much ease and pleasure as English He possessed to a remarkable extent the faculty, so essential to members of the profession, of winning the confidence and attachment of his patients as well as the love and esteem of countless private friends Unselfish almost to a fault, his thoughtfulness for everyone and his generosity and kindness to all who required help were proverbial, and it may truly be said of him that his right hand never knew what his left hand did His two books, "An Autumn Cruise in the Ægean, or Notes of a Voyage in a Sailing Yacht," and "A Transatlantic Holiday," [illegible] facile and graceful pen He was [illegible] and a *raconteur* with an abso[illegible] reciting either prose or poetry In short he was a man of varied attainments, a steadfast and true friend, and a devoted husband

JULIUS ALTHAUS, M D BERLIN, M R C P LOND

THE death is announced of Dr Julius Althaus in his sixty-eighth year He was born at Detmold, in Germany, in 1833, where his father was a Lutheran minister At the age of 17 years young Althaus entered the University of Bonn, intending to study classics, but before long he devoted himself to the subjects of medicine and natural philosophy In the year 1851 he commenced to study medicine at the University of Gottingen, and thence went to Heidelberg and Berlin, at which last place he was selected by the great physiologist Müller to accompany him on a voyage of research to Sicily Having taken the degree of M D at Berlin he went to Paris, Vienna, Prague and London to perfect his studies He finally settled in London becoming a Member of the Royal College of Physicians in 1860 Having devoted himself mainly to the study of the nervous system and to electrical treatment, he was for some time assistant to the late Dr R B Todd in King's College Hospital In 1866 he founded the Hospital for Epilepsy and Paralysis in Regent's Park, where he acted as physician for 28 years and to which in 1894 he was unanimously elected consulting physician He was a voluminous writer, chiefly of books upon electrical treatment and diseases of the nervous system, and his book upon "Failure of Brain Power" reached a fifth edition, the circulation being largely among laymen Apart from purely professional knowledge he was a man of varied attainments and a good musician He was a firm believer in the value of and necessity for a holiday, and last year while enjoying one in Switzerland met with an injury to his knee which was the beginning of his fatal illness Gout supervened, followed by phlebitis and peritonitis, from which last complication he succumbed His death is mourned by a large circle of patients and friends

W T RADFORD M D T C D

ON May 19th there died at Sidmouth Dr W T Radford at the patriarchal age of 89 years He was the son of Peter Radford, a well known physician in the West of England at the beginning of the present century Dr Radford was educated at Trinity College Dublin, where he took the degree of M D, and being blessed with private means he never practised his profession as a means of livelihood, but devoted himself to science and art He was one of the earliest members of the Athenæum Club and travelled a great deal upon the continent, studying ecclesiastical architecture He settled with his brother's family at Sidmouth, near Sidmouth Some 30 years ago it came to his knowledge that the poor, and especially lace workers, were constantly imposed upon by itinerant vendors of spectacles, a fact which was often the cause of injury to [illegible]

DEATHS OF EMINENT FOREIGN MEDICAL MEN —The deaths of the following eminent foreign medical men are announced —Dr Heinrich Laudahn, Director of the Lindenburg Asylum, Cologne, at the age of 70 years —Dr. Leopold Grossmann, the *doyen* of Hungarian ophthalmologists, at the age of 79 years —Dr Korsakoff, Professor of Mental Diseases in the University of Moscow, at the age of 48 years —Dr Benjamin I Leonhard, Professor of Gynæcology and Children's Diseases in the Baltimore Medical College

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND —The following gentlemen have passed the First Professional Examination for the Diploma of Fellow —

Jo[illegible]

[illegible] Erskine Henderson M B, [illegible] University Guy's, and King's College Hospitals Joseph Tremayne Hicks Guy's Hospital Somerville Hastings Gerald Stephen Hughes [illegible] Middlesex Hospital [illegible] pool, and King's Colle[illegible] B.Sc Aberd Aberdeen M B, Ch B New Zealand University [illegible] Harold Ashton Lyth M B C M Glasg, [illegible] Uni[illegible] Lon[illegible] Tor[illegible] Can[illegible] St. [illegible] M R C S Eng L R C P Lond Herbert Larsons, M.B. Lond, M R C S [illegible]

M.R.C S Eng, L.R.C P [illegible] tholomew's Hospital, and King's College, London Sidney James Wareham M R C S Eng L R C P Lond L S A Lond, Charing [illegible] Hospital Noel Everard Waterfield and Herbert Victor [illegible] John Harry Watson.

[illegible] passed and 69 were referred

The following gentlemen having passed the necessary examinations and conformed to the by laws and regulations, have been admitted Fellows of the College in the order of their seniority as Members —

Thomas Richard Mulroney (Major I M S, Bengal) M D Melb, L.R.C.P A S Edin, Bombay and King's College Lond, date of Membership, Jan 14th, 1861 Frederic Victor Mivard, M.B. B C Cantab L.R.C P Lond Cambridge University and St. Thomas's Hospital Member Feb 7th, 1861, Hugo Mallinson Rigby M.B. B.S. Lond L.R.C P Lond L.R.C S Lond Hospital, Member Feb 7th, 1861 John Shiels Fairbairn, M.B., B.Ch Oxon, L.R.C P Lond, Oxford University and St. Thomas's Hospital, Member Nov 11th, 1861 Louis Battie Lawlie, M.B., B.C. Cantab, L.R.C P Lond, St Bartholomew's Hospital Member August 8th 1861 Stephen Frederick Lynch, L.R.C P Lond, King's College Hospital Member Feb 14th 1861 Malcolm Goodworth Dyson, L.R.C P Lond, St Bartholomew's Hospital, Lei[illegible]

Member May 13th, 1897; . M B. Toronto, M.R.C.P. Lond., M.C.P. & S . ronto, Canada, and University College, ... ly 8th, 1897; William Douglas Harmer, M.B, B.C. Cantab, L.R.C.P. Lond., St. Bartholomew's Hospital, Member August 2nd, 1898; Walter John Henry Hislop, M.B., C.M. Edin., L R C.P. Lond., St. Bartholomew's Hospital, Member August 2nd, 1898; Herbert Sherwell Clogg, M.B. Lond., L.R.C.P. Lond, Charing-cross Hospital, Member Nov. 10th, 1898; Lawrie Hugh McGavin, L.R.C.P. Lond., Guy's Hospital, Member Nov. 10th, 1898; Arthur Webb Jones, L.R.C.P. Lond., St. Thomas's Hospital, Member Feb. 9th, 1899; Thomas Holmes Middlebro', M.B. Toronto, L.R.C.P. Lond., University of Toronto, Canada, and King's College, London, Member Nov. 2nd, 1899; and John Percy Lockhart Mummery, L.R.C.P. Lond., St. George's Hospital, Member Nov. 2nd, 1899.

Of the 32 gentlemen who presented themselves for this examination 15 passed and 17 were referred.

UNIVERSITY OF CAMBRIDGE.—The following degrees were conferred at the Congregation on June 7th:—

Doctor of Medicine.—L. Falkener, M.A., King's; A. H. Thompson, M.A, Trinity; W. J. Harris, M.A., Christ's.

Bachelor of Medicine.—N. J. McCaskie, B.A., and E. A. Wilson, B.A., of Caius; J. D. Linnell, B.A., of Selwyn.

Bachelor of Medicine and Bachelor of Surgery.—J. G. Taylor, B.A., King's; W. P. S. Branson, B.A., Trinity; C. D. Marriott, B.A., Clare; E. Cox, B.A., and W. M. Willoughby, B.A., Caius; H. G. Cooper, B.A., Emmanuel.

Bachelor of Surgery.—L. Falkener, M.A., King's; T. S. Taylor, B.A., King's; W. L. Ascherson, non-collegiate.

The Raymond Horton-Smith Prize for the best M.D. thesis of the year has been awarded to Mr. Alan Baldrey Green, M.A., M.B., B.C., of Downing College. His subject was "Amyloid Disease."—Dr. G. H. F. Nuttall has been appointed University Lecturer in Bacteriology and Preventive Medicine.—The election to the Knightbridge Professorship of Moral Philosophy, vacant by the resignation of Dr. Sidgwick, will be held on June 30th.—Mr. G. F. C. Searle of Peterhouse has been appointed University Lecturer in Physics.—The Right Hon. A. J. Balfour, M.P., will deliver the inaugural lecture of the University extension summer courses on August 2nd.

THE MIDDLESEX HOSPITAL. — Miss Palmer Lovell has forwarded the sum of £315 to the treasurers of this hospital to endow a bed for the remainder of her life.

PRESENTATION TO A MEDICAL MAN. — On June 3rd, in the waiting-room of the Great Western Railway-station, Frome (Somerset), the members of the railway employés' ambulance class were presented by Mrs. Chill with badges and certificates of the St. John Ambulance Association. Mr. Edwin Albert Chill, M.D., C.M. Edin., was presented with a framed photographic group of the class as a mark of appreciation of his services as honorary instructor.

VACCINATION LAW.—At the last meeting of the Lampeter (Wales) Board of Guardians it was reported that the two youngest children of a medical practitioner, in Lampeter were unvaccinated, the father having given certificates under his own signature of the unfitness of his children to be vaccinated on the ground that one was suffering from "anæmia" and the other from "neurasthenia." The question arose whether certificates given by a medical man in respect of his own children would be sufficient if the certifier were summoned for non-compliance with the vaccination law and the guardians had requested the medical practitioner to allow an independent medical man to examine the children, but this had not been permitted. The guardians eventually decided to consult the Local Government Board upon the matter.

FREEMASONRY.—*The Rahere Lodge, No. 2546.*—The installation meeting of the Rahere Lodge, No. 2546, was held in the Great Hall of St. Bartholomew's Hospital on Tuesday, June 12th. Bro. J. H. Drysdale, M.D., was elected a joining member. Bro. the Rev. Sir Borradaile Savory, Bart., and Bro. Cross were re-elected members of the standing committee, and Bro. A. W. Izard was elected a member of this committee. Bro. Reece, the W.M., installed his successor, Bro. Walter Gripper, P.P.G.D. Surrey, as W.M. for the ensuing year. A past-master's jewel was awarded to Bro. Reece, and Bro. Gripper, in the name of the Lodge, presented Bro. D'Arcy Power with the jewel of a P.G.D. in recognition of his services to the Lodge in the capacity of secretary and as a token of their appreciation on his appointment to the office of a Junior Grand Deacon. The report of the Audit Committee was received and adopted. The brethren and their guests to the number of 90 afterwards dined together at the Restaurant Frascati.

NEWPORT (MON.) WATERWORKS.—The total expenditure by the Newport Corporation on the Wentwood Waterworks up to the present has been £207,808.

THE NEW INFIRMARY, WARRINGTON. — This infirmary has been formally opened by Sir J. T. Hibbert, Chairman of the Lancashire County Council. It has been erected by the Warrington Board of Guardians at an outlay of £30,000 and will provide 184 beds.

THE BECKENHAM AND PENGE MEDICAL SOCIETY.—The fifth annual dinner of the Beckenham and Penge Medical Society took place on Thursday evening, May 31st, at Beckenham and was well attended by members and guests. Among the latter were Dr. J. G. Glover (Direct Representative on the General Medical Council), Dr. Handfield-Jones, and Mr. Arbuthnot Lane. Mr. Victor Horsley sent a message regretting his inability to be present. Dr. R. M. H. Randell, Vice-President of the Society, occupied the chair. Mr. Frank Sturges, in proposing the toast of "The General Medical Council," spoke of the work of the Council generally in terms of praise, and claimed for his society and for kindred associations the credit of having by their work impressed upon the Council a clearer idea of what was expected from them as the governing body and the mouthpiece of the profession. That the Council were now alive to their responsibility was shown by their energy and public spirit which in the last few years had become so increasingly apparent. Alluding to the Midwives Bill Mr. Sturges said that the Beckenham and Penge Medical Society were now of opinion that some legislation was necessary and even desirable, but they trusted to the Council to continue to use all their influence against any Bill which went further than simply to replace the present midwife, a danger to life and society, by a class of well-trained women of good character properly instructed as to where their duties began and ended. Referring to the proposed conciliation board Mr. Sturges expressed the opinion that in such a way the club difficulty could be overcome. He was proud of the action of his society on this question. Charity had nothing to do with it. The more important friendly societies were wealthy and powerful organisations, and that they should pay properly for medical attendance under proper regulations was simply a matter of business into which sentiment had no right to enter. In coupling the toast with the name of Dr. Glover Mr. Sturges said how completely they disapproved of the way in which the remnant of the Cannon-street meeting had treated their Direct Representative. They (the Beckenham and Penge Medical Society) had actively assisted in the promotion of that meeting because they disliked much in the present Midwives Bill and believed that the profession should speak out, but the methods of the promoters were distasteful to them and in future they should act by themselves. He trusted that the vote of sympathy and confidence unanimously carried at a large meeting of the society was some slight consolation to Dr. Glover. In his reply Dr. Glover thanked the society on behalf of the Council. He quite agreed as to the necessity for the restriction of the functions of the midwife as distinguished from the medical practitioner. He especially insisted that any legislation of the sort must, in the interest of the poor lying-in woman, stop the practice of unlicensed midwives, otherwise it would be quite valueless and should be resisted. He was glad to know that the proposal of a conciliation board had the approval of the society. The success or failure of the scheme rested very much with the British Medical Association. In conclusion, Dr. Glover thanked the society for their words of personal kindness and support. The Rev. Henry Arnott, F.R.C.S., rector of Beckenham, in proposing the toast of "The Beckenham and Penge Medical Society" spoke of the value of such societies in increasing professional knowledge and promoting fellow-feeling and a kindly spirit one to another, but he urged the society to follow the lines of the Royal Medical and Chirurgical Society and the Pathological Society of London, and to leave medico-political questions to be dealt with by the General Medical Council and the British Medical Association. Dr. Randell, in his reply for the society, maintained that it was part of their duty to take an active interest in all public questions vital to the profession, that knowledge was gained and opinion formed by debate, and that those in authority could act with far greater force if they knew that the voice of the profession was with them.

THE NEW WORKHOUSES AT LADYWELL, LEWISHAM.—These new buildings, erected by the St. Olave's Board of Guardians to provide accommodation for the aged and infirm poor of Lewisham, will be opened by the Prince and Princess of Wales on July 12th.

A GIFT TO BOURNEMOUTH.—Mr. Robert B. Scarlett, proprietor of the Shelley estates, on June 5th presented to the Mayor, in the presence of a large assembly of the inhabitants, as a gift to the borough in perpetuity, the new pleasure grounds on the cliff front.

COST OF VACCINATION.—At the last meeting of the Barnstaple (Devon) Board of Guardians it was reported that there had been 769 cases of successful vaccination during 1899, against 559 in 1
£434, and that for the previou
At the last meeting of the Mer
one of the members said that
1899 the fees of the public vaccinators in the union had advanced from £285 to £905, and the fees of the vaccination officers from £101 to £180. It was decided to petition the Local Government Board to amend the Vaccination Order with a view to the reduction of the fees.—At the last meeting of the Neath (South Wales) Board of Guardians a letter was read from the Local Government Board in reference to the suggestion of the guardians for a reduction of the fees of the public vaccinators. The Local Government Board stated that it was intended at present not to reduce these fees, as under the new system the duties of public vaccinators had become so arduous.

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY, LIMITED.—The monthly meeting of this society was held on May 29th, at 12, New-court, Lincoln's Inn. The report of the Charity Commissioners in reference to the Leek Cottage Memorial Hospital, concerning which complaint had been made by the society on behalf of one of its members, was laid before the council, several alleged irregularities being dealt with therein. The council authorised the formation of a new division of the society for the province of Ulster, and approved the list of officials, Dr. Alexander Dempsey of Belfast being the first president and Dr. S. W. Allworthy the secretary. Steps were reported to have been taken for the formation of a Yorkshire division. The secretary reported that the General Medical Council had decided to erase from the Dental Register the name of a dentist who had been charged by the society with advertising, this being the first instance in which the General Medical Council had so exercised its powers. 166 new members had joined the society since the annual general meeting in April. A satisfactory financial report was submitted.

ANNUAL MEETING OF THE BRITISH MEDICAL TEMPERANCE ASSOCIATION.—The annual meeting of this association was held on June 12th at the Examination Hall, Victoria Embankment, London, after a reception by the President (Professor Sims Woodhead) and council of medical and scientific delegates to the World's Temperance Congress which was being held in the same building. The annual report was read by the honorary secretary, Dr. J. J. Ridge, and showed an increase both of members and student associates to 487 and 515 respectively. The report expressed the hope that as it had been conclusively demonstrated that men could do harder and more continuous work without than with alcohol, the rum ration should be abolished and the canteen purged from intoxicating drinks. It was announced that a Manchester branch had been formed of which Dr A. T. Wilkinson had
Clegg honorary secr
Paris were elected
Votes of thanks were
Previously to the mee
electric lantern, had
theatre of Scientific Reasons for
showed that healthy cell life, both vegetable and animal, was impossible in the presence of minute quantities of alcohol, while by its interference with oxidation and the removal of waste products it injured the proper performance of every function. A novel experiment showed that the influence of even 1 per cent. of alcohol on the oxygen-producing function of the chlorophyll of water-plants, which it greatly diminished. The presence of alcohol, while it lowered vital function, even of the yeast which produced it, favoured and accelerated decomposition. The cumulative effect of small "moderate" doses was proved by the experience of life assurance offices and friendly societies, the difference in favour of the abstainers being much more marked after the age of 60 years, when the degenerations caused by alcohol had had time to take place. Diagrams prepared by Dr Legrain were shown indicating how the increasing consumption of alcohol in France and Belgium was accompanied by the increase of crime, &c., and the proportion of conscripts rejected, these diminishing in Sweden and Norway, where the amount of alcohol consumed was lessening. There was a large attendance at this demonstration.

NATIONAL SANATORIUM FOR CONSUMPTION, BOURNEMOUTH.—The annual general meeting of governors of this institution was held at the Westminster Palace Hotel on June 13th. In the unavoidable absence of the Earl of Eldon (the President), Mr. Arthur F. Jeffreys, M.P., occupied the chair. It was resolved that the report and statement of accounts for the year 1899, as submitted, should be adopted and printed. Sir Edward H. Hulse, Bart., the Hon. T. A. Brassey, and Mr. D. H. W. Robson-Burrows were appointed trustees. The report showed that there was a debt of £655 for the
this further sum would be required to meet the expenses of the present year. With the concurrence of the President, and of the Earl of Mount Edgcumbe and Lord Wimborne, the vice-patrons, it was resolved that a special appeal should be issued to the general public for donations and subscriptions.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

ALL — L.F.P.S. Glasg., has been
ney Sanitary District of the
— been appointed a Public
New Zealand.
Hart, H. T. S., F.R.C.S. Edg., has been appointed Health Officer at

BOWKER, C. S., L.R.C.
ment Medical Off
BUCHANAN, P., M.B.,
by the West Dean
CARR, MICHAEL, L.R.C.P.
of Health for the Shire of Woiraval, Victoria, Australia.
CODD, A. F., M.B. Durh., F.R.C.S. Eng., has been appointed
Certifyin
District,
of Kestor
Hayes, a
COLLINAN,
appointed
Rural District, vice D. Lyt, resigned.
CROSSFIELD, ARTHUR HYFFIN, L.R.C.P., L.R.C.S. Edin., has been
appointed Public Vaccinator for Dartmouth, Devon.
EADON, M.B., C.M. Abed., has been appointed Officer of
Hea — in Australia
— Officer of Health to the
Victoria.
ELLIOT,
Dominions
FLINT, J. B., L.R.C.P.
Surgeon under the
comprises the Ur
Townships of Hart
and Peak Forest in
FREEMAN, J. W., L.R.C.P. Lond., M.R.C.S., Civil Surgeon
appointed Officer in Medical Charge of Troops at Plymouth, vice
R. Turner, Lieut.-Colonel, Place on the sick list.
HAYWARD, W. T., L.R.C.P. Lond., M.R.C.S., has been appointed a
Member of the Board of Management of the Adelaide Hospital,
South Australia.
HEYWOOD, A. F., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been
appointed Officer of Health for the Shires of Tasmania, Victoria,
Australia.
HIGGINSON, C. G., L.R.C.P. Lond., M.R.C.S., has been appointed
Medical Officer of the Infirmary for the Parish of
Ingleton.
Birmingham, the J. O. Dowd, resigned.
KELLY, C. H. D. Lond., F.R.C.P., has been reappointed Medical Officer
of Health, Wells, and Medical Sanitary District.

KENDALL, WALTER BENGER, M.R.C.S., L.R.C.P. Edin., has been appointed Public Vaccinator for Kingswear, Devon.

LIDDLE, P. H., M.B., Ch.B. Melb., M.R.C.S., has been appointed Officer of Health for the Western Riding of Warranga, Victoria, Australia.

MARKS, E. G. K., M.D., Ch.M. Irel., has been appointed Visiting Surgeon to the Police Gaol at Herberton, Queensland.

MORTON, G., M.B. Syd., has been appointed Senior Medical Officer to the Hospital for the Insane, Gladesville, New South Wales.

MUIR, J. S., M.B., C.M. Edin., L.R.C.P. Edin., has been appointed Certifying Surgeon under the Factory Acts for the Selkirk District.

PAGET, OWEN, F., M.B., B.S. Cantab., has been appointed Health Officer to the North Fremantle Local Board of Health, West Australia.

PEIPERS, F., M.D. Berl., has been appointed a Public Vaccinator at Milawa, Victoria, Australia.

PONDER, C. F., M.B., Ch.M. Edin., has been appointed Government Medical Officer and Vaccinator at Hillston, New South Wales.

PRICE, S. E., L.S.A., has been appointed Medical Officer for the Ninth Sanitary District of the Bromley Union, vice C. N. Hamper, resigned.

RAMSAY, J. E., M.B. Lond., has been appointed Officer of Health to the Lennonville and Mount Magnet Local Boards of Health, West Australia.

RENDLE, R., F.R.C.S. Eng., has been appointed Medical Officer and Visiting Surgeon to the Gaol at Normanton, Queensland.

ROBINSON, T. H., M.D. Edin., Ch.M., has been appointed to act as District Medical Officer at Albany, West Australia, and Public Vaccinator for the Urban and Suburban Districts of Albany and Rural District of Plantagenet, also to be Quarantine Officer, *pro tem.*, at the Port of Albany.

ROOKE, C., M.R.C.S., has been appointed Health Officer and Medical Officer to the Police, Gaols, and Paupers for the Municipal District of Emu Bay, and also Public Vaccinator for Emu Bay, Tasmania.

ROPER, HENRY, B.A., M.B., B.C. Cantab., L.R.C.P., M.R.C.S., has been appointed Deputy Medical Officer for Lynton, Devon.

SANGSTER, J. I., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer at Kooringa, South Australia.

SCHLINK, R. H., M.D. Berl., has been appointed a Public Vaccinator at Wodonga, Victoria, Australia.

SMITH, W. R., M.B., M.Ch. Edin., has been appointed Honorary Physician to the Adelaide Hospital, South Australia.

STEWART, J. E. F., M.B., Ch.M. Glasg., has been appointed to act, *pro tem.*, as District Medical Officer at Guildford, West Australia, and Public Vaccinator for the Urban and Suburban Districts of Guildford, and also the Rural District of Swan.

THANE, D. H., M.D. Lond., L.R.C.P., M.R.C.S., has been appointed Government Medical Officer and Public Vaccinator at Wagga Wagga, New South Wales.

THWAITES, J. S., M.B. Melb., has been appointed a Public Vaccinator at Woodend, Victoria, Australia.

TREVOR-ROPER, G. D., L.R.C.P. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Massingham Sanitary District of the Freebridge Lynn Union.

WALES, T. G., M.R.C.S., has been re-appointed Medical Officer of Health by the Downham Market Urban District Council.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRMINGHAM CITY ASYLUM, Rubery-hill, Barnt-green, S.O., Worcestershire.—Senior Assistant Medical Officer.

BOROUGH OF BOOTLE, HOSPITAL FOR INFECTIOUS DISEASES.—Resident Medical Superintendent, unmarried. Salary £120 per annum, with board, washing, and apartments in the hospital. Applications to be addressed to the Chairman of the Hospital Sub-committee, Town-hall, Bootle.

BOROUGH HOSPITAL, Birkenhead.—Resident Junior House Surgeon. Salary £75 a year, with certain fees usually obtained.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House Surgeon. Salary £120 per annum, with rooms and attendance (not board).

CARDIFF INFIRMARY.—Assistant House Physician for six months. Salary at the rate of £50 per annum, with board, washing, and apartments.

CARLISLE DISPENSARY.—House Surgeon. Salary £150 per annum, with apartments (not board).

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Resident Medical Officer for twelve months. Salary £60 per annum.

CITY OF LONDON ASYLUM, near Dartford, Kent.—Assistant Medical Officer (Locum Tenens) for seven weeks. Terms 3 guineas a week.

CORPORATION OF BIRMINGHAM—CITY HOSPITAL, Lodge-road.—Assistant Medical Officer. Salary £120 per annum, with board, residence, &c.

CORPORATION OF MANCHESTER.—MONSALL FEVER HOSPITAL.—Third Medical Assistant for one year. Salary £100 per annum, with board and lodgings. Applications to the Sanitary Committee, Public Health Office, Town Hall, Manchester.

COUNTY ASYLUM, Rainhill, near Liverpool.—Assistant Medical Officer, unmarried. Salary commences at £125 per annum, with prospect of increase to £250, with furnished apartments, board, attendance, and washing.

COUNTY ASYLUM, Whittingham, Lancashire.—Junior Assistant Medical Officer, unmarried. Salary commencing at £125 per annum, increasing conditionally to £250, with furnished apartments, board, attendance, and washing.

CUMBERLAND AND WESTMORLAND ASYLUM, Garlands, Carlisle.—Locum Tenens. Terms 3 guineas per week, with board and residence.

DENBIGHSHIRE INFIRMARY, Denbigh.—House Surgeon for 12 months. Salary £80, with board, residence, and washing.

DEVONSHIRE HOSPITAL, Buxton, Derbyshire.—House Surgeon and Assistant House Surgeon for twelve months. Salary of House Surgeon £100 per annum. Assistant House Surgeon £50, with furnished apartments, board, and washing in both cases.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY, Dumfries.—House Surgeon. Salary £50 per annum, with board and washing.

EAST SUFFOLK AND IPSWICH HOSPITAL, Thorofare, Ipswich.—Second House Surgeon for one year, unmarried. Salary £60, with board, lodging, and washing.

ESSEX AND COLCHESTER HOSPITAL, Colchester.—Resident House Surgeon. Salary £100 per annum, with board and washing.

HEIGHAM HALL ASYLUM, Norwich.—Assistant Medical Officer.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians for six months, with an honorarium of £25. Also Surgeon.

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY, South Shields.—Junior House Surgeon. Salary £75 per annum, with residence, board, and washing.

ITALIAN HOSPITAL, Queen-square, London, W.C.—Honorary Ophthalmic Surgeon to Out-patients.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN, 8, Hunter-street, Brunswick square.—Second Demonstrator of Physiology.

MERTHYR TYDFIL URBAN DISTRICT COUNCIL.—Medical Officer of Health for five years. Salary £400 per annum, rising £25 annually to a maximum of £500 per annum, exclusive of out-of-pocket expenses.—Applications to the Clerk, Town Hall, Merthyr Tydfil.

MIDDLESEX HOSPITAL, W.—Assistant Dental Surgeon.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Junior Medical Officer for six months. Salary £60 per annum, with board, attendance, and washing.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Albany Memorial), Queen-square, Bloomsbury, London.—Registrar. Annual honorarium 50 guineas.

NORTH RIDING ASYLUM, Clifton, York.—Junior Assistant Medical Officer, unmarried. Salary £125, rising £10 annually to £175, with board, furnished apartments, washing, and attendance.

NORTHUMBERLAND, DURHAM, AND NEWCASTLE INFIRMARY FOR DISEASES OF THE EYE, St. Mary's-place, Newcastle-on-Tyne.—Honorary Surgeon.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £140 per annum, all found except board.

OLDHAM INFIRMARY.—A Senior and a Junior House Surgeon for one year. Salary £85 and £70 per annum respectively, with board, residence, and washing. Also Locum Tenens, for at least one month. Terms 4 guineas per week, with board and residence.

PARISH OF ST. LEONARD, Shoreditch, London.—Second Assistant Medical Officer for the Infirmary, Hoxton-street, N., for six months. Salary £80 per annum, with rations, washing, and furnished apartments in the Infirmary. Applications to the Clerk to the Guardians, Clerk's Offices, 213, Kingsland-road, N.E.

PLYMOUTH BOROUGH ASYLUM.—Assistant Medical Officer, unmarried. Salary £125 per annum, rising by five equal annual additions to £150 per annum, with furnished apartments in the Asylum, with board and washing.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House Surgeon. Salary £80 a year, with board, lodging, and washing.

ROYAL BERKSHIRE HOSPITAL, Reading.—Assistant House Surgeon for six months. Salary at the rate of £50 per annum, with board, lodging, and washing.

ROYAL HALIFAX INFIRMARY.—Third House Surgeon, unmarried. Salary £50 per annum, with residence, board, and washing.

ROYAL DEVON AND EXETER HOSPITAL, Exeter.—Junior Assistant House Surgeon for six months. Salary at the rate of £80 per annum, with board, lodging, and washing.

ROYAL LONDON OPHTHALMIC HOSPITAL (MOORFIELDS EYE HOSPITAL), City-road.—Assistant Surgeon.

ROYAL NATIONAL HOSPITAL FOR CONSUMPTION, Ventnor, Isle of Wight.—Clinical Assistant. Board, residence, and laundry provided.—Apply to the Secretary, London Office, 34, Craven-street, Strand, W.C.

ROYAL ORTHOPEDIC HOSPITAL, 297, Oxford-street, London.—House Surgeon and Registrar for six months. Salary at the rate of £100 per annum, with residence and partial board.

ST. GEORGE'S HOSPITAL, London, S.W.—Surgeon. Also Assistant Surgeon.

ST. PANCRAS, London.—Junior Assistant Medical Officer (male or female), for one year, for the St. Pancras Workhouse. Honorarium £60, and residential allowances.

SALISBURY GENERAL INFIRMARY.—Assistant House Surgeon, unmarried. Salary £50 per annum, with apartments, board, and washing.

SALOP INFIRMARY, Shrewsbury.—Assistant House Surgeon for six months. Salary at the rate of £60 per annum, with board and washing.

SOMERSET HOSP[illegible] [illegible]ALT Resident Surgeon. Apply to the [illegible] 112, Victoria-street, S.W.

STAMFORD-HILL [illegible] [illegible]ENSARY, 189, High street, Stoke Newington.—Assistant Resident Medical Officer. Salary £100 per annum, with board.

STAMFORD, RUTLAND, AND GENERAL INFIRMARY, Stamford.—House Surgeon for two years, unmarried. Salary £100 per annum, with board, lodging, and washing.

SWANSEA GENERAL AND EYE HOSPITAL.—House Physician for twelve months. Salary £50 per annum, with board, apartments, washing, and attendance.

THE CHIEF INSPECTOR OF FACTORIES gives notice of the following vacancies for Certifying Surgeons under the Factory Acts:—At Wolverton, in the county of Buckingham; at Ringwood, in the county of Southampton; at Gillingham, in the county of Dorset; and at Southport, in the county of Lancaster.

THE SECRETARY OF STATE FOR THE HOME DEPARTMENT gives notice of the following vacancy:—Medical Referee under the Workmen's Compensation Act, 1897, for Haverfordwest, Narberth, and Pembroke Dock in County Court District No. 31.

TIVERTON INFIRMARY AND DISPENSARY.—House Surgeon, unmarried. Salary £80, with board, lodging, and washing.

VICTORIA HOSPITAL FOR CHILDREN, Queen's-road, Chelsea, S.W.—Resident Medical Officer for six months. Honorarium £25, with board and lodging in the Hospital.

WANDSWORTH AND CLAPHAM UNION INFIRMARY, St. John's-hill, near Clapham Junction, S.W.—Junior Assistant Medical Officer for twelve months. Board, lodging, and washing provided, and £35 at the end of each six months.

WEST DERBY UNION.—Resident Assistant Medical Officer (*unmarried*) at the Mill-road Infirmary, Everton, Liverpool, for one year. Salary £100 per annum, with rations. Subject to statutory deduction. Applications to the Clerk to the Guardians, Brougham, terrace, Liverpool.

WESTERN GENERAL DISPENSARY, Marylebone-road, London.—Honorary Physician. Also House Surgeon, unmarried. Salary £75 per annum, with board and residence and 10s. a month for washing.

WEST HAM HOSPITAL, Stratford, E.—Junior House Surgeon for one year. Salary £75 per annum, with board, residence, &c.

WEST LONDON HOSPITAL, Hammersmith road, W. [illegible]

Births, Marriages, and Deaths.

BIRTHS.

[illegible] onards-on-Sea, the [illegible]

[illegible] ie wife of William [illegible]

[illegible] d, Openshaw, the [illegible]

[illegible] , L F P S Glasg, [illegible]

[illegible] Robert [illegible]

[illegible] wife of [illegible]

[illegible] orge C. [illegible]

[illegible] ohnson [illegible]

[illegible] Woodd [illegible]

[illegible] he wife [illegible]

[illegible] f John [illegible]

MARRIAGES

[illegible] ie Rev. [illegible] H. H. [illegible] R C S., [illegible] R.C.P., [illegible] mbe, of [illegible] nester. [illegible] Frank [illegible] Hyde- [illegible] Holmes

GAUSSEN—KENNEDY.—On June 6th, at Donaghendry Church, Stewartstown, David P. Gaussen, M.D., of Dunnurry, co. Antrim, to Mullantan, [illegible]

[illegible] . Pancras, by [illegible] S., L.R.C.P., [illegible] Arthur Bott, [illegible]

[illegible] . Morriston, [illegible] he late Evan [illegible] dary, eldest [illegible] lard House, [illegible]

[illegible] t-hill, by the [illegible] by the Rev. [illegible] turin, John [illegible] g, M.R.C.S., [illegible] our Beadles, [illegible]

[illegible] nunciation, [illegible] L.R.C.P., of [illegible] laughter of [illegible]

[illegible] ourne-park, [illegible] Smallwood, [illegible] — daughter [illegible] W. [illegible] inburgh, by [illegible] ev. Bernard [illegible] f Coventry, [illegible] am Reid of [illegible]

DEATHS.

[illegible] ish square, W., [illegible]

[illegible] ards, [illegible]

[illegible] ond- [illegible]

[illegible] James [illegible]

[illegible] Tyne, [illegible]

George Edward Williamson, F R C S. Eng., aged [illegible] years.

N.B.—A fee of 5s. is charged for the insertion of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE SEXUAL QUACK.

WE have from time to time in these columns animadverted upon the circulars of "Dr." Bell, of the degraded blackguard who styles himself the "Reverend" David Jones (THE LANCET, Dec. 19th, 1896, p. 1774), of Madame Frain, and others, but for barefaced filth we have rarely seen anything to come up to a circular issued by an Oriental named Kabiraj Jasoda Handan Sircar whose wares are sold in Calcutta. According to the circular this person banks with Messrs Thacker, Spink, and Co., an announcement which may or may not be true. Abominable as the circular is it has one good point—namely, it is quite free from the disgusting cant and appeals to the Almighty which disfigure the effusions of David Jones. Kabiraj Sircar is an accommodating person. Does anyone wish for a large family he can obtain the desired result by taking or giving to his wife the Great Rasanayam at four rupees per ounce. Half an ounce is to be taken daily for apparently 41 days. Should he not wish for children, "use our linen which we will tell you how to use in order to be sterile." *The panacea*, however, seems to be a drug called G Palashiam, which is nominally for ovarian tumour, but "If you do not know the name of your disease please state the nature of the pain you feel and the colour of the discharge." Oriental sexual imaginings are far more vivid than among the natives of the colder north and we make no doubt that Sircar drives a very good trade, neither, so far as we know, is there any way to stop him.

"DEATHS UNDER CHLOROFORM."

To the Editors of THE LANCET.

SIRS,—The following extracts throw an interesting sidelight upon the matter which has been debated in your columns under the above heading. They are somewhat bewildering to a student of anæsthesia. The first three are taken from an article on chloroform by Professor Ogston in the "Encyclopædia Medica" (vol. 1, 1889). The second three are taken from an article on anæsthesia, by Dr. Silk in Cheyne and Burghard's "Manual of Surgical Treatment" (part 1, 1899). 1. "There is no advantage in using 'pure chloroform,' that is, chloroform prepared from pure alcohol. 'Methylated chloroform,' manufactured (*from methylated spirit*, is as good, as pure, and as safe and costs considerably less." 2. "The position of the patient should, if possible, be recumbent—on the back with a low pillow under the head, but this may be departed from if there be any sufficient reason, as in minor operations on the throat where roof light is not obtainable." 3. "No inhaler is so good as a clean towel. .... The writer thinks it best to cover the entire face with the towel. .... By thus covering the face a view of the expression and changes of colour, which may be helpful to a timid and experienced chloroformist, are excluded, but to the skilled administrator these are not things of much importance. 4. "Chloroform has a chemical formula of $CHCl_3$. Its spec. grav. should be 1.497, and only that made from pure alcohol should be employed; the so-called methylated chloroform is inadmissable for anæsthetic purposes." 5. (α) "With regard to position an emphatic protest must be entered against any attempt being made to administer chloroform to a patient sitting in a chair. This protest is necessary, because it is still occasionally used for tooth extraction with the patient in the ordinary dental position; when chloroform is inhaled the patient should always be recumbent." (β) "Neither chloroform nor any mixture containing that drug should be used with the patient sitting up in a chair; such a proceeding is absolutely unjustifiable." 6. "The ideal condition of a patient under chloroform should be somewhat as follows—viz., colour good or slightly pallid, respirations regular, fairly deep, slightly accelerated, quiet, or with a slight soft snore; eyeballs fixed or rotating very slowly from side to side, pupils moderately contracted and sluggishly sensitive, corneal conjunctiva insensitive. .... Bluenessof the lips, cheeks, ears, &c., is quite unwarranted, as it indicates that the vapour is being given in far too great a strength, and air must at once be supplied. Some patients become very pale under any anæsthetic which contains chloroform, and if this pallor is gradually displaced by an ashen grey hue it is an indication that the circulation is failing and the anæsthetic must be at once withdrawn, and, if need be, more energetic measures taken."

I am, Sirs, yours faithfully,

SURREY VIRUS.

West Ham Hospital, E., June 11th, 1900.

WORD-BLINDNESS—APHASIC PARALYSIS.

To the Editors of THE LANCET.

SIRS,—At page 1699 of THE LANCET of June 9th, there is an interesting query as to the possible use by aphasics of raised type, as used by the blind, and by which the blind read by touch instead of by sight.

If Mr. Meredith will refer to a paper by me on "Word-blindness in Aphasic Paralysis" in the *British Medical Journal* of March 4th, 1899, he will find that the use of raised letters by aphasics both for exciting acute aphasia to make the words so hard to enable

chronic aphasics to re-develop the faculty of language in the right hemisphere, has been dealt with. The method there described for the use of printed cards—as applying to aphasics in whom there is receptivity for ingoing ideas but inability to make the mind known to outsiders—was a notable success in my case. The use of raised letters for blind aphasics is also suggested and considered by me, and I have no doubt that there are some such cases in which the typewriter—made with raised key-letters for blind aphasics—may further serve such patients as mine was. But when we come to aphasics in whom receptivity for ingoing ideas also is impaired, if only to the extent of "word-blindness," used in its mental sense and not in the sense of blind aphasics, as I used it, the cases are less promising. Here the mind is profoundly affected, to a greater or less extent, over the various channels of receptivity. But the trial of raised-letter print, or of a special typewriter made with bold raised key-letters would be an interesting experiment, and I have intended to try the experiment in the next suitable case of aphasic paralysis which may fall under my care. Block letters—such as are cemented on to plate-glass shop windows or such as are used to teach young children to spell—may enable certain aphasics to spell out or indicate the names of things, places, or persons of which they have a clear conception but cannot give utterance to, neither by speech nor writing. Gesture is unavailable for concrete substantives. For such substantives the mind thinks in images and names are lost early.

In the case described in my paper, considerable property, real and personal, was devised by a will made at my suggestion and design by means of printed cards. These cards were of three categories. 1. A list of the properties to be disposed of. 2. A list of offices to be assigned—trustees, executors, guardians, &c. 3. A list of all the testator's relatives, friends, and objects in which the testator was likely to be personally interested or which might have a claim for bequests. The cards each contained one item—property, office, or person. By a method of sorting out and combining these cards an aphasic lady was enabled to make her will perfectly and to dispose of all her property. Full details of the procedure will be found in my paper but it is too long to abstract here. I may add that in this case counsel advised the executor that the will, being without precedent and passing real property, should be proved in solemn form before the Court of Probate with notice to all such persons as might have profited by the rejection of the will. The result was a sort of action-at-law in open court before the learned President of the Probate Court, Sir Francis Jeune. The President formally approved of all that had been done and admitted the will to probate. This, therefore, becomes a leading case in will-making. In future there will be no reason why aphasics of the same type as my patient should not always have the opportunity for making their wills.

There is a very valuable and interesting chapter upon the jurisprudence of aphasia, will-making, and other topics in Sir Frederick Bateman's scholarly and researchful work on "Aphasia." I should be glad to place any brotherly help I could give at the disposal of any other practitioner who may happen to have in his charge one of these somewhat rare cases of aphasia. I should also be much obliged for an opportunity to see any such case.

I am, Sirs, yours faithfully,

Manchester-square, W., June 10th, 1900. JAMES EDMUNDS.

THE LOCAL GOVERNMENT BOARD AND VACCINATION.

To the Editors of THE LANCET.

SIRS,—In vaccinating will the following steps satisfy the requirements of the Local Government Board regulations? 1. Wash the arm with carbolised lint, using hot water and carbolic soap. 2. Thoroughly heat the lancet in a spirit flame. 3. Expel the lymph with an artificial blower. 4. Protect the surface with an antiseptic pad until the scabs fall off.

I am, Sirs, yours faithfully,

June 9th, 1900. VACCA.

*** Generally speaking we think the precautions referred to would merit the Government award. But the Government inspector would doubtless inquire as to whether the public vaccinator was careful to examine all children submitted to be vaccinated, and he would, we expect, wish to know the precise practice of the public vaccinator with regard to the use of antiseptic pads. We conclude that our correspondent does not wish to imply that one pad would suffice for the whole period in question. So, too, we infer that the lancet is to be thoroughly cleansed as well as sterilised in the flame.—ED. L.

THE PREVENTION OF TUBERCULOSIS: A CHEAP NOTIFICATION FEE.

To the Editors of THE LANCET.

SIRS,—"The Sanitary Committee" of Plymouth "recommended that the scheme should be adopted, and that notifying medical practitioners should be allowed a fee of 2*s.* 6*d.* for each private patient and a *fee of* 1*s.* for each parochial or dispensary patient notified. The recommendation was *unanimously* adopted."(THE LANCET, June 9th, 1900, p. 1675.) Surely it is bad enough to have to notify scarlet fever or erysipelas at such ridiculous fees as 1*s.* Still, both of these diseases are usually recognised at a glance when well marked, but notwithstanding this fact mistakes are often made. What then shall we say of phthisis? the diagnosis of which, in the early stages, is surrounded with so much difficulty and uncertainty, and where so much time is required not only for the careful examination but for the undressing and dressing in order to expose the thorax. I almost venture to doubt whether any medical man *capable* of making a *correct* diagnosis would accept such poor remuneration. Need we be surprised at the existence of 6*d.* dispensaries in our midst? Cheap (?) food and cheap (?) clothes are bad enough, but still, we can throw these away or survive them. But cheap (?) medical advice means, as a rule, lowering of professional dignity and skill and the speedy enrichment of the undertaker. Even the veterinary surgeons charge more for attending our domestic animals. I am, Sirs, yours faithfully,

Putney, S.W., June 9th, 1900. ALBERT S. MORTON, M.D. Durh.

THE QUESTION OF HORSE AMBULANCES.

WITH reference to an annotation in THE LANCET of June 2nd, p. 1634 we understand that Bolton possesses a horse ambulance which is kept at the fire-engine station, with the result that in the case of a street accident the patient is quickly conveyed to the hospital. By this means much suffering is prevented and perhaps many lives are saved, but it is obvious that the hospital or infirmary is the most desirable place for the ambulance to be stationed in order that a qualified attendant may accompany the vehicle.

Justitia.—The letter has reference apparently to some particular episode rather than to the general attitude of the public and the colonial practitioner towards each other. All the circumstances of the case must be made clear to us or we cannot appreciate the justice of our correspondent's deductions.

Mizpah is informed with regard to his recent inquiry for a copy of Albert Smith's "Physiology of the Medical Student" that if he will communicate with Mr. Edward Baker, 14, John Bright-street, Birmingham, he may be able to obtain a copy of the book for about 6*s.*

Student.—The school named would be an excellent one for the purpose. Our correspondent should consult the Student's Number of THE LANCET. The last issue was dated Sept. 2nd, 1893.

Dr. J. Aikman.—The tract is practical and timely and should prove of value.

During the week marked copies of the following newspapers have been received: *Public Health Engineer, Science Siftings, Jersey, Express, Westminster Gazette, Morning Advertiser, East Anglian Daily Times, Hereford Times, Norfolk Daily Standard, York Daily Herald, Evesham Journal, Western Mail, Leeds Mercury, Blackburn Daily Telegraph, Brighton Gazette, Kent Messenger (Maidstone), Yorkshire Post, Irish Times, Glasgow Herald, Times of India, Pioneer Mail, Manchester Guardian, Yarmouth Advertiser, Liverpool Daily Post, Builder, Citizen, Architect, Scotsman, Scottish Express, Bristol Mercury, Beverley Guardian, Sanitary Record, Cornish Times, Melbourne Leader, Local Government Chronicle, Mining Journal, Reading Mercury, Hertfordshire Mercury, City Press, Bedford Record, Dean Forest Guardian, British Realm, Bicester Herald, Boness Journal, Monetary Times, Huddersfield Chronicle, Surrey Advertiser, Walsall Observer, Local Government Journal, Weekly Free Press and Aberdeen Herald, Sunderland Morning Mail, Bradford Observer, &c., &c.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 14th, 1900.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp Shade	Min. Temp	Wet Bulb.	Dry Bulb	Remarks at 8.30 A.M.
June 8	29·77	W.	0·17	109	76	52	54	58	Cloudy
" 9	29·95	S.W.	0·03	110	72	55	55	59	Cloudy
" 10	29·91	E.	...	126	85	55	61	72	Fine
" 11	29·84	S.	...	131	91	63	63	71	Hazy
" 12	29·86	S.W.	...	115	84	66	67	73	Hazy
" 13	29·86	S.W.	0·26	104	68	59	57	61	Overcast
" 14	30·10	S.W.	...	117	68	54	57	62	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (19th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2 30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

TH

SOCIETIES.

WEDNESDAY (20th).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Mr. W. Carruthers: Demonstration on the ... the plants

...ITAIN AND ...chester).— ... Lantern ... Dr. T. H. ... f. Fawcett. ...omy of the ... Apparatus

...ITAIN AND ...chester).—

...ern Slides, ... Paterson,

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (18th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. C. Fox: Consultation. (Skin.)

T

Associated Systems of Neurones.

Phthisis.

THURSDAY (21st).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. F. W. Mott: The Degeneration of the Neurone. (Croonian Lecture.)—Lecture II. Syllabus:—1. Effects of Injury of a Nerve upon the Cells of Origin.—2. Effects of Temporary and Permanent Failure of the Blood-supply upon the Cerebral Neurones as Studied by Ligation of the Cerebral Arteries.—3. Experimental Anæmia of the Spinal Cord.—4. Effects of Severe Hæmorrhage, Morbid Processes, and Poisons causing Anæmia.—5. The Bio-chemical Changes in the Neurone produced by Hyperpyrexia.—6. The Effects of Toxic Conditions of the Blood and Lymph upon the Neurone as Studied in Certain Experiments.—7. Selective Influence of Poisons upon the Neurone.

... AND POLYCLINIC (22, Chenies-street, ...nson: Consultation. (Surgical.) ... P.M. Dr. A. Routh: Gynæcological ... (West London Hospital, ... connected with Insani-

FRIDAY (22nd).—MEDICAL GRADUATES COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. St Clair Thomson: Consultation. (Throat, Nose, and Ear.)

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE, OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

Communications, Letters, &c., have been received from—

A.—Dr. J. Aikman, Birnam, Guernsey; Anatomical Society of Great Britain and Ireland; Messrs. Arnold and Sons, Lond.; Mr. A. Anderson, York; Dr. Alvernhe, Paris; A. B., Lond.; Aerators, Ltd., Lond.

B.—Mr. C. Birchall, Liverpool; Bridgwater Infirmary, Hon. [illegible] Bates, Hendy, and Co., Reading; Messrs. Burroughs Wellcome and Co., Lond.

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The Croonian Lectures

ON

THE DEGENERATION OF THE NEURONE.

Delivered before the Royal College of Physicians of London

BY FREDERICK W. MOTT, M.D. LOND., F.R.S.,

PATHOLOGIST TO THE LONDON COUNTY ASYLUMS; PHYSICIAN-IN-CHARGE OF OUT-PATIENTS, CHARING-CROSS HOSPITAL.

LECTURE I.[1]

Delivered on June 19th, 1900.

MR. PRESIDENT AND GENTLEMEN,—Allow me to thank you for the great honour you have done me in asking me to give these lectures. I feel the responsibility all the more in lecturing upon the subject I have chosen, when I look back upon the eminent neurologists who have given these lectures on previous occasions. I cannot hope to attain to the philosophy of Hughlings Jackson or the epoch-making researches of Ferrier, but I will endeavour to put before you some thoughts, experiments, and observations relating to degeneration of the nervous system which have occupied my attention during the past three or four years.

DEFINITION OF THE NEURONE AND THE NEURONE THEORY.

Before considering the neurone under pathological conditions it is necessary to define the term, to make a few general remarks upon the neurone theory, and to describe our present knowledge of the structure of the neurone. The term "neurone" was introduced by Waldeyer for the nerve-cell and all its processes, including the protoplasmic processes or dendrons and the single axis-cylinder process with its cone of origin, its collaterals or side branches, and its terminal arborisation. The theory of the neurone put forward by Waldeyer[2] is that the nervous system consists of innumerable such anatomically independent nervous units in contiguity but not in continuity. There is interlacing of the processes, but no nerve network.

THE NETWORK OF GERLACH.

In 1871 Gerlach,[3] by the gold method of staining, showed an intricate network in the grey matter; he came to the conclusion that the protoplasmic processes of the nerve cells were all connected in a delicate network, and that out of this network strands of fibrils joined together to form fibres which passed out of the posterior roots and became sensory nerve-fibres. For 15 years this theory was accepted; then Forel[4] and His,[5] by their studies respectively of degeneration and of the development of the nervous system in the embryo, completely overthrew the doctrine of Gerlach. Forel pointed out the limitation of secondary degeneration; and by the Gudden atrophy method showed that degeneration or atrophy did not pass beyond a cell station when the fibres which arise from those cells are cut through; and he claimed that the nervous system consisted of independent cellular units. Forel also called attention to the remarkable work of Golgi,[6] and although he opposed the diffuse nerve network theory put forward by that authority yet he recognised the great value of the researches made by his new chrome silver method. About this time Professor His published his researches upon the development of the nervous system, and he showed that the axis cylinder and the other processes of the nerve cell were outgrowths of the cell protoplasm, and the apparent nervous network was really only an interlacing of innumerable cell processes.

The chrome silver method of Golgi was later adopted by Ramon y Cajal,[7] Retzius,[8] Kölliker,[9] Lenhossek,[10] Van Gehuchten,[11] and many others, and their researches *apparently* demonstrated the fact that the whole nervous system consists essentially of independent anatomical units, and the neurone theory seemed indisputably established. No matter how multitudinous and complex the branches of the cell might appear yet they never anastomosed with the branches of other cells; like the trees of a forest there is contiguity but not continuity. Within the last few years, however, owing to the researches of Apáthy,[12] Bethe,[13] Dogiel,[14] and Nissl,[15] there is a tendency on the part of some authorities to go back to a diffuse network theory. Some important researches by Held,[16] also have been put forward to disprove the neurone theory. In my opinion, however, one can still accept the neurone theory and admit the truth of Held's observations, namely, that the terminal arborisation of the axis-cylinder process of one neurone forms protoplasmic concrescences by fusion with the cell body and dendrons of another. This of course implies continuity of the protoplasm of one neurone with another, but trophically and genetically the two are independent, and it is merely a question of degree of contact of the protoplasm of one with the other. Held agrees with other investigators that in embryonic tissues, and even in early life, the neurones are entirely independent of one another. This independence he can determine by a line of demarcation at the points of contact due to a difference in refraction. This refractive limiting line is, however, not demonstrable in the adult, and he comes to the conclusion that during the process of growth the protoplasm of related neurones fuses. Turner and Hunter[17] by the *intra vitam* methylene blue method, however, come to a different conclusion to that of Held, for they have shown that the terminal arborisations of the axons of one set of neurones end in a basket work around the cells of functionally related neurones, but do not form protoplasmic connexions.

The neurone theory has always been opposed by Golgi, who maintained that his method demonstrates a diffuse network formed by the collaterals of the axons; but it is especially the work of Apáthy and Bethe which has led authorities such as Nissl to renounce the neurone theory. Lugaro,[18] Lenhossek,[19] Barker,[20] Van Gehuchten, and many other authorities, on the other hand, maintain that the observations of Apáthy and Bethe do not warrant the general conclusion that nerve cells are connected with each other by means of their primitive fibrils. Moreover, Apáthy has only demonstrated a continuous network of elementary fibrils outside the nerve-cells in *invertebrates*; such an arrangement has not yet been proved to exist in vertebrates; in fact, there is the strongest histological evidence that it does not exist. The study of the development of the nervous system and secondary degeneration to my mind shows the genetic and trophic independence of the nervous units; and in spite of the opposition which the "neurone theory" has lately met with in some quarters it is still acceptable.

THE STRUCTURE OF THE NERVE-CELL AS REVEALED BY THE NISSL METHOD.

The Nissl method is generally used for demonstrating the internal structure of the protoplasma of the nerve-cell and its processes, but before referring to pathological conditions as studied by this method it is necessary to make a few remarks upon the method itself, and the appearances presented by normal nerve-cells.

Nervous tissue, which has been fixed in 96 per cent. of

[1] ... and IV.

[2] ... Archiv

[3] ... Medica Italiana Lombardia, 1871, tomo vi.

[4] ... Nervenzellen und Grau's Substanz, Munchener Medicinische Wochenschrift, Deutsche Zeitschrift für Nervenheilkunde, Bd. xi, Band xiii.

[5] Beiträge zur Structur der Nervenzellen und Fortsätze, Archiv für Anatomie und Physiologie, Anatom. Abtheilung 1887.

[6] Brain, 1898.

[7] Rivista di Patologia, 1892, p. 90.

[8] Loc. cit.

[9] The Nervous System.

alcohol, formol solution, or corrosive sublimate solution, and of which sections have been cut and stained by basic aniline dyes—e.g., methylene blue, toluidine blue, thionine, and by many other modifications of the original method, shows pictures of the nerve-cells stained in a characteristic manner. If we take as a typical structure an interior horn cell stained by this method we shall observe the following characteristics. The body of the cell is stained a deep blue, but not uniformly, for the staining presents a mosaic appearance, due to little stained polygonal areas disposed more or less concentrically round the nucleus and separated one from another by an unstainable substance. Towards the periphery of the cell these polygonal stained areas become elongated, and upon the dendrons they are fusiform, their long axes being parallel to the processes. At one portion of the cell, if it is entire, a process—the axon—will be observed which does not possess any stainable substance, so that we see that this method differentiates two substances—a chromatic stainable substance and an achromatic substance.

Researches to be afterwards alluded to have shown that the stainable substance is a nucleo-proteid, a substance which contains phosphorus, but in less proportion than the nucleic acid of the nucleus, and the fact that the stainable substance is found around the nucleus may indicate that it is a result of the active metabolism of the nucleus on the surrounding protoplasm. By some authorities it is considered to be a store of nutriment, by others a store of energy; and on this account it has been termed by Marinesco "kinetoplasm." The changes which this substance undergoes, as studied by the Nissl method, show that it has some important functional relationship to the metabolic activity of the neurone; it is, however, not the essential substance. The unstainable substance, on the other hand, is essential, and consists of an organised network of delicate fibrils which extend into the dendrons, forming a network in the cell substance and passing out again in the axis-cylinder process. Consequently there is probably a direct protoplasmic fibrillary continuity between the dendrons and the axons. This was originally stated to be so by Max. Schultze.[21] The nucleus is apparently of simple structure and is permeated by irregular strands of karyo-plasm which form a coarse network; it is apparently situated in the centre of the cell and contains a nucleolus or several nuclear bodies, which, together with the nuclear membrane, stain with a basic dye.

THE SIGNIFICANCE OF THE NISSL GRANULES.

There is a vast amount of literature concerning the stainable bodies called "Nissl granules." They were at one time believed to be an essential constituent of the living cell, but the researches of Hardy have shown that there is a great difficulty in deciding to what extent structure demonstrable in the fresh or fixed state is the product of the chemical and physical changes which constitute the death changes or due to the action of fixatives. Moreover, Held[22] has shown that the *intra vitam* methylene blue method does not reveal Nissl granules in the cells. The stainable (chromatic or chromophilous) substance, therefore, is probably not present in the living cell in the definite form which we see it when the tissues are freed and stained by the Nissl method. It must not, however, be assumed, therefore, that the method is unreliable as a means of studying the bio-chemical changes occurring in the protoplasm of the nerve-cells, for providing certain precautions are taken, it has proved most valuable in demonstrating functional and organic changes occurring in the nerve-cells as a result of injury of the axon or of toxic substances in the blood.[23]

The large motor cells of the cord and brain are the best for studying the changes in the cell protoplasm, because in these structures the stainable substance appears in normal tissues as if it consisted of formed elements (Nissl granules) in the body of the cell and in the dendrons. I have always looked upon these elements as being due to a death-change of the fluid plasm of the cell whereby the nucleo-proteid substance contained in it is thrown down as a fine precipitate, much the same as myosin is precipated from myosinogen. If this substance is abundant in the fluid plasm it produces when precipitated these definite forms, because it fills up the spaces of the unstainable intracellular fibrillary reticulum "Chromatolysis" is the term which is frequently applied to designate the disappearance or disintegration of these Nissl granules, and there may be various stages of chromatolysis. Usually the process begins at the periphery of the cell and on the dendrons. The stainable substance may be greatly diminished or entirely lost in these situations, or, again, the granules may be seen to consist of fine particles, their definite outline being lost, and in advanced chromatolysis the whole cell may be so affected.

The condition and amount of the stainable substance may be an indication of the functional activity of the cell, and it is conceivable that diminution of the nucleo-proteid colourable substance is the expression of the diminution of the vital interaction of the highly phosphorised nucleus upon the surrounding cell protoplasm. I do not consider that chromolytic changes alone are indicative of cell destruction, for, as I shall show later, most marked chromolytic changes may occur in the cells of origin after section of a nerve and yet the cells may completely recover.

Changes of the cell in form and size may be recognised—e.g., swelling or shrinking, due, no doubt to an alteration of the vital osmotic reaction of the cell-protoplasm to its fluid environment; likewise the nucleus may be clear and swollen or shrunken, the nuclear membrane in the latter case being thrown into folds. Very frequently the nucleus becomes eccentric in position instead of being situated in the centre of the cell, and owing to abnormal osmotic relations and protoplasmic change it may even be extruded and this of necessity would cause death of the cell. Another indication of death of the cell-protoplasm is revealed by uniform staining of the whole cell and its processes. It occurs in hyperpyrexia and in the coagulation necrosis resulting from obstruction of the blood-supply for a sufficient length of time to cause the death of the protoplasm.

The importance of the chemical and histological changes occurring in the myelin sheath in degeneration of the nervous system, the difference of opinion as to its origin, and the important discoveries which have been made by Flechsig, Bechterew, and others with regard to correlation of structure and function necessitate a somewhat full account of

THE MYELIN SHEATH AND NUCLEATED SHEATH OF SCHWANN.

Nerve-fibres are of two kinds, grey and white. The grey sympathetic fibres differ essentially from the white fibres by the existence in the latter of a complex phosphoretted fatty substance lying between the nucleated sheath of Schwann and the axis-cylinder process. The white fibres of the central nervous system differ from the peripheral white fibres by not possessing a nucleated sheath of Schwann. The myelin is probably contained in a neuro-keratin reticulum and this reticulum is much more abundant in the white matter of the central nervous system than in the peripheral, for Kühne and Chittenden[24] have shown that there is about eight times as much neuro-keratin in the white matter of the central nervous system as either in the grey matter of the central nervous system or the white matter of the peripheral nervous system. In 1884 Weigert introduced his hæmatoxylon method for staining the myelin sheath and by means of this Flechsig[25] and his pupils were able to show that certain tracts of fibres of the central nervous system were developed earlier than others. This method and its various modifications (Pal, Marchi-Pal, and Schäfer) have yielded the most valuable results. The different tracts of the posterior columns of the spinal cord were found to be myelinated at different periods, and it was owing to Flechsig's studies that those of endogenous origin (that is, arising from cells *within* the spinal cord) were differentiated from those which are exogenous (that is, have their trophic and genetic centres in the cells of the posterior spinal ganglia). The practical outcome of this research was the modern idea of the pathology of tabes, for it was shown that the exogenous fibres were alone atrophied in tabes, while the endogenous fibres—viz., cornu-commissural zone of Westphal[26] and the median oval area of Flechsig—were spared, these tracts having their trophic and genetic centre in cells within the grey matter of the cord. These facts were recognised as being incompatible

[21] Stricker's Manual of Histology.

[22] Ueber Experimentelle Reizung des Nervenmarks.

[23] Since the method is a *comparative* one great care must be exercised in practising the same details of method of fixation, cutting, and staining the morbid tissues and the normal tissues with which they are to be compared. Again, it is absolutely essential that the tissues examined should be fresh and free from any chance of post-mortem decomposition.

[24] Ueber das Neurokeratin, Zeitschrift fur Biologie, 1890, Band viii.

[25] Ist die Tabes Dorsalis eine system Erkrankung? Neurologisches Centralblatt, 1890, vol. iii.

[26] Goldscheider: Die Bedeutung der Reize fur Pathologie und Therapie im Lichte der Neuronlehre, 1898.

with the prevalent view that [illegible] by a sclerosis or overgrowth of [illegible] columns, or by vascular change [illegible] to a nutritive failure in the [illegible] axis-cylinder processes [illegible] a regressive atrophy; [illegible] occurred, the inverse

CORRELATION OF FUNCTION AND MYELINATION.

Again, the researches of Flechsig have demonstrated the different centres of the central nervous system, in which tracts of nerve-fibres have their origin or termination; and it is to the application of this method by Flechsig that we owe one of the most exact, and one of the most valuable, contributions to the structure and functions of the human brain. The method depends upon the fact that there is a correlation between the functions of systems, groups, and communities of neurones and the myelination of their axons; thus, in the brain and the spinal cord of the fœtus, the new-born child, and the developing infant, tracts of fibres are myelinated with definite regularity at successive periods of time, indicating ontogenetically their functional and structural development. The myelin sheath appears three or four months after the development of the axis-cylinder process; for example, a bundle of axis-cylinder fibres demonstrable by the Golgi chrome silver method at the ninth month would not show a myelin sheath until three months or more after birth. When the myelination of a nervous system is complete further information by a study of the condition of the myelin sheath can only be obtained by observations made upon secondary degenerations produced either by disease or experimentally, and to this subject I shall refer later with especial reference to the Marchi method. To return, however, to the process of myelination. In the central nervous system, the afferent projection fibres are myelinated before the efferent, and it is [illegible] bundles of fibres of different [illegible] myelinated at different periods of [illegible], conducting tactile, articular, muscular, and visceral sensations by the posterior columns, fillet, thalamus, and corona radiata, is myelinated at birth. These bundles of fibres have already (while the fœtus was in utero) been exercised in conveying impressions to the appropriate receptive centres in the Rolandic region of the cortex, the stimuli being provided by contact of the teguments with the maternal structures and as a result of reflex movements which commence at quickening; for every movement must necessarily be associated with alterations in tension of muscular, tendinous, and cutaneous structures, giving rise thereby to kinæsthetic impressions.

Moreover, the myelination commences first in those parts of the occipital lobe situated around the calcarine fissure, which we know corresponds to the function of vision, the relays of neurones which proceed to the cortex forming the afferent projection systems are earliest myelinated, as they are the first to be acted upon by stimuli which excite the nerve terminations in the skin, joints, tendons, and mucous surfaces of the developing fœtus. Thus, as shown in the diagrams, in the new-born child only the lower centres of the spinal cord, medulla, pons, corpora quadrigemina, optic thalamus, and certain areas of the cerebral cortex are myelinated. The cortical areas which are so myelinated are situated around the primary fissures and correspond to areas which are the end stations of the afferent projection systems; for example, the tactile motor area is situated around the fissure of Rolando; the olfactory, gustatory, and auditory around the Sylvian fissure; and the visual around the calcarine (see Figs 1 and 2)

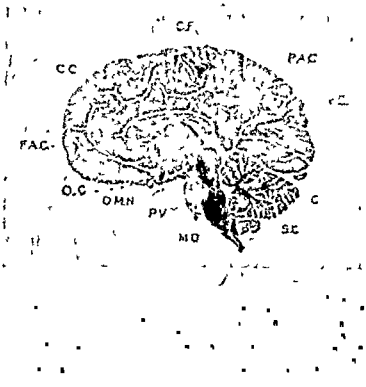
Flechsig has shown that at least two-thirds of the cortex cerebri consist of neurones of association, and according to him (although this does not meet with general acceptation) these association centres possess no neurones belonging to the afferent or efferent projection systems. In the fœtus of eight months the pyramidal fibres of the motor efferent system are still without myelin, but Ambron and Held[37] have shown by a new method of [illegible] myelin, by the effect produ[illegible] motor fibres of the anterior [illegible] than the posterior roots.[21]

[37] Ueber Entwickelung und Bedeutung des Nervenmarks, Archiv fur Anatomie und Physiologie, Abtheilung 1898.

[21] This method is a very ingenious one, and as it is not generally known I will describe it a little more fully. *Method.*—Held and Ambron take nerves of new born animals, tease them in normal saline solution, and examine them in the following manner with polarised light. They place the two prisms at right angles and put the nerve in the same line as the "quartz plate," when it gives a purple colour. The myelinated nerve will appear red, orange, or yellow, according to the stage of myelination (red being the most advanced), these are the subtraction colours, whereas non myelinated nerve and connective tissue give the addition colours violet, indigo, and blue. In this way they have examined all the nerves and they have arrived at the conclusion that the peripheral motor nerves are more advanced in myelination than the sensory nerves at early periods of development. Flechsig, as I have remarked, has shown—and they confirm this—that the reverse is the case for the central nervous system. They offer no explanation, but possibly it may be found phylogenetically that in the evolution of specialised reflex acts in the zoological series the motor fibres have acquired first the myelin sheath; or it may be that the sensory bundles are made up of fibres having different functions, and that these are myelinated at different periods of time; again, we know that a large number of fibres entering a muscle (Sherrington) are afferent in function.

In a second paper Held has shown the important influence stimulus has upon myelination, thus establishing still more fully the correlation of function and myelination. Cats, dogs, rabbits (animals which are born blind) were

FIG 1.



O C, Optic commissure. F A C, Frontal association centre. C C, Corpus callosum. C F, Central fissure. P A C, Posterior association centre. V S, Visual sphere. C, Cerebellum. S C, Spinal cord. It will be observed that the pyramidal efferent system is not myelinated.

experimented on in the following way. Light was admitted for varying periods to one eye by opening a lid, the other remaining closed. Examination of the optic nerve on the two sides under the same conditions showed a more obvious

FIG 2.

D.

ment of the association centres. F A C, Frontal association centre. C F, Central fissure. P A C, Posterior association centre. V S, Visual sphere. C, Cerebellum. It will also be noticed that the corona radiata and internal capsule are myelinated.

myelination on the side exposed to light than on the other. The irritation which might be produced by opening the lid was not the cause of this difference, for an animal which had had the lid opened on one side and not on the other but which was kept in darkness showed no difference in myelination of the two sides. The obvious inference is that transmission of light impulses along the optic nerve had stimulated the process of myelination. This experiment agrees with the observations of Flechsig that a child born at eight months showed at nine months more marked myelination of the optic nerves than a child born at full time. Still there must be a primary innate tendency of the axis-cylinder to produce myelin, for a dog kept absolutely in the dark had, on the eighth day, orange-tinted optic nerve-fibres by the polarisation method, showing that myelination had commenced. Edinger[29] states that the discoveries of Kaes show that the cerebral cortex increases in richness of myelinated fibres for a long time, even to the fortieth year and longer, but diminishes in old age. The correlation of function and myelination is proved both by positive and negative results. The myelin appears to be necessary for the functional activity of nerve tracts, at least in animals which possess a nervous system with myelinated fibres, for the development of the myelin along particular tracts of fibres in the central nervous system proceeds in a manner *pari passu* with the development of function. Atrophy and degeneration of the myelin sheath in pathological processes, whether due to disuse atrophy, or to primary or secondary degeneration, are associated with marked disturbances appertaining to the functions of particular systems, groups, and communities of neurones.

THE HISTOGENESIS OF THE SHEATH OF SCHWANN.

This has been studied by many observers, and a paper has recently appeared by Gurwitsch[30] reviewing the work of previous observers and giving his own observation upon this subject. Kupffer,[31] Beard,[32] and Gegenbauer[33] believed that the axis-cylinder is developed from a chain of cells of ectodermal origin arranged in a series. Such an idea would conform with the researches of Apáthy upon invertebrates and is opposed to the axis-cylinder being an outgrowth of a nerve-cell situated either in the anterior cornua or the posterior spinal ganglia. If this hypothesis be true the three constituents of the nerve fibre—axis-cylinder, myelin sheath, and sheath of Schwann—must be formed by a differentiation of protoplasm of these cells If, however, it be admitted that embryological, morphological, and experimental researches have demonstrated that the axis-cylinder of a nerve-fibre is a prolongation of a nerve-cell, then the sheath of Schwann is genetically foreign and extraneous to the axis-cylinder; but the question arises, How, then, is the myelin sheath formed? Is it developed by the axis-cylinder, as in the central nervous system where the sheath of Schwann is absent, or is it formed by the nucleated sheath of Schwann? Another alternative is that it is developed by a metabolic interaction of the axis-cylinder upon the protoplasm of the series of mesoblastic cells which are wrapped round it

Ranvier[34] and his pupil Vignal[35] compared the formation of the myelin to the formation of fat within a fat cell Vignal's description of the process of myelination is as follows. At a particular stage of development, when the nerve-fibre consists of non-nucleated bundles of fibrils, mesoblastic cells migrate into the interior of the fibre and apply themselves closely to single groups Their cell protoplasm increases in length and in breadth until some of the primitive fibrils are enclosed. The definite intervals in the enclosing sheath, corresponding to the nodes of Ranvier, coincide with the spaces between the ensheathing cells; consequently each internode represents a segment of the *continuous axis cylinder* wrapped round by a mesoblastic cell. At the same time, according to Vignal, the myelin appears in the cell protoplasm in the form of minute droplets; these become more numerous and run together to form a general thin covering of the axis-cylinder. Vignal does not deny the possibility that the axoplasm may share in the formation of the myelin, but in quite a subordinate manner. The observations of Boveri, which recently have been confirmed by Bethe,[36] show that the sheath of Schwann is reflected inwards at the nodes along the axon; if this be true there is (as in a serous membrane) a parietal and central layer, and between the two the myelin is contained. This would prove Vignal's hypothesis. Gurwitsch has studied the development of peripheral nerves in embryo sheep, fixing the sciatic nerve with Apáthy's solution and employing various staining reagents used by that observer. He came to the conclusions: (1) that the nerve-fibre is a prolongation of the ganglion cell; (2) that the sheath of Schwann arises from the surrounding mesoblast; and (3) that the myelin sheath has nothing in common with the sheath of Schwann, and probably arises only as a product of the metabolism of axoplasm. Time will not allow me to give you more than

FIG. 3.

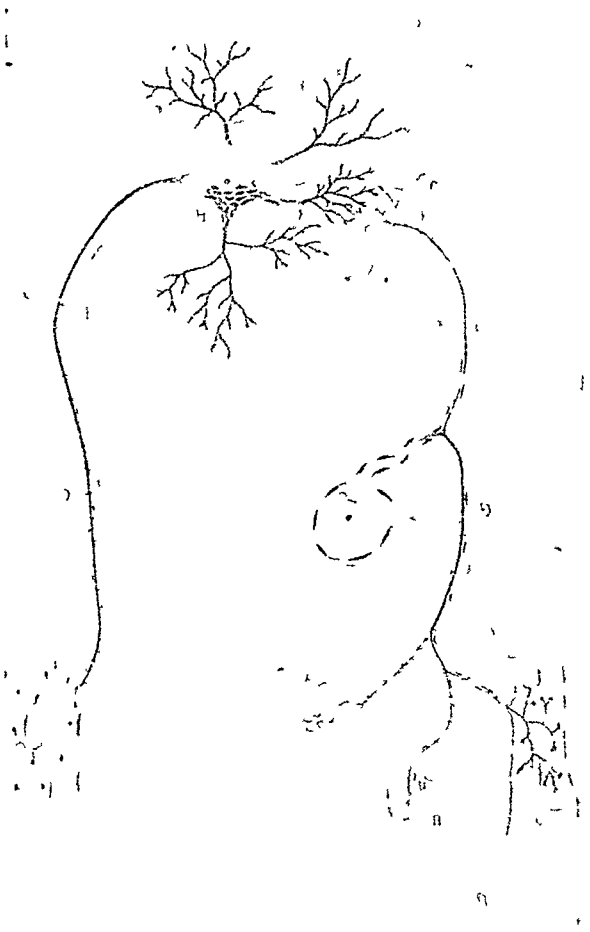


Diagram to show reflex arc A, Skin with sensory endings. B, End organ, Pacinian corpuscle. C, End organ of tendon (Golgi). D, Sensory nerve fibre. (Only one sensory nerve fibre is represented as conveying impulses from the three above-mentioned structures, A B C, but it must be clearly understood that there are separate neurones for each.) E, Cell of posterior spinal ganglion with fine granules scattered through the body of the cell, these are the chromophil granules. Emerging from the capsule is the axis-cylinder process forming a T. The central process passes to the spinal cord; at F F the chain of tubular cells representing the sheath of Schwann ceases; but the axis-cylinder process is still covered with myelin, it breaks up at G into a terminal arborisation, which is in physiological connexion with H, the motor efferent neurone The lower part of the cell is represented showing polygonal granules (Nissl), the upper part of the cell shows a fibrillary reticulum. The granules exist all over the cell and on the dendrons except at the emergence of the axis cylinder process, but they are not represented in the upper part in order that the fibrillary reticulum of the achromatic substance may be clearly shown. The axon becomes coated with myelin; at F F it acquires a sheath of Schwann on emergence from the spinal cord and terminates at K in the motor end plate

[29] Anatomy of the Nervous System, translated by Hall, p 233
[30] Die Histogenese der schwannschen Scheide, Archiv fur Anatomie und Physiologie, 1900, Anatom Abtheilung, I. und II. Heft
[31] Studien zur Entwickelung geschichte des Kopfes der Kranioten, reference to Gurwitsch, loc. cit.
[32] Anatomischer Anzeiger, 1892.
[33] Lehrbuch der Vergleichenden Anatomie, 1898.
[34] Leçons sur l'Anatomie du Système Nerveux, 1898.
[35] Ranvier et Vignal · Sur le Developpement des Llements du Système Cerebro-Spinal, Paris, 1889.
[36] Loc. cit.

FIG. 4.

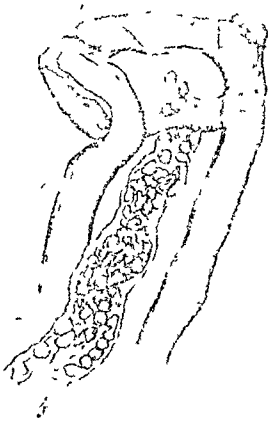
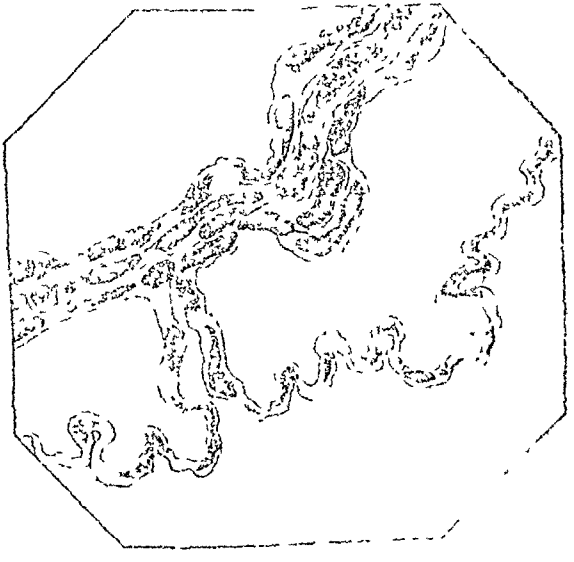


FIG 5.

FIG. 6.



Drawings f ... nbella of ... after liga ... summit c ... section.

... terminal ... six days ... oal at the ... days after

this very brief outline, and to those who are further interested in the subject I would refer them to an admirable digest on the Histology and Pathology of the Nerve-cell, by Ford Robertson,[37] or to the splendid new work of Barker on the Nervous System.

It would take too long here to describe the normal structure of the various forms of neurones, but to make myself more clear in speaking of degeneration and the changes which occur in the nerve-cell and its processes, I represent here diagramatically a spinal reflex arc, showing a sensory and motor neurone. (Fig. 3.) Each portion has a brief description appended, so that I need not detain you further with the details. I would call your attention, however, to two facts—viz., (1) the difference in the myelin sheath as it surrounds the axis-cylinder process and its fibrils within the spinal cord as compared with the myelin sheath outside the same—in the latter the axis-cylinder is surrounded by a chain of tubular cells containing the myelin, whereas in the former there is simply a continuous coating of the phosphoretted fat; and (2) the different arrangement and appearance of the stainable substance in the motor and sensory cell.

THE DEGENERATION OF THE NEURONE—BRIEF HISTORICAL INTRODUCTION.

New methods of experiment, observation, and technique mark the successive stages in our knowledge of the structure and functions of the nervous system in health and disease. 50 years ago Waller[38] gave his memorable communication to the Royal Society which was the commencement of our knowledge of the degeneration of the neurone. In his paper, "Experiments on the Section of the Glosso-pharyngeal and Hypoglossal Nerves of the Frog and Observations of the Alterations produced thereby in the Structure of their Primitive Fibres," he pointed out that Günther and Schön had ten years before stated that the primitive fibres at the end of a week after division of the nerve, and when it had lost its irritability, showed changes indicating degeneration; likewise Nasse and Steinrück had described changes following division of nerves. Waller's researches showed that a change took place throughout the whole of the nerve below the point of section, extending to its terminal fibrils. The diagrams exhibit the original pictures taken from Waller's monograph. (Figs. 4, 5, and 6.) He concludes his paper with this very apposite statement: "We cannot suppose that this is a local phenomenon and that the nerves do not participate in similar alterations, and that the brain itself, composed in great part of tubular fibres, must be excluded. It is impossible not to anticipate important results from the application of this inquiry to the different nerves of the animal system; but it is particularly in reference to nervous diseases that it will be most desirable to extend these researches." How much light the extension of these researches during the last 50 years has afforded to neurology can be best appreciated by reviewing the enormous strides which have been made in our knowledge of the anatomy, physiology, and pathology of the nervous system. Waller had anticipated that degenerative processes would be found to occur in the central nervous system, as in the peripheral nerves. He had not long to wait, for in 1852 Türck[39] published a paper showing secondary degeneration of the spinal cord after a transverse lesion, and in 1854 he published his classical paper on secondary degeneration of tracts in the spinal cord and their prolongations in the brain based upon 21 cases. As Waller's observations form the basis of our knowledge of secondary degeneration of the peripheral nervous system, so Türck's observations are the basis of our knowledge of secondary degeneration of the central nervous system. Waller in 1852 extended his researches and formulated the three following fundamental laws which are given in italics in an appendix to the work quoted. The appendix consists of 52 important statements bearing upon the results of his experiments.

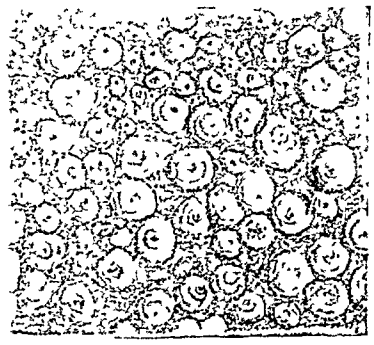
"As a general rule the sensory fibres develop by starting from the peripheral and radical poles of the ganglion corpuscles and extend from these into the peripheral organs and in the spinal cord to a height undetermined."

"The ganglion corpuscle is in consequence the central organ for the formation and nutrition of its peripheral and central fibres and accordingly we shall call it the neurogenotrophic corpuscle and the ganglion the neurogenotrophic body."[40] [The neurone doctrine foreshadowed.—F. W. M.]

"Considering the ganglion in its simplest state as a bipolar corpuscle we are able to assert that every part of the radical and peripheral poles which is separated from the corpuscle disorganises, whilst the whole of the poles in connexion with the corpuscle remains normal."

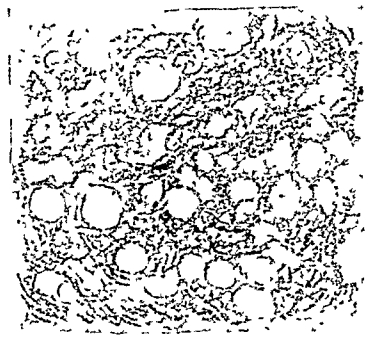
Numerous observers since have claimed that the law formulated by Waller, that every part of a nerve which is separated from its cell of origin undergoes degeneration, *whilst the rest remains normal*, although fundamentally true, may require some modification; and the first observer whom I find to suggest this is Dr. W. H. Dickinson[41] who, in a very interesting paper on "The Changes in the Nervous System which follow the Amputation of Limbs," stated as a result of his observations that the posterior roots may atrophy, though still in connexion with the ganglia, and the anterior though still in connexion with the cord; and it appears that long disuse of a nerve is sufficient to lead to its atrophy, although those nervous structures which immediately regulate its nutrition are complete. (Diagrams here reproduced.) (Figs. 7 and 8.) Bérard in 1839 had noticed atrophy of the central roots in a case of amputation. The degenerations described by Waller and Türck are degenerations *secondary* to injury and that described by Dr. Dickinson and numerous other observers since may be looked upon as a *disuse atrophy*. A little later Gudden[42] commenced his celebrated work upon atrophy of the cells

FIG. 7.



A transverse section of the normal sciatic nerve magnified 300 diameters. From an article by Dr. W. H. Dickinson published in the *Journal of Anatomy and Physiology*, November, 1868.

FIG. 8.



A transverse section of the sciatic nerve from the stump of the same person 53 years after amputation, also magnified 300 diameters. From an article by Dr. W. H. Dickinson, published in the *Journal of Anatomy and Physiology*, November, 1868.

[37] Normal and Pathological Histology of the Nerve-cell, Brain, 1899, Part lxxxvi.

[38] Minute Structure of the Papillæ and Nerves of the Tongue of the Frog and Toad, Philosophical Transactions, 1849; Experiments on the Section of the Glosso-pharyngeal and Hypoglossal Nerves of the Frog, &c., ibid., 1850.

[39] Akademie der Wissenschaften Sitzungsbericht, Wien, Band ii., 1854.

[40] Nouvelle Méthode Anatomique pour l'Investigation du Système Nerveux. 1852. Waller. His son Dr. Waller gives on p. 352 of his Text-book of Human Physiology an unpublished drawing made in 1852 illustrating these very points.

[41] Journal of Anatomy and Physiology, 1868.

[42] Ueber die Kerne der Augenbewegungsnerven, Neurologisches Centralblatt, 1882.

of origin of a nucleus by tearing out the nerve in young animals, and this method threw great light upon the anatomy of the nervous system It was adopted with striking success by Forel and von Monakow.

There is another form of degeneration which, accepting the cellular theory of Virchow [42]—that the whole organism, including the nervou [illegible] aggregation of cells, each cell [illegible] independent existence—is a *primary* [illegible] complex nerve-cell or neurone Every cell of the body nourishes itself and is not nourished—that is to say, every cell behaves as a unicellular organism possessing a specific energy; and by the vital reaction of its protoplasm upon the lymph environment metabolic exchanges, constructive and [illegible] taking place correlative with [illegible] ave no evidence to show that [illegible] can take place in the higher vertebrates, but there is some evidence in favour of the view that all the nerve cells of the adult body are present in a rudimentary form at birth The growth of the nervous system depends not so much upon an increase in number of the nervous units, but in their size by multiplication and complexity of the processes Cajal (I reproduce his diagram) has shown that this growth in complexity during the process of development is not only true ontogenetically but also phylogenetically. (fig 9) Wallerian degeneration proves that the nerve-cell is the trophic centre and the embryological researches of His have shown that it is the genetic centre. If then we admit the generally accepted view that the nerve-cell in the higher vertebrates is incapable of regeneration when destroyed, the corollary is that every nerve-cell of the human body is endowed with a specific durability whereby in the healthy perfect organism every neurone possesses an equally adjusted vital energy, so that not only is functional equilibrium maintained in the physiological processes of active life but also of decay, the regressive metamorphosis incidental to old age being manifested by a gradual and general enfeeblement of the functions of the whole nervous system. Lucretius says: "When the body has been shattered by the mastering weight of Time, and the frame has drooped, with its forces dulled, then the intellect halts, the tongue dotes, the mind gives way, all faculties fail and are found wanting at the same time. It naturally follows that the whole nature of the 'soul' is dissolved like smoke into the high air, since we see that it is begotten along with the body and grows up along with it, and as I have shown breaks down at the same time worn out with age." [44] In contradistinction to this normal senile decay are premature pathological processes of decay, attacking groups, systems, or communities of neurones subserving special functions, whereby functional equilibrium is destroyed, symptoms of disease are manifested, and according to the functional relations of the [illegible] teristic symptoms are presented, con- [illegible] The neurones of a particular [illegible] wing to an inherited or acquired [illegible] nant of durability and the regressive process of decay may be looked upon as a nutritional failure on the part of the same cells to maintain that metabolic equilibrium essential and correlative to functional activity; consequently, these parts most remote from the trophic and genetic centre of the complex cell (neurone) degenerate. The process may be regarded as the inverse of development, the fine collaterals and terminal arborisations being the first to disappear [illegible] Dr. Hughlings Jackson [45] [illegible] March, 1884, states "I have [illegible] be very much helped in our [illegible] the nervous system, by consi [illegible] evolution, that is, as dissolutions. [illegible]

FIG 9.

A transverse section of the cervical part of the spinal cord from a man whose left arm had been amputated 23 years before death The left posterior column (L) is smaller than the right From an art cle by Dr W H. Dickinson, published in the *Journal of Anatomy and Physiology*, November, 1883 Two circular darker patches in the white matter are accidental imperfections in the picture.

conceive that the process of primary degeneration is an evolutional reversal commencing in the structures latest [illegible] by the myelin sheath and the terminal de- [illegible] art [illegible] observa- [illegible] tions upon the [illegible] ich will occupy most of the other three lectures, I will give a few illustrations relating to the neurone theory as regards the transmission of impulses and certain physiological problems connected with variable resistance to transmission and the spread of excitation.

EVERY POINT OF THE CENTRAL NERVOUS SYSTEM IS IN PHYSIOLOGICAL, IF NOT IN ANATOMICAL, CONNEXION WITH EVERY OTHER POINT, AND RESISTANCE TO THE SPREAD OF EXCITATION IS VARIABLE.

The nervous system may be said to consist of three systems of neurones—afferent, efferent, and association systems (side diagram) (fig. 10) Every excitation can spread over the whole nervous system, but it is difficult to understand how there may be a variable resistance to the spread of an excitation, if we accept the diffuse

[42] Cellular Pathol gy

[44] Lucretius, II J Munro's translation p 114.

[45] Pl ys ol Psychol, Journal of Mental Science, Oct ber, 1884

continuous network theory of Gerlach or of Golgi, or how use may lead to the opening up of paths so that the time occupied by transmission of impulses may be diminished by repetition. Facts seem to show that there is a delay in the transmission of impulses in the passage from one neurone to another in the central nervous system. Does this delay occur at the junction of the terminal arborisations at the axon of one neurone with

FIG. 10.

Diagram after Ramon y Cajal to show the ontogenetic and phylogenetic development of a psycho-motor neurone. A, Frog. B, Newt. C, Mouse. D, Man. It will be noticed that as the zoological series rises there is an increase in complexity of the neurone and in the multitude of points of contact produced by an increase in the dendrons and side-branches of the axon. *a, b, c, d, e*, show ment of a psycho motor cell in the reversal of this process takes place in

the dendrons of another? or does the resistance occur in the protoplasm of the cell body?

Bubnoff and Heidenhain found that the strength of stimulus was related to rate of transmission *in the central nervous system*, for on stimulation of the cerebral cortex of the dog, the reaction time is shortened by increase in the strength of the stimulus; whereas *the peripheral nerves* are influenced as regards rate of conduction only to a comparatively trifling degree by the same increase of stimulus.

It would therefore appear that a stimulus passes from the upper neurone to the lower more rapidly when the stimulus is strong than when weak, that is to say, the excitation in the upper neurone must reach a certain intensity before it is capable of flowing over and exciting the next in the series. Is the resistance to the passage of the impulses in the physiological junction of the upper and lower neurones, or in the protoplasm of the cell-body? According to the neurone theory it would be at the junction.

A stimulus which is insufficient to rise into consciousness may, by repetition, lead to summation, and the opening up of a path (*Bahnung*) by breaking down resistance; thus Urbantschitch has shown that very weak sounds, at first not audible, become so by repetition. This effect can be explained by the stimulus opening up the path to the auditory perceptive centre. The same effect can be produced by an effort of the will and concentration of attention, by which the auditory perceptive centre becomes more excitable. That an excitation may spread over the whole nervous system is not to be wondered at when we consider the length of some of the projection system neurones; for example, the posterior spinal sensory neurones, which have their cells of origin in the first sacral ganglion, extend from the nape of the neck to the sole of the foot. The central projection of the T-shaped process gives off a branch, which extends in the column of Goll the whole length of the spinal axis, and the peripheral portion as a sensory fibre extends to the sole of the foot. It is probable, therefore, that the central projection establishes connexions by delicate collaterals with the grey matter of the whole spinal axis. The reason why excitations do not spread is probably dependent upon the condition of the bio-chemical stability of the neurones. In strychnia and tetanus poisoning the most localised peripheral excitation will cause general muscular spasm; in both toxic conditions the spread is probably due to a bio-chemical change in the protoplasm of the spinal motor neurones, to be referred to later, whereby the excitability is greatly increased, and a slight impulse is sufficient to fulminate the whole system of motor neurones. In epilepsy and other paroxysmal neuroses and psychoses it is possible that some altered condition of the blood associated with an inherited bio-chemical instability of certain groups, systems, or communities of neurones may act as *a fulminating agent*. In neuralgia and local hyperæsthesia the slightest general or distant local irritation suffices to produce pain; thus coughing, the vibration of a passing train, or a slamming door may produce pain by the stimulation of the hyper-excitable neurones.

If a skin reflex is increased on one side of the body then sometimes a slight excitation on the normal side is sufficient to produce the crossed reflex, while perhaps the excitation is not sufficient to bring about the normal reflex on the sound side. It sometimes occurs that associated sensations (in part of a painful nature) arise from pressure upon spots, which cannot be explained upon any known anatomical basis. This condition can be understood only by supposing that certain groups of neurones are in a state of hyper-excitability, and that the neurones which are stimulated have fortuitously opened up the connexion by association neurones and it has been fixed and made easier by each successive stimulation. The excitation spreads, but it is not of sufficient intensity to arise into consciousness, except in the hyper-excitable area.[16]

Besides hyper-excitability, there may be diminished excitability affecting groups, communities, and systems of neurones having special functions. It will be seen later that this lowered excitability is usually the result of the selective action of various poisons producing either functional depression or degeneration, whereby paralytic or other symptoms of loss of function arise in certain definite functionally related systems of neurones, thus causing correlative groups of clinical symptoms due, on the one hand, to perverted function, or loss of function, and on the other hand producing other groups of symptoms, as pointed out by Hughlings Jackson to be "due to over-activity of nervous arrangements which are perfectly healthy." This disturbance of the functional equilibration of the neurones may be studied by a consideration of the nervous mechanism concerned in voluntary movement. The diagram shows (Fig 11) that three nervous circles, spinal, cerebral, and cerebellar, are engaged and all three systems of neurones take part, for in every voluntary movement impulses are passing up the afferent channels and down the efferent, and these two systems are brought into physiological harmony by the association systems.

DISTURBANCE OF THE FUNCTIONAL EQUILIBRATION OF THE NEURONES.

The perfection of a voluntary movement is brought about by the association and equable adjustment of systems and communities of neurones presiding over groups of correlated antagonistic muscles in such a way that the desired movement is produced with the least expenditure of nervous and muscular energy. Interference with the functions of any one system will disturb the normal functional equilibration that must of necessity exist in the action of the whole. Dr. Hughlings Jackson emphasises the fact that the symptoms of nervous disease are due as much to normal physiological functional activity imperfectly applied as to the actual loss of function occasioned by the disease. He pointed out that in paralysis of the external rectus, strabismus caused less trouble to the patient than the double vision occasioned by the physiological activity of the two retinæ upon which the images were prevented by the paralysis from falling upon corresponding points. Again, the importance of the integrity of one set of neurones having a specific function upon all the rest of the functionally related neurones was strikingly shown in some experiments by Sherrington and myself,[17] for we found that if the upper limb were rendered *apæsthete* by section of a number

[16] Goldscheider Die Bedeutung der Reize fur Pathologie und Therapie im Lichte der Neuronlehre, 1898

[17] Experiments upon the Influence of Sensory Nerves upon Movement and Nutrition of the Limbs. Proceedings of the Royal Society, 1895, vol. lvii.

of the posterior roots (third cervical to third dorsal inclusive) not only was the limb of the animal rendered insensitive, but it was unable to perform the finer voluntary movements; although stimulation of the cerebral cortex in appropriate regions produced every movement, showing that the efferent path for voluntary movement was still open, but the animal

FIG. 11.

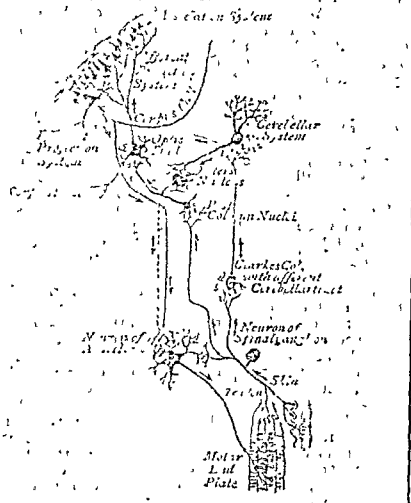


Diagram to show the three systems of neurones, illustrating the path of sensory impulses to the cerebrum and cere-

was unable to *ideate* the movement. Another marked effect of section of the posterior roots was the immediate loss of [illegible] is [illegible] ow- [illegible] lly related neurones. They found that a weaker stimulus was required to produce a movement of the limb by faradaisation of the cortex cerebri if the limb were gently stimulated; thus showing that not only in a movement do impulses pass from the cortex to the periphery, but that each successive movement and alteration in tension of the skin, muscles, tendons, and articular ligaments causes a transmission of [illegible]

In discussing later the changes which occur in motor nerve-cells when their axons are cut we shall better appreciate the changes which take place by remembering that if a muscle is paralysed changes in tension of the related structures—namely, muscle, tendon, skin, ligaments, &c.—cannot occur, and that normal succession of kinæsthetic stimuli which travel up the afferent system *pari passu* with the stimuli that travel down the efferent no longer take place. Warrington,[4] indeed, has shown that section of posterior roots causes [illegible] horn cells of the sam [illegible] stimulus produces a dep[illegible] the spinal motor cells, a fact quite in accord with the physiological results above described.

ANATOMICAL CORRELATION OF ASSOCIATED SYSTEMS OF NEURONES.

The correlation of associated functionally related systems, groups and communities of neurones finds an anatomical proof in regressive associated atrophy of correlated structures. A good instance of this has lately been investigated in my laboratory by Mr. Tredgold. Cases have previously been published of a similar nature, but there are some points in this case which have not previously been noticed. The patient suffered from right congenital hemiplegia affecting especially the hand and foot. The lesion was primary in the optic thalamus of the left side; it caused atrophy of the left hemisphere, the right half of the cerebellum, and the spinal motor neurones of the cervical and lumbar enlargements, descending degeneration of the right crossed pyramidal tract, and of the left antero-lateral tract. We thus see, referring to the diagram, that all the functionally associated efferent tracts of the three nervous circles engaged in voluntary movement had undergone atrophy in consequence of the disuse occasioned by the primary lesion preventing the development of that normal association of correlated neurones necessary for perfect voluntary movement. There are certain very interesting points in this case which will be fully published in the next number of *Brain*.

[4] Pflüger's Archiv, 1884, Band xxvi.
Journal of Physiology, 1888, vol. viii., No. 1 and No. 2.

vol. xix., No. 4. G. Marinesco. Pathologie de la Cellule Nerveuse, Presse Médicale, 1897.

DIFFERENTIATION IN DIABETES.

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(*Continued from p. 1703.*)

THE "ALIMENTARY" FORM OF DIABETES.

A FAULTY power connected with the application of the carbohydrate matter of the food within the system constitutes the essential condition that we have to deal with in this form of diabetes. As a broad fact it is noticeable that when the carbohydrate principles of food are ingested by a healthy person nothing is seen of them afterwards and all that is observed is the general benefit that follows. The system possesses the power of placing them in a position to pass in the direction of utilisation. Neither in the blood of the general circulation nor in the urine do we find evidence given of their ingestion. A certain small standard amount of sugar is met with in both the blood and the urine, and this is not influenced by the presence or the absence of carbohydrate matter in the food. Not so, however, in the case of diabetes. Here the carbohydrate matter of the food finds its way in the form of sugar into the blood and thence into the urine. Failing to be assimilated, or placed in a position to be properly disposed of, it improperly reaches the general circulation as sugar, and this in its transit through the kidney runs off as waste material with the urine.

If by the exercise of assimilative power sugar is prevented from reaching the general circulation it cannot reach the urine. But the assimilative power is not in anyone found to be of unlimited capacity; and in the healthy subject sugar may appear in the urine as the result of an excessive ingestion of carbohydrate matter, especially if it be taken in the soluble form—for instance, as sugar—and at a period of fasting. When the assimilative power falls short of what is natural the amount of carbohydrate food that can be taken by a healthy person without giving rise to the escape of sugar can no longer do so without producing glycosuria, and in proportion as the power is reduced so is the curtailment in the amount of carbohydrate that can be taken without influencing the urine. Very varying degrees of impairment of the power are found to exist in different cases, producing varying degrees of severity of the complaint. This requires to be taken into account in treatment in order that a properly adjusted diet may be supplied to meet the particular demands of the case that is being dealt with. For the adoption, therefore, of a rational mode of procedure it is necessary that differentiation should be extended and carried into the group of cases that is now receiving attention.

We no longer hear of excessive secretion of sugar by the liver being talked of as the explanatory factor of diabetes. It is now generally accepted by those abreast of recent knowledge that things stand in a different position from what was

formerly taught. The phenomena of diabetes, as I have for a great number of years strenuously urged, stand in antagonism to the view that the carbohydrate of our food undergoes a functional transit in the form of sugar through the general circulation from the seat of ingestion to that of utilisation in the tissues. Everything points to the carbohydrate matter belonging to our food passing as sugar into the general circulation in diabetes in a manner that does not occur in health, and our language is shaped accordingly. We speak of its undergoing under natural circumstances a process of assimilation; and, in diabetes, of the failure of the proper performance of this process as leading to the result observed.

The object of assimilation is to put into a suitable state for contributing to utilisation. We know that animals are fat-producers from carbohydrates. No question now exists as to this. I have given grounds[1] for locating the chief seat of this process in the intestinal villi, the fat produced passing, like the ready formed fat that has been ingested, through the lacteals into the circulation. This is one method of the disposal of carbohydrate. I have also at the same time pointed[2] to its disposal by synthesis with nitrogenous matter into proteid, and my views, I think it may now be said, have been accepted by physiologists. Provision is thus made for the transit of carbohydrate within the circulation without passing into the urine. As a small-sized molecule, like that of sugar, there is nothing to prevent its escaping into the urine in the same manner as other small-sized molecular, and therefore diffusible, substances, whilst traversing the vessels of the kidney. It may rationally be taken that the size of the molecule constitutes an all-important point in relation to the question of elimination with the urine, and sugar locked up in a large-sized proteid molecule will not be placed in a suitable position for escaping, whilst in a free state it will. The investigations of the last few years on the relation between nitrogen and sugar elimination in phloridzin and pancreatic diabetes in the unfed animal, in which the tissues of necessity are the source of the sugar, show that there must be a very significant amount of carbohydrate entering into the constitution of a proteid molecule.

The recognition of the "*alimentary*" form of diabetes is effected, not only by the elimination of sugar being susceptible of control by the exclusion of carbohydrate matter from the food, but also by the absence of the products, diacetic and oxybutyric acids, of tissue breaking down, to which allusion has previously been made. If the ferric chloride test gives no reaction it may be taken that thus far the case is only in the "*alimentary*" form. It is fortunate for diagnostic purposes that the information can be so easily obtained. Corroborative evidence is afforded by comparing the results obtained by estimation of the sugar by cupric oxide reduction and the polarimeter; but, as has been mentioned, although it is compatible for diacetic acid to be present and oxybutyric acid to be absent the converse is not found to occur, from which it follows that an absence of diacetic acid implies also the absence of oxybutyric acid.

To ascertain the degree of severity of the condition existing in an "*alimentary*" case the food test must be employed. It may happen that the loss of assimilative power is such that even with a properly constructed restricted diet the carbohydrate contained in it (it is not possible to construct an existence diet entirely free from carbohydrate) suffices to throw a certain amount of sugar into the urine, but ordinarily the loss does not amount to this, and then under the restricted diet, rigorously followed, a sugar-free state of urine is secured. With a less degree of loss a certain amount of carbohydrate food is tolerated in conjunction with the restricted diet without leading to the passage of sugar; and so it runs on, more and more carbohydrate being tolerated in proportion as there is less and less loss of assimilative power, until the condition is presented in which it is only when an exceptionally large amount of carbohydrate has been taken that sugar is found in the urine. Such a condition is often the source of considerable perplexity on account of the irregularity as regards presence and absence of sugar noticeable in the state of the urine.

Having determined in a particular case the amount of carbohydrate tolerated the foundation is supplied for adjusting the diet rationally to meet the requirements. What is wanted is to keep the urine free from sugar and whilst doing this to allow as much carbohydrate as the circumstances permit. The medical practitioner has to feel his way, and this is best done by conjoining with the restricted diet a weighed amount of ordinary wheaten bread, which is the article most missed by the diabetic and most easily supplied in regular amount. It may be that only three ounces per diem, in one-ounce portions at each of the three principal meals, are found to be susceptible of being taken without leading to the passage of sugar. It may be four and a half, six, seven and a half, or nine ounces or more that are tolerated. Whatever the amount the conclusion may be drawn through its not running off as sugar in the urine that it falls within the assimilative power existing and thus stands in a position to go to the benefit of the system. Carbohydrate food that fails to be assimilated and is discharged as waste material with the urine cannot be of service to the economy; it is, indeed, pernicious on account of its passage as sugar through the circulation producing a deviation from the natural state. The larger the amount of sugar permitted to reach the general circulation and flow off with the urine the greater will be the abnormality existing and the more pronounced the various troubles occurring.

I have spoken of an allowance of bread as best suited to be given when it is desired to conjoin a certain amount of carbohydrate food with the restricted dietary, but if the quantity could be properly estimated the equivalent of starchy matter in any other article might be substituted. There is no scientific foundation for considering that the starchy matter of one article behaves in a different way from that of another. Between starch and the sugars, however, a difference exists inasmuch as the latter being soluble and diffusible, and therefore ready for immediate absorption, will enter the system with a rapidity not occurring with the former, which has to undergo transformation into sugar by the digestive secretions before absorption can take place. In cases where a considerable quantity of carbohydrate is tolerated it may be desirable to allow a portion of it to be drawn from other articles than bread. If this liberty is given in order to secure that the tolerating capacity is not overstepped a margin of assimilative power should be allowed to exist—in other words, the liberty allowed should stand well within that which will lead to the appearance of sugar in the urine.

We look to the urine for affording the means of ascertaining when the carbohydrate given surpasses the assimilative power existing, but it does not tell us when the carbohydrate is being unnecessarily curtailed. This we learn in another way. It is an interesting fact that the body weight in the following manner supplies the desired knowledge. When there is no toleration of carbohydrate food the restricted diet does not lead to loss of weight. Indeed, when the patient is first put upon it, after having sustained more or less loss before the commencement of treatment, the weight rises, sometimes to a marked extent, and is subsequently maintained. This subsequent maintenance of weight refers to the cases of the "*alimentary*" class in which the restricted diet is necessary for keeping the urine free from sugar. In such cases I have known patients go on for years fully maintaining their weight. On the other hand, should the case be one of a mild nature—one in which starchy food to some extent is tolerated—the restricted diet leads to a fall in weight. Loss of weight on the restricted diet with sugar-free urine may be read as meaning that an unnecessary amount of restriction is being practised, and when the starchy food is given, for the disposal of which sufficient assimilative power exists, the weight immediately rises.

When a restoration of assimilative power occurs in the course of treatment a loss of weight, upon the same principle, sets in unless the condition is met by a properly adjusted supply of carbohydrates. Restoration of assimilative power is the true *desideratum* of treatment and it often happens with persons above middle age that it is to a greater or less extent attainable. At first in these cases there is nothing special observable. The urine more or less quickly loses its sugar and the ordinary improvement in the weight and the general condition of the patient occurs. Later—it may be after the lapse of some weeks but more frequently of a few months—a loss of weight sometimes rather sharply sets in, with possibly a return of the feeling of weakness that was experienced at the commencement, which not unnaturally leads the patient to think that a relapse has occurred. With sugar-free urine, however, these phenomena, instead of being of bad augury, are really a good sign: they are indicative of returning assimilative power. As long as the assimilative power does not exist carbohydrate food

[1] Physiology of the Carbohydrates, 18 p. 248.
[2] Ibid., p. 241.

cannot be wanted by the system. As soon, however, as the power *becomes* restored the want springs up and unless it is met the described phenomena occur. I cannot penetrate the depths of metabolism and say why this should be, but it may be stated that it represents a return to the position belonging to health. We know that if a healthy person is deprived of carbohydrate food a loss of weight ensues. With the restoration of the absent assimilative power met with in the diabetic we have a retrocession to the natural state, and as the natural state in this respect is regained, so do the co-existing circumstances fall in with it. It is only gradually that the power is restored, and the case requires to be dealt with accordingly. A limited amount only of carbohydrate should be given at first. A large amount would to a certainty bring back sugar. The effect of the carbohydrate is to check the loss of weight and otherwise afford relief. Later there may be a recurrence of the phenomena, and this requires to be met by an advance in the allowance of carbohydrate food. Thus the case may progress until possibly, but not generally, the tolerance of about, or even actually, an ordinary diet is re-established.

The food test is often required to be applied for diagnostic purposes. It may also be turned to account in life insurance cases. In August, 1898, a patient came to me with an indefinite history of diabetes He was not dieting and only sometimes had sugar been found The urine passed for my examination at 10 A.M. was free from sugar. The patient went away and partook, at my suggestion, of greengages, sponge-cakes, and lemonade. The urine passed on his return three and a half hours afterwards contained 55·5 per 1000 of sugar.

In April, 1899, my opinion was sought in connexion with a life insurance case. The proposer's urine had for some time been occasionally found to contain sugar. He had been examined by a number of medical men and doubt existed with regard to his state. No dieting had been resorted to. The urine passed at the time of his visit to me contained no sugar. He partook in my house, at my request, of marmalade and bread and butter. This was at 1 P.M. He had a train to catch at 3 and at 2.35 he returned and passed urine which was found by copper reduction to contain 30·8 per 1000 of sugar. The existence of the sugar was confirmed by the polarimeter and the osazone test. In another similar life insurance case the amount of sugar found two and a half hours after the application of the food-test was 8 per 1000.

Any number of examples illustrative of the immediate effect of carbohydrate food on the urine in the diabetic might be brought forward and it represents the great point of contrast with the condition belonging to health. The contrast existing has an underlying significance in relation to the question of whether the carbohydrate of our food normally reaches the general circulation as sugar or not If it is assimilated and thus disposed of before the general circulation is reached the opportunity is not afforded for its reaching the urine. If not so disposed of some other course of events must ensue and its appearance in the urine as sugar affords an indication of what must have happened. Failing

t[illegible] action it passes as
s[illegible] such sugar is to be
r[illegible]

[illegible] n diabetes the fault lies with sugar being wrongly [illegible] to reach the general circulation as a sequence of the non-assimilation of the carbohydrate matter ingested, and not with failure of the disposal of sugar within the circulation under the assumption that it is normally fated to arrive there. The experimental introduction of sugar into the circulation by intravenous and subcutaneous injection affords us help in unravelling this matter and renders it manifest that our carbohydrate food could not reach the general circulation as sugar without the fact being revealed through the medium of the urine. I may refer to an extensive series of experiments recently undertaken by me and published in the *Journal of Physiology* for last year, from which it is seen that sugar, even in as small a quantity as the four-thousandth part of the weight of the animal, cannot be directly introduced into the circulation without exerting an influence upon the urine, and a certain amount of time is required for its disappearance from the blood to be effected. Looking at the quantity of sugar that reaches the urine from carbohydrate food in diabetes it is impossible, in view of the facts before us, to conceive that such could reach the general circulation in the normal state and escape showing itself in the urine. Evidence tells us that the system generally is not devoid of assimilative power [illegible] in the general circulation, but th[illegible] of that which would be needed in [illegible] disposal of the carbohydrate matter of our food, and especially without leading to implication of the urine. Disposed of by transformation into fat and synthesis into proteid before the opportunity is afforded for the general circulation to be reached conditions are supplied that harmonise with all the requirements of existing circumstances. Carbohydrate incorporated within the proteid molecule is in a position to be secure against exit with the urine. It can in this state exist in the circulation without escaping as waste material in its passage through the kidney and subsequently be applied wherever it is needed. In the "*composite*" form of diabetes it is abnormally set free from this combination and thence finds its way as sugar into the urine.

(To be continued.)

SOME NOTES ON THE INTRODUCTION AND SPREAD OF PLAGUE.

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THE gradual extension of plague over the world and its reappearance in Egypt bring home to us with great force the fact that this dread disease is knocking at our very doors and may soon effect an entrance unless we are constantly on the alert to prevent it. It seems, therefore, to be an opportune time to draw attention to some of the known facts about its spread and to make one or two suggestions with a view to preventing its introduction into this country.

It will be as well first to describe the course taken by plague when it attacks a place for the first time and then to consider the course taken by it later when it has assumed an epidemic form, because it has to be borne in mind that plague seldom starts as an epidemic but almost invariably as a few isolated cases which do not tend to spread to any extent and which soon disappear. In Bombay the disease was not recognised until it had practically become epidemic, but it is certain from information that has since been obtained that sporadic cases had been occurring in the city for some considerable time before the first case was reported. In Calcutta, on the other hand, it is probable that the very earliest cases were discovered immediately they occurred, as the health authorities had been constantly on the watch for the disease owing to its presence in Bombay. We have, therefore, had the opportunity in Calcutta of watching the progress of the disease from its commencement until now, when it has become epidemic

The Calcutta experience has shown—and it is being confirmed elsewhere—that during the first year only a few cases occur. These are generally not of a very severe character, and in a short time the disease apparently disappears. The following year, however, it appears again about the same time as it originally made its appearance. Now, however, there are many more cases, the disease is distinctly more virulent and lasts longer, but can scarcely yet be said to be truly epidemic in character. Once more the disease appears almost to die out, but only to reappear in the next year as an epidemic, and we are now able to note the course pursued by an epidemic visitation. This course is shown very clearly in the chart published by Dr T Frederick Pearse in THE LANCET of May 5th, p 1274. Starting about the time of the original appearance of the disease, at first few cases occur and the numbers increase slowly for some little time; then there is a sudden and swift rise—week by week the numbers mount higher until in about nine or ten weeks from the first detection they reach their maximum. For four or five weeks the numbers remain high, but fluctuate somewhat; then the decline sets in and the numbers fall rapidly for some weeks, until at last there is a gradual falling-off to complete, or almost complete, extinction of the disease. The whole cycle in Bombay of the plague in its epidemic form occupies about six or seven months. During the remaining months of the year the disease appears to be slowly gathering strength for a

fresh and more virulent onslaught. Whether the limit of virulence has yet been reached it is impossible to say, as up to the present the sad experience of Bombay and Poona has only shown that each visitation has been more virulent than those preceding it.

Having described the course of a plague outbreak—and the bearing of this on the prevention of its spread will be seen later—a few words may be said about the means by which plague is passed from person to person and from place to place. Unfortunately, in spite of all efforts to discover it, the means by which plague is communicated from one person to another has not yet been discovered. We do not know how the sick infect the healthy. It appears improbable, however, that much, if any, infection takes place through the air or that mere contact with infected persons is sufficient to cause the disease, as it is rare for attendants on the sick to contract plague. It is very probable that the process is one of inoculation, either through wounds or abrasions, or, what is far more probable, by means of insects, especially fleas. It has been shown by Simon that fleas found on plague-infected rats contained the plague bacillus and it was proved by experiment that such fleas could convey the disease to other rats; and although it has been denied that the fleas which infest rats will bite human beings, it is only reasonable to suppose that the species which do bite human beings are as capable of conveying the disease from a diseased person to a healthy person as the flea of the rat is of conveying it from a diseased rat to a healthy one. It is, in fact, judging by clinical experience, extremely probable that vermin play an active part in passing plague on from person to person.

Of the means by which plague is conveyed from place to place we know very little more than we do about its passage from person to person. It can, of course, be carried by an individual who is already suffering from the disease; other modes of conveyance are more or less conjectural A certain number of cases have been traced to the importation of rags and dirty clothing from infected localities, and in other cases it is assumed that rats have carried the disease. While it is probably true that diseased rats in one place have been the means of conveying the plague to healthy rats in another it has not yet been shown that rats play an important part in spreading the disease among human beings. In many places a great mortality has been observed among rats prior to the appearance of plague among the inhabitants, but such mortality has not always been followed by plague among human beings. It is possible that both rats and human beings are infected from the same unknown source, but as rats are much more susceptible to the disease than man is we should naturally expect that if both were infected from the same source the rats would first show evidence of the infection, while in a certain number of cases they would be infected and human beings would escape. Inasmuch, however, as the disease found in rats is undoubtedly identical with that which occurs in man, and as in a few cases proof has been forthcoming that persons have contracted plague from the bites of rats, these rodents must be considered to be a source of great danger. It is unnecessary to consider here the other animals which may contract, and be a possible means of disseminating, plague, as Dr. F. G. Clemow[1] has lately published full and instructive notes on this point, and as rats are the only animals with which we are likely to be immediately concerned.

I may now pass on to suggest some of the means to be adopted in trying to prevent the introduction and spread of plague, and must premise my remarks by saying that when once plague has become epidemic in a country we know as yet of no means of absolutely stamping it out Every effort therefore should be made to prevent the disease from getting a footing in this country, as, once in, we shall have the greatest difficulty in getting it out again.

A recent writer has said that "there is no mystery about plague. It can be stamped out like any other infectious disease or like a pest of locusts or black beetles." Such a statement is justified neither by the present condition of things in Egypt nor by past experience of plague in other countries. Statements of this nature are calculated to do harm by engendering in the public and the profession a false sense of security and by leading them to believe that a few cases of plague occurring in a country are of no particular consequence as they can easily be stamped out by sanitary measures. It is because sanitary measures have hitherto generally failed to effect this desirable result that I lay such stress on our using every means in our power to prevent the introduction of the disease.

The measures to be adopted in preventing the spread of plague may be considered under two heads: first, those adopted by the country in which plague has appeared, to prevent the disease from passing out of the country by sea or by land; and secondly, the measures adopted by threatened countries to prevent the disease from gaining ingress. The Venice Convention has provided for the first, and it is unnecessary to say much about it, excepting on one point and that a very important one. Although provision is made for attempting to prevent the egress of plague while the disease is actually in a country, it cannot be too strongly urged that the danger of exporting the disease is not over when it has apparently been stamped out. Too little attention has been paid to this fact. I have already shown that a period of quiescence always follows an outbreak of plague and is especially marked while the disease is yet new to the country, may indeed be so marked that the plague appears to have ceased to exist in the community. But the belief that plague has died out with the last reported case does not appear to be founded on fact. When once the disease has attacked a place it has been abundantly proved that the same place is liable to be attacked again, and generally is so attacked within the next 12 months. From personal experience and from statements made to me by many capable native medical men in Bombay I am strongly inclined to believe that during the whole time between the dying out of plague in one year and its reappearance in the next the disease is really present among the community in a mild form. In 1898 and 1899, during the time when plague was supposed to be almost absent from Bombay considerable numbers of people suffered and recovered from a disease which there is little doubt was plague in a modified form, but which was not reported as such The disease at this time was of such a mild nature that most of the characteristic features were absent; it appeared to be passing through a phase when it was gathering strength for a fresh attack, and the cases did indeed become gradually more virulent until they apparently led up to, and became merged in, a fresh outbreak of plague. This modified form may easily be overlooked, especially where simple fever is so common as it is in tropical countries, nevertheless plague is capable of being carried from place to place in this form, and of afterwards passing into the most virulent form of the disease. This probably accounts for the many unexplained outbreaks of the disease in widely separated places where no possible source of infection could be found. The great danger of this form of plague is not only that it easily escapes detection at its place of origin, but that it may give rise in a new community to a disease of such a mild and unsuspicious nature at first that it may have spread considerably and to distant parts of the country before it is recognised. Inquiry has shown that this is not purely an assumption, but that cases of this nature have undoubtedly occurred in India. No place, then, in which plague has occurred should be considered to be absolutely free from infection until 12 months after the outbreak, and suspicious cases should be carefully looked for during that time.

Some of the preventive measures to be adopted by a country threatened with a visitation of plague may now be considered. Most of these are obvious by what has been said about the various modes of disseminating plague. It is imperative, in the first place, that the strictest examination should be made of all vessels and all passengers coming from infected areas, and in this connexion it is necessary to say that we must have the cordial ccoperation of the people if our efforts to prevent the introduction of the disease are to prove successful. All persons who come from places where plague is present, or is suspected of being present, should consider themselves possible sources of infection and should not treat even an apparently slight indisposition lightly for at least 10 days after leaving a vessel which has been in an infected port. It is only with the help of such persons that the first cases of plague will be discovered, and it is only by discovering the very first cases that the pestilence will be prevented from spreading and the country saved from this devastating disease.

The second point to which great attention should be paid is the mortality among rats in seaport towns. Not so much with a view to increasing this mortality as because in rats

[1] Brit. Med. Jour., May 12th and 19th.

we have the most valuable known indicator of the approach of plague. If, however, an organised attempt is to be made to destroy the rats in this country, but more especially in seaports, it should be made now; it will probably be useless when the plague has appeared among human beings. It is because rats generally sho [illegible] them before it has appear [illegible] same place that, until such [illegible] if they are to [illegible] on their move [illegible] and some of th [illegible] to bacteriological examination. An increase in the rat mortality is a very plain danger signal to which we should pay prompt attention. If the plague bacillus is found in rats submitted for examination persons in the vicinity of the place where such rats were found should be urged to submit to inoculation as a prophylactic measure, and all medical men should be warned to be on the look-out for cases of the disease.

A crusade which it is quite as necessary should be instituted as the crusade against [illegible] —fleas and bugs particularly. As [illegible] is good reason for believing tha [illegible] from diseased persons to healthy persons and may act as carriers between the rat and man. Fortunately the majority of English persons have an instinctive aversion to vermin of any kind and try to keep their homes and persons clear of them, apart from the question as to whether they convey disease or not. But it is quite a different matter in the case of the slum dwellers. Everyone who is acquainted with the slums in any of our cities knows that they simply swarm with vermin. Our sanitary measures have not touched this evil. We may provide people with pure water, unadulterated food, and good drains, but no sanitary measure, no Act of Parliament, will ensure personal cleanliness. We pride ourselves as a nation on our personal cleanliness. The slum-dweller in these islands is no cleaner than our ancestors were when the Great Plague swept over the country. Nor can we expect much improvement in this respect so long as the terrible overcrowding which is so prevalent in the slums is allowed to continue. This lack of personal cleanliness and this overcrowding constitute a danger of the gravest nature in view of the threatened invasion of plague. It should be made widely known that the extermination of vermin is an important factor in the prevention of the introduction and spread of plague.

The only other point to which I wish to draw attention is the disinfection of rags and dirty clothing coming from infected places. The undoubted danger existing in dirty clothes which have been in a plague-infected house is probably due rather to the vermin so often present in them than to the dirt in which the bacillus is supposed to be present, and for this reason the authorities should see to it that dirty clothing and rags from infected places are not imported into this country until they have been acted on in such a manner that not only all bacilli, but also all vermin, have been killed.

The conclusions to be drawn from these remarks are that if plague is to be prevented from entering this country there must be (1) a most careful search made for modified cases of plague for some considerable time after the disease has [illegible] hat have been attacked by it; [illegible] and passengers coming from [illegible] they are known to be infected but for months afterwards, (3) disinfection of dirty clothing and rags coming from such places; (4) a sharp look-out kept for any increased mortality among rats in seaport towns, with repeated search for the plague bacillus in the bodies of those found dead; (5) an attempt made to exterminate the vermin which may act as carriers of the plague; and (6) early inoculation of the people when plague has appeared among rats.

Muswell Hill road, N.

PRESENTATION TO A MEDICAL MAN.—On the occasion of the presentation of the certificates to the successful students of the "Home Nursing Class" of the Ware Division of the St John Ambulance Association, held at the Mission Hall, Amwell End, on June 12th, Mr. A. J Boyd, M.D Dub, was the recipient of a pair of silver candlesticks and a silver penholder as tokens of gratitude for his able instructions to the class.

ON CHYLOUS ASCITES, WITH AN ILLUSTRATIVE CASE.[1]

By J. HALLIDAY CROOM, M.D., F.R.C.S., F.R.S. Edin.,

GYNÆCOLOGIST AND LECTURER ON DISEASES OF WOMEN TO THE ROYAL INFIRMARY, EDINBURGH; CONSULTING PHYSICIAN TO THE ROYAL MATERNITY HOSPITAL, EDINBURGH.

OBSTRUCTION of the thoracic duct, especially if it be gradual, may give rise to no symptoms whatever during life, since anastomotic channels are established through which the lymph and chyle enter the circulation. In other cases, however, congestion of the lymphatic system gives rise to definite signs which can be clinically recognised, and this is especially so when the lacteals of the abdominal cavity are within the area affected. A few cases have been recorded in which chylous fluid was found in the pleural [illegible], but in all these this was only secondary to a similar [illegible] into the peritoneal cavity. Only some 63 cases of [illegible] ascites are recorded, so that it is an extremely rare condition, and I therefore feel justified in bringing the notes of the following case before the society.

A woman, aged 39 years, was sent to the Royal Infirmary, Edinburgh, by Dr. J. T. Prangnell of Falkirk, on Sept. 29th, 1899. She complained of swelling of the abdomen and gradually advancing weakness and emaciation. Up to within three months of admission she had enjoyed good health. She had had six children—the youngest being three and a half years old—and menstruation had been normal and regular. For two months she had noticed the gradual enlargement of the abdomen and had been losing weight. The patient was found to be generally somewhat emaciated and the examination of the [illegible] distension evidently due to asc [illegible] much distended, the skin wa [illegible] and on deep palpation several irregular hard masses could be detected in the umbilical and epigastric regions. A diagnosis of cancer of the omentum and mesentery with resulting ascites was arrived at. For some time, with careful dieting, the patient's general condition distinctly improved, but occasionally for a day or two she had a relapse showing itself in nausea and vomiting. After being three weeks in hospital she was, however, on the whole, distinctly better, although the distension of the abdomen was greater and caused her much more inconvenience.

On Nov. 2nd the abdominal cavity was aspirated and 330 ounces of fluid were removed. This fluid presented a remarkable appearance. At first sight it was exactly like pus, but when placed in a specimen glass it seemed much more mobile. The fluid had a pale yellow colour with a suggestion of opalescence, and at first it was quite homogeneous, showing no deposit, but after standing for about 24 hours a slight creamy layer was found on the surface. It had a sweetish milky odour. Dr. T. H. Milroy kindly examined the fluid for me and reported as follows:—"The fluid which was sent to me consisted partly of finely emulsified fat, but more largely of a granular debris consisting mainly of fat. About 2 per cent of fat was present. The pigment present was lutein." The granular debris was found on microscopical examination to consist of leucocytes in a state of fatty degeneration. After withdrawal of this fluid examination of the abdomen revealed a moveable tumour in the region of the gall bladder and an indefinite irregular solid mass was detected in the region of the greater curvature of the stomach. The aspiration of the abdomen relieved the patient of her symptoms for some time, but she still suffered from occasional vomiting and inability to take solid food. The vomited matter was examined frequently, but contained no blood. From Nov. 16th—that is, about a fortnight after the tapping—remarkable and specially pronounced emaciation set in, while the abdominal cavity became more and more distended with fluid. The discomfort induced by rapid accumulation was so great that, although the patient was evidently sinking rapidly, it was tapped again and about 350 ounces of fluid were removed. The fluid presented exactly the same characters as before. The patient, however, did not seem to improve in the least, but gradually got worse and died five days later, on Nov. 26th.

[1] A paper read before the Obstetrical Society of Edinburgh on March 14th, 1900.

A post-mortem examination was made by Dr. D. A. Welsh of which the report was as follows:—"The body showed marked emaciation and the skin was jaundiced. Thorax.—Pericardium and heart were practically healthy, but the heart was small and showed some brown atrophy. Each pleural sac contained about six ounces of bile-stained fluid. The subpleural lymphatics were studded with minute cancerous nodules; these were not found in the substance of the lung. There were signs of chronic bronchitis and emphysema. Abdomen.—A few ounces of turbid bile-stained fluid were removed from the abdominal cavity. The small intestine showed some commencing peritonitis. The mesenteric glands were generally enlarged from malignant infiltration. The stomach was much shrunken and filled with deeply bile-stained mucus. A large cancerous neoplasm was growing from the inner surface of the anterior wall, extending from an inch from the pylorus for four inches along the lesser curvature. In appearance the tumour was a soft fungating mass raised about one inch above the surface of the healthy mucous membrane and presented some ulceration in the centre. The tumour consisted largely of soft gelatinous tissue, but was evidently malignant in nature and had undergone extensive colloid degeneration. The gall-bladder was distended with bile and the glands and tissues along the larger bile-ducts and in the porta of the liver were extensively infiltrated with cancer. The liver itself contained one small cancer nodule. The spleen was healthy, but the kidneys were somewhat cirrhotic and fatty. The small intestine was throughout its whole length greatly thickened and contracted. It showed an immense number of small cancer nodules surrounding the lacteals close to the mesenteric attachment. The lacteals were very extensively occluded. The thoracic duct and the receptaculum chyli were carefully dissected out and were found healthy. There was, however, a mass of infiltrated glands lying close beside and pressing on the receptaculum."

Remarks.—The cause of chylous extravasation is either an obstruction to the flow of chyle or a distinct rupture of the thoracic duct or of the receptaculum chyli. A few cases of rupture have been recorded—as, for example, by Quincke—in which chylous hydrothorax resulted, and Wilhelm reports a case in which the accident occurred during an attack of whooping-cough. Whitla has also recorded a case of rupture. Rokitansky records a case of peritoneal and pleural effusion in which the fluid was chylous in nature. It was associated with mitral regurgitation and cardiac dilatation. In my case the chylous effusion seemed to be due to an obstruction to the flow of chyle at the junction of the intestinal mesenteric lacteals. The thoracic duct itself was normal and the pressure of the cancerous glands around the receptaculum was probably not sufficient to occlude it. Thus in some cases the lesion was in the thoracic duct itself, whereas in others it has been due to congestion of the larger lymphatic capillaries or of the smaller lacteals within the mesentery itself. In most of the cases the termination has been fatal, due partly to the original disease and partly to the consequent starvation. Some authorities have endeavoured to differentiate between a true chylous ascites and an ascites adiposus or chyliformis. Microscopically the fluids are similar in appearance, but on chemical and microscopic examination the differences are detected. Senator adopts Quincke's classification and distinguishes the two as follows. In chylous ascites the microscope reveals very finely granular fat cells and an absence of large fat-globules; and in adipose ascites chemical examination shows the presence of sugar; it shows similar but much larger fat cells, lymph cells, and in some cases cancer cells. This variety occurs chiefly in tuberculous or malignant peritonitis and is a result of a fatty degeneration of the serous endothelium and of lymph and pus cells. Although this view is very generally accepted a few authorities maintain that the difference cannot be held to be absolute, for they assert that since sugar is absorbed chiefly into the portal circulation direct, and only a minute quantity, if any, by the lacteals, the presence or absence of sugar cannot be considered of any importance in differentiating between the two conditions. Further, they seem disinclined to believe that fatty degeneration of endothelial tuberculous or cancerous cells could occur to such an extent as to give ascitic fluid such definite characteristics.

In a recent paper read at the Société Médicale des Hôpitaux M. Fernand Widal and M. Prosper Merklen discussed lactescent ascites of lymphatic origin. They pointed out that many authorities regarded milky fluid in the abdominal cavity as chylous in nature. Others, however, consider that the fat might be due to fatty degeneration of extravasated cells. M. Lion first showed that milky ascitic fluid might be other than chyle. In a case of cancer of the ovary he found that the liquid contained a substance analogous to casein, but no fat. M. Aschard and M. Apert respectively published cases in which the fluid when examined under the microscope showed no fatty globules but innumerable minute refractile granules. M. Widal and M. Merklen hold that the distinction between chylous and non-chylous ascites presents great difficulties and, further, that in the chylous variety the quantity varies very much in different cases and even at different times in the same case. They also point out that the kind of leucocytes found in the effusion show that chylous ascites may be lymphatic in origin and they record an illustrative case. Microscopic examination of the fluid removed showed no fatty particles but abundance of leucocytes, 90,000 to 100,000 per cubic millimetre. Only cells of different sizes, all with a single nucleus, were discovered. At the necropsy no peritonitis was found and even though there was no apparent lesion of the abdominal lymphatics the milky liquid was proved to be lymphatic in origin. The patient had cirrhosis of the liver and tubercle of the lungs.

Edinburgh.

A PLEA FOR EARLY OPERATION IN CASES OF UNDOUBTED TUBERCLE OF THE LUNG.

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IN bringing forward the following suggestions with respect to the excision of portions of lung tissue in cases of tubercle I am met by two special difficulties. The first is that which must inevitably arise of persuading any patient, feeling comparatively well and suffering only from a small patch of tubercle, to submit to a more or less formidable operation for its removal. The second arises from the same cause and consists in the absence of actual cases of operation of the special kind referred to. I must therefore base my observations, chiefly on anatomical considerations, on accidents affecting the lung tissue and on those somewhat rare cases in which operation on the [illegible] d necessary for other and graver reasons. [illegible] ll no doubt disappear as the public mind becomes more familiar with surgery, but this can only take place concurrently with its progress in the direction here indicated.

The prognosis of tuberculosis is always difficult, its medical treatment vague, empirical, and uncertain. It is only surgery which offers a really good prospect of success. Some may be disposed to question this, but the fact is in practice admitted, for when any other organ than the lung is attacked extirpation is the first remedy proposed and it is usually attended with success. Tubercle in the joints, tubercle in the glands, lymphatic or otherwise, in the bones and muscles, in the skin, in the abdomen and pelvis is successfully treated by operation, while the lungs—in which, after all, the greatest havoc is wrought by this disease—remain practically unexplored by the surgeon's knife. The futility of all other treatment was recognised a hundred years ago by John Hunter. "Internal remedies," he said, speaking of scrofula, "have very little power."[1] "Local applications—especially those of a stimulating kind—all prove injurious."[2] "As to external parts, the only certain cure is extirpation."[3] "The best surgical treatment for those cases which will not admit of removal is to do nothing."[4] He finally emphasises his opinion by the statement that short of complete extirpation even "cutting always does harm."[5] In principle all these statements still hold good. In practice they mean something very different. Then they meant that most cases were incurable. Now they mean that most cases are curable. The area of surgery has enormously increased since Hunter's time. Indeed, it has been revolutionised. Then the cases that would admit of removal were few. Now the

[1] Works of John Hunter. Palmer's edition, vol. i., chapter xxi, p 593.
[2] Ibid., p. 600. [3] Ibid. p 598.
[4] Ibid, p. 600. [5] Ibid.

exceptions are few and surgical treatment is the rule. The princip[illegible] however is just that region of the body where [illegible]. If "the only [illegible] ight to be [illegible] be to bring these great [illegible] the scope of surgery. [illegible] of the physician. It means a [illegible] pitch of his accuracy of diagnosis, as well as of th[illegible] and the skiagraphist, and [illegible] of the surgeon. It is tru[illegible] that "parts frequently get well [illegible] equally true that still in some cases "the only certain cure is extirpation."[7] T[illegible] are will tax all our powers of obse[illegible]

The danger, generally s[illegible] lung is well known and has been [illegible] times. πάγη δ' ἐν πνεύμονι χαλκός.' [illegible] ot seem to have taken place until the abdomen was also ripped open with a sword. 3000 years ago it was understood that wounds of the lung were not immediately fatal.[10] The experiments of Professor A. Richet of Paris[11] on the living dog showed that the total collapse of one lung from opening the pleura caused a considerable degree of dyspnœa (suffocation he called it), but very rarely an immediate fatal result. In man, he says, the case is different: the sudden loss of so large a proportion of the breathing apparatus causes fatal suffocation.[12] He gives one case (from the "Bulletin de Thérapeutique," 1842, tome xxii., p. 356) in which death occurred several hours afterwards from an accident in which the pulmonary pleura was torn open and the lung collapsed; and another (from the "Archives de Médecine," 1840, tome ix., p. 489) in which death took place in three hours, when the right lung was found torn in three places and so collapsed as to be hardly visible. In this case the injured lung was normally the larger of the two.[13] On the other hand, Professor Longmore, in Holmes's "System of Surgery," in his article on Gunshot Wounds, states that "when the compression is limited to one lu[illegible] pletely collapsed in consequence, [illegible] the chest wall be a large one, the [illegible] be wholly absent."[14] This, however, must be unusual. Indeed, all observers, both ancient and modern, are agreed that traumatic pneumothorax is a condition of great danger, though far less fatal than that resulting from ulceration of the pulmonary pleura from disease.[15] The traumatic form, too, when it affects only one side appears to be rarely fatal immediately. The danger is, *cæteris paribus*, in proportion to the degree of collapse.

This, then, is the most important danger in connexion with all operations involving the lung and pleura. The cause of this danger is an active and not a passive one. It was formerly taught that collapse of the lung in wounds of the chest-wall was due to atmospheric pressure. It is sufficiently obvious, however, that when the pulmonary pleura is intact and the parietal pleura opened the pulmonary pleura is subject to atmospheric pressure on both sides—on the outside through the hole in the chest-wall and on the inside through [illegible] as they [illegible] be ade[illegible] vital force at work also, and [illegible] inherent in the elastic tissue of the lung and is one of the factors in ordinary expiration. The experiments of Richet on the dead subject proved this to demonstration. When the lung was healthy and free from adhesions collapse invariably took place on performing artificial respiration after making a subcutaneous incision into the lung by means of a tenotomy knife.[16] When congestion, or even emphysema, was present in the lung the retractility, of course, was incomplete.[17] But the principal condition which intervenes to prevent collapse of the lung is adhesion of the pleural surfaces. The prevalence of this condition accounts no doubt for many of those cases of gunshot and other wounds of the lung which would otherwise be fatal.[18] In operations on the lung the same holds good. After all, what is the normal condition of the pleura, adherent or non-adherent? Adhesion is due to a morbid process and must therefore be pathological. But a process which after a certain age appears to have taken place in the majority of a species, and which tends to save life after operation or accident, if pathological, can hardly be considered abnormal or unnatural. A condition so prevalent, although apparently subject to no special rule, is anomalous on account of its extensive incidence and its protective influence in certain injuries. It is difficult to see why, important as pleuritic adhesions are in preventing collapse of the lung, all people should, as we suppose, be born without them and that a large proportion should subsequently develop them as a pathological condition. The statistics of their actual incidence it would be interesting to know. A good working majority might sometimes tend to justify an operation.

"Perhaps there is hardly one in fifty," said John Hunter, "who at the age of fifty is without adhesion of the lungs to the pleura."[19] If this is correct—and Hunter was a great dissector and an accurate observer—it looks well for operations on those over fifty years of age, but this is not the age at which we usually expect to meet with incipient tubercle, although it is by no means uncommon even at a much later age. In 1845 Richet, in making some researches on the lymphatics of the lungs, dissected 75 subjects. Of these 150 lungs 36 only were free from adhesions.[20] In this instance he was selecting healthy lungs as far as possible. Ordinarily the proportion of adherent pleura was much greater. "Pour mon compte," he says, "depuis plusieurs années que mon attention est attirée sur cette disposition, c'est à peine si j'ai rencontré un sujet sur deux dont les poumons fussent complètement libres dans la cavité pleurale"[21] These figures, however, as far as I have been able on a small scale to test them, seem to be hardly borne out by the experience of some of the more recent examinations. Of 283 cases recorded in the post-mortem book at St. George's Hospital for 1892, 149, or 52 per cent., appear to be free from adhesions or other affections of the pleura; 100, or 35 per cent., to present old adhesions; and 40, or 14 per cent., effusion or growths in the pleura. Of the 149 subjects with healthy pleura 34, or 22·7 per cent., were over 50; of the 100 with old adhesions 34, or 34 per cent., were over 50; and of the 40 with present pleural mischief eight, or 20 per cent., were over 50. The average age of the cases free from adhesions was 33, of those with adhesions 39·8, and of those with recent effusion 34

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[6] Ibid., p. 568. [7] Ibid., p. 568.

[8] I am not referring now to the electric cautery, the "point de fer" treatment, as it is called. This is already on trial and has been employed, I believe, with some success, especially in Paris. I refer to genuine cutting operations with the knife, in cases where it may be necessary to remove bodily large or small portions of the lung, or in which the "point de fer" treatment is for any reason inadmissible or insufficient.

[9] Iliad, Δ 523.

[illegible] more than it has ever been before [illegible] om wound of the lung among [illegible] The antiseptic treatment has given such wounds fair play and [illegible] opportunity of running their normal course, which in former wars they did not have. In them the deaths were evidently due, not to pneumothorax or emphysema or hæmorrhage, but to septic poisoning.

[11] Surgeon, when I attended his course in 1869-70, to the Hôpital des Cliniques, the special hospital in connexion with the Ecole de Médecine.

[12] A. Richet: "Traité Pratique d'Anatomie Medico-Chirurgicale," 1866, p. 581: "Dans l [illegible] sur les animaux, sur les chiens, par exemple, la privati[illegible] déterminé des suffoc[illegible] immédiate; mais l[illegible] suppression d'une aus[illegible] lieu à la vie, entraîne des suffocations mortelles.

[13] Ibid., pp. 582 and 583.

[14] Holmes's "System of Surgery," second edition, vol. ii, p. 191.

[15] Vide, inter alia, Matas on Acute Traumatic Pneumothorax, Annals of Surgery, April, 1899; Brit. Med. Jour., 1899, vol. i., epitome, par. 343. Pound on Injuries of the Chest, Holmes's "System of Surgery," vol. ii, p. 489. Aitken's "Science and Practice of Medicine," vol. ii., p. 762.

[16] Richet: Traité Pratique d'Anatomie Medico-Chirurgicale, p. 570 577, 578, 579.

[17] Professor Osler ("Principles and Practice of Medicine," p. 1[illegible]) appears to be of opinion, based on the experiments of Weil, that the cohesion between the two pleural surfaces is normally in excess of the elasticity of the lung and it [illegible] cases sufficient to prevent collapse. He admits, however [illegible] even followed exploratory pu[illegible] not seem quite clear that in [illegible] by Richet, the pleura was alw[illegible] explain the strange discrepancy between them and the cases [illegible] tioned, in which adhesions were obviously absent.

[18] One of the first, if not the first, to point out this fact was [illegible] in a paper in the Bibliothèque Medicale for 1827, entitled, "Sur les avantages de l'adherence du poumon aux parois de la poitrine dans les plaies penetrantes de cette cavité." The large proportion of recoveries from wound of the lung already referred to among Boers in South Africa is probably due in some degree to the persistence of this condition.

[19] Surgical Works of John Hunter, Palmer's edition, vol. i, p. [illegible]

[20] Traité Pratique d'Anatomie Medico-Chirurgicale, p. [illegible]

[21] Ibid.

The addition of phthisical cases, which are excluded from the hospital, but in which pleural adhesions are very largely prevalent, would perhaps raise the general incidence of this condition to more than 50 per cent.[22]

In operations of the lung where the pleura is free from adhesions pneumothorax, of course, is possible. Pneumothorax alone, however, and limited to one lung, is not by any means a necessarily fatal symptom. Phthisical cases (and these constitute nine-tenths of all cases in which the pulmonary pleura alone is perforated from disease) die from suppuration or spreading tuberculous mischief, but pneumothorax in an otherwise healthy person—and this includes traumatic cases—often ends in recovery.[23] Rarely indeed does death take place immediately. In the most severe cases recorded some hours have elapsed. It is evident, therefore, that in cases of operation, if a plan of treatment is decided on, there is ample time to carry it out and restore the parts to a more natural position long before fatal collapse ensues.

The first danger then, to guard against in operations on the lung—and this is present only when the lung is practically free from adhesions—is pneumothorax. In wounds of the lung, however, it seems to be, from recent experience, a not very frequent condition. In his report of the battle of Tugela Mr. Treves gives, among numerous chest wounds resulting in surgical emphysema and hæmothorax, and a case or two of empyema, only one of pneumothorax.[24] In the report of the Spion Kop action he lumps, together pneumothorax, hæmothorax [illegible] "taken as a whole," he says, "this [illegible] well."[25] Mr. Dent, in a report from [illegible] 10th, says that although "hæmothorax occurs pretty frequently" "pneumothorax" is rarely seen.[26] Sir William Thomson, writing from Cape Town on March 6th, says: "The penetrating bullet wounds of the thorax are numerous, but are all doing well."[27]

An experiment of John Hunter shows the natural tendency to heal of wounds in the lung and pleura. He shot a dog through the lung to see the process of suppuration in the pleura. "But," he says, "both nature and the dog cheated me, for ..... the dog would always lie on the wounded side. The lungs adhered to the wound and no further inflammation took place."[28] Notwithstanding the result in this case Hunter utters a strong warning against opening the pleural cavity even in cases of pneumothorax and surgical emphysema "because it will produce the suppurative inflammation all over the internal cavities and most probably make the wound in the lung ulcerate."[29] Meanwhile, surgery has made certain advances since the time of Hunter and suppuration is not now the universal bugbear which it was 100 years ago. The history of two recent cases of lung surgery will serve to show some of the possibilities in this direction. The first is a case related by Steiner of echinococcus of both lungs. The symptoms were those of disease of the liver and lungs with displaced heart and a loud murmur. On the left side the seventh and eighth ribs were resected at the back, the pleural cavity laid open, and the echinococcus removed. The lung immediately expanded and filled up the space formerly occupied by the echinococcus. In this case, which was that of a young girl, the operator, Professor Israel, did not trust to the existence of pleural adhesions but united the parietal to the pulmonary pleura by a circle of sutures round the tumour before operating. This is one certain method of avoiding collapse and pneumothorax. The patient recovered and the normal capacity of the lung was completely restored. The tumour on the left side came away through the bronchial tubes during an attack of broncho-pneumonia, but not without some permanent injury to the lung.[30] Surgical treatment, it seems, gave the best results. The second was a case of gangrene of the apex of the right lung operated on by Lejars at the Hôpital Beaujon. The patient was a man, aged 51 years, and, true to the dictum of John Hunter, the two layers of the pleura were adherent. Two inches of the second, third, and fourth ribs were resected in the subclavicular region. The lung was incised and a fœtid mass of filamentous tissue was extracted. The cavity was washed out with hot water, drainage-tubes were inserted, and the skin wound was closed and dressed with iodoform gauze. The operation was perfectly successful, but the patient died six weeks later from a second attack of gangrene, both lungs being infiltrated with tubercle. The opened cavity was healing.[31] It would seem that an early diagnosis of, and operation for, tubercle would have obviated all the mischief. An operation successful at this late stage and in such a condition of the lungs would, *a fortiori*, have been successful at an earlier period for the removal of tubercle at its first appearance.

Another method of preventing collapse and consequent pneumothorax is to excite adhesions artificially by irritating the layers of the pleura in the sound part of the lung beyond the seat of the mischief, thus blocking up that part of the cavity, leaving free, as far as possible, the tuberculous portion which it is intended to remove. This method, however, is objectionable on account of the well-known tendency of tubercle to spread in the lung after any form of pleuritic inflammation. A fourth method has been suggested by Matas in the paper already referred to.[32] His plan is to keep the lung inflated by continuing artificial respiration throughout the operation. This is done by means of a pair of bellows in connexion with an O'Dwyer's intubation tube passed into the trachea. This appears to be free from most of the objections which attend other methods and where there are no adhesions leaves the whole lung free both for exploration and for any operative proceedings that may be found necessary. By one or other of the above methods the danger of pneumothorax and collapse of the lung may be almost certainly avoided in pulmonary surgery. These methods are: (1) to sew the pulmonary to the costal pleura beyond the seat of the disease before operating; (2) to trust in certain cases to the existence of adhesions already formed if the physical signs give evidence of it; (3) to excite artificial adhesions in the pleura; and (4) to expand the lungs artificially from within. The last appears to offer the best prospect of success and can, moreover, be discontinued if extensive adhesions are found to be present.

The second danger is surgical emphysema. It is said that this condition may be fatal from its effect on the muscles of respiration or even from pressure on the phrenic nerve. Emphysema may result from four causes: (1) rupture of the trachea or larger bronchial tubes; (2) external wounds into the cellular tissues surrounding the costal pleura without lesion of the latter; (3) lesion of the costal pleura only with external wound; and (4) lesion of both pleuræ with or without external wound. The first two have no bearing on the subject. The last two are also causes of pneumothorax. Richet is of opinion that pneumothorax and emphysema do not usually occur together.[33] The air escaping from the lung into the cavity of the pleura would, it is argued, take the line of least resistance. This would be that of compressing the lung rather than of penetrating into the cellular tissue. When, however, the lung is fully collapsed there is no more alternate contraction and expansion and consequently no further escape of air into the pleural cavity. He considers that emphysema usually indicates *partial* adhesion. In this case the air escapes into the pleural cavity and, being unable to compress the lung on account of adhesion, penetrates into the cellular tissue. This, of course, would only occur when the external wound is small or non-existent. If it were large (as it would be in the case of an operation) the air would escape through it and emphysema would not occur. In a case under my care, however, occurring in a child in whom adhesions would presumably be absent, emphysema took place

[22] The attendant at the Chelsea mortuary, who has assisted at all the post mortem examinations for 11 years, gives me nine in ten as the proportion of adherent pleuræ, but this is only a cursory and unscientific observation and there are no statistics.

[23] Osler Principles and Practice of Medicine, p. 610.

[24] Brit. Med. Jour., vol. i., 1900, p. 221.

[25] Ibid., p. 599

[26] Ib'd, p. 663

[27] Ibid, p. 774.

[28] Works of John Hunter, Palmer's edition, vol. i, p 444. Two striking cases of recovery from wounded lung are given in the "Annals of Surgery" for April, 1899. In one there was a perforating wound of the liver, kidney, diaphragm, and pleura by the shaft of a wagon. There appear to have been no (or only slight) adhesions, as a quart of blood mixed with bile and urine was removed from the pleural cavity. The other was a wound with a sharp instrument into the lung through the eighth intercostal space (Brit. Med. Jour., August 19th, 1899, Epitome of Current Literature, par. 135).

[29] Works of John Hunter, Palmer's edition, vol. i., p 445.

[30] Centralblatt [illegible] Med. Jour., Jan. 22nd, 1898, [illegible] par. 60.

[31] Bulletin et [illegible] pitaux de Paris, March 9th, 1899. Brit. Med. Jour, May 6th, 1899, Epitome of Current Medical Literature, par. 326

[32] Annals of Surgery, April, 1899 Brit Med. Jour., May 13th, 1899 Epitome of Current Medical Literature, par. 343.

[33] This is, of course, in reference to cases where the air comes from the lung only.

over the chest, the neck, and the face.[31] The child, however, recovered rapidly and completely without any further symptom; and my opinion from cases I have seen, confirmed by the experience of the war in South Africa, is that emphysema is not necessarily, when uncomplicated, a particularly dangerous symptom. When the pulmonary pleura is intact the case is different. In Mr. Turner's case of rupture of the œsophagus at the Royal Medical and Chirurgical Society emphysema extended over the chest, neck, and face, and the lung was found to be totally collapsed.[32] It is doubtful, however, even in these cases whether the infiltration continues much after the collapse of the lung, as the suction of air through the external wound would then be much less powerful. In operations on the lung the conditions of emphysema should not occur. During the operation it is prevented by the free escape of air through the wound, while after the operation the entrance of air from without is prevented by its closure. From the experience of penetrating wounds at the seat of war the danger does not seem to be great. Sir William Thomson (March 6th) speaks of aspirating in some cases for hæmothorax but does not mention either emphysema or pneumothorax. Mr. Treves (Tugela) gives it (emphysema) as an occasional symptom, but the cases do well generally. At Spion Kop he gives pneumothorax, hæmothorax, and empyema, but no emphysema, while Mr. Dent (Feb. 10th), who refers to hæmothorax as common and pneumothorax as rare, makes no mention of emphysema at all.[33] In fact, surgical emphysema requires for its production a combination of conditions, some of which are usually absent, and although in operations on the lung it is possible for it to occur during the period which elapses between the closing of the external skin wound and the healing or blocking up of the wounds in the pleuræ, it is, for all practical purposes, a "quantité négligeable."

The third, and not the least important, danger is hæmorrhage. The pulmonary tissue is rich in blood-vessels, but these vessels increase in volume as we approach the pedicle and diminish towards the pleura. Therefore, as Richet observes, "superficial wounds, however large, are rarely followed by abundant hæmorrhage."[34] The earlier, then, that a tubercle is excised the less would be the danger. The history of gunshot wounds, too, shows that even when they are extensive the hæmorrhage is by no means necessarily fatal and that there is a considerable tendency to coagulation in the thick venous blood which issues from the arteries and capillaries of the lung. Among Sir W. Thomson's cases hæmothorax was not uncommon, but they all did well after paracentesis, and this seems to be the usual experience. In many other cases a single hæmoptysis was the only symptom, showing the natural tendency to a rapid cessation of hæmorrhage. In Israel's case the pulmonary pleura was possibly left intact, or wounded only to a very small extent. The question of hæmorrhage, therefore, did not arise. In Lojars's case the lung (or pulmonary pleura) was incised to a considerable extent, but here again hæmorrhage was presumably absent by reason of the morbid processes which had been going on in this part of the lung. Indeed, there is no mention of hæmorrhage. In cases where a cutting operation is required at the apex of the lung, and no adhesions are present, the diseased part, if not too extensive, might be included in a single ligature and the whole excised. In other superficial parts the same could be accomplished by drawing out the diseased part through the opening in the chest-wall with hooks or forceps. Where the disease is deeper or more extensive ligatures can be applied, after removal of the diseased portion of lung, to the larger vessels, the ligature in each case including the bronchial tube, with its accompanying artery and vein. In the first two classes of cases the most efficient method, perhaps, of preventing hæmorrhage would be by operating with the electric cœrasour. In the last the electric cautery could be applied after the use of the knife. In all the application of iodoform would be a useful adjunct, both as an antiseptic and a hæmostatic.

In all operations on the lung the introduction of bacteria from without, through the wound in the chest-wall, can be effectually prevented by modern antiseptic methods. But there is in these cases another channel of entrance for bacteria—viz., the trachea and bronchial tubes. The general experience of internal wounds of the lung where the skin is intact points to the pneumococcus as most to be feared in this direction. Pneumonia is the most frequent complication of rupture of the lung and the wounds caused by fractured ribs, injuries in which the trachea is the only [illegible] which resemble in this respect [illegible] external opening in the chest-[illegible]

Royal avenue, S.W.

[illegible]

31 [illegible]

32 Paper read [illegible]

is very prevalent [illegible]

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ACROPARÆSTHESIA.

BY F. H. EDGEWORTH, B.A., M.B. CAMB., B.SC. LOND.,
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THE affection called "acroparæsthesia" has, as far as I know, not been described as occurring in this country, though it undoubtedly does occur, and always causes much distress and sometimes leads to inability to work. I shall preface a few general remarks on the subject by describing three cases.

CASE 1.—The patient, a married woman, aged 44 years, engaged in household work, came to the Bristol Royal Infirmary on Dec. 29th, 1898, complaining that on lying down at night her arms up to the elbows became "numb and dead" and "burned" so that she could not sleep. She had suffered in this way for four years, though more especially during the previous nine months. If she sat up in bed and rubbed her hands and arms the disagreeable feeling would get better, but it returned on lying down again, so that she could not sleep until she was quite worn out. She also suffered in the same way though in less degree during the daytime on using her hands. The hands did not change colour during the attacks, nor did she lose the power of feeling with them or of moving them. But for this she considered herself quite well and could not remember having had any serious disease. She menstruated regularly and did not suffer from flushes or anything else suggesting the onset of the change of life. No symptoms which might be hysterical had occurred. On examination no evidence of anything amiss was found; there was no weakness or wasting of the muscles of the arms; the elbow jerks were absent; sensation for touch, heat, cold, and pain was intact; the skin was of a natural colour; and the radial arteries and pulses were normal. The thoracic and abdominal organs and the urine were healthy. There were no hysterical stigmata. On asking her to repeatedly pick up a pin from the table she said, after a short time, that the numbness and burning feeling were coming on, but no vasomotor change was apparent and sensation was still preserved.

CASE 2.—A widow, aged 48 years, a waistcoat maker, came to the Bristol Royal Infirmary on Dec. 14th, 1899. She said that for the previous three months she had suffered from a dead tingling feeling in both arms, at first in the left hand and afterwards in the right one also. When she was not doing anything she had the dead tingling sensation in the thumbs and fingers only, but on using the hands for any length of time this became much worse and gradually spread up to the elbows. She was consequently unable to earn her living and had to fall back upon parish relief. The feeling did not become worse at night and she could sleep well. The menopause had occurred nine months previously and she suffered much from flushes. As in the previously related case, nothing abnormal could be found on physical examination even when she had been using her hands for a considerable time.

CASE 3.—In this case the patient was a charwoman, aged 41 years. She came to the Bristol Royal Infirmary on Feb. 21st, 1900, and said that she was unable to do anything because using the hands brought on a dead tingling feeling in them which spread up to the elbows and was accompanied by a cramp-like pain, though there was no actual cramp of the muscles. This had been coming on for about five months and was gradually getting worse. She had had to give up her employment and she could not even dress herself or comb her own hair. When sitting quietly and not using her hands she had no tingling, dead feeling, or pain. At night the fingers felt as if they were swollen, though they did not actually swell, to that she took off her wedding ring

on going to bed. The menopause had taken place four months previously and at times she went "all of a fever." On examination nothing abnormal could be found either when she was at rest or when she was using her hands and suffering from the tingling and dead feeling.

These cases are closely similar to those which have been already recorded by Schultze,[1] Chabot,[2] and Lereboullet.[3] The patients were women, between 40 and 50 years of age, engaged in earning their living by manual work, and otherwise in good health. The abnormal sensation complained of was a dead, tingling feeling in the hands and arms, which occurred either at night (as in the first case), or on using the hands (as in the first and third cases), or persistent though much worse on manual labour (as in the second case). In all three cases no objective sign of anything abnormal was discovered either when the patients were free from or suffering from the abnormal sensation. No symptom or sign of hysteria was present.

The pathology of acroparæsthesia is unknown. According to Lereboullet the fault lies in the peripheral venous circulation which, by producing ischæmia, or it may be passive hyperæmia, results in serous infiltration of the terminal branches of the nerves. And certainly in some instances objective signs of vaso-motor disturbance have been noted. But this theory would cover at most a few only of the recorded cases and does not, for instance, explain those described above in which no vaso-motor changes were apparent. The origin of the disease is probably to be found in the age and sex of the patients and the affection may be related to those other abnormal actions of the central nervous system which are so apt to occur in women during the years preceding and following the menopause. The diagnosis should be based on the conjunction of these abnormal sensations with an absence or insignificance of signs of vaso-motor disturbance.

The affections with which acroparæsthesia is most likely to be confounded are hysteria, peripheral neuritis, erythromelalgia, acrocyanosis, acromegaly, and arterial degeneration. Cases of hysteria simulating acroparæsthesia may be diagnosed by the history or by the associated physical signs. Two such cases are the following.

CASE 4.—A woman, aged 43 years, came to the Bristol Royal Infirmary on Jan. 2nd, 1898, saying that for some months she had had a constant "dead" feeling in both arms, which was so distressing that she could not sleep at night or do anything by day. No objective sign of anything wrong could be detected. On making further inquiries she said that she also suffered from a lump rising in the throat and threatening to choke her and that a month previously she had had a fit lasting, she was told, about an hour. The symptoms point to this case being one of hysteria.

CASE 5.—The patient, a man, aged 50 years, a tailor, came to the Bristol Royal Infirmary on July 10th, 1899, complaining that he had a dead, tingling feeling in the right arm and hand lasting all day and preventing sleep at night, also that he could not feel properly with his right hand; for instance, he did not know except by looking whether his thimble was on or off. This condition had lasted for over a year and it was somewhat variable, being worse when his "nerves were low." On examination it was found that a slight right hemianæsthesia existed which was more marked towards the extremity of the upper limb. There was general contraction of both fields of vision and absence of both plantar reflexes, whilst the tendon jerks, abdominal and cremasteric reflexes, and muscular system were normal. This was obviously a case of hysteria.

As a rule, peripheral neuritis can be easily distinguished from acroparæsthesia, though in some cases sensory disturbances may be paroxysmal and resemble those of the latter disease, as is shown by the following case.

CASE 6.—The patient, a tailor, aged 65 years, came to the Bristol Royal Infirmary on April 24th, 1899, saying that he had been ill for three weeks suffering from pain and a dead, numb, pricking feeling in the left hand and arm; this was not constant, but in attacks of from two to three hours' duration several times a day. During these attacks he could not feel to pick up a pin. On examination there was found to be a general weakness of the muscles of the left arm and a blunting of sensibility for touch and pain below the elbow, increasing in degree towards the ends of the fingers and not limited by the distribution of individual nerve trunks. The nerve trunks in the posterior triangle of the neck and in the bend of the elbow on the left side were tender on pressure. No other abnormal signs were present and no history of traumatism, rheumatism, or gout was elicited. A blister on the neck and salicylate of sodium soon relieved him, and on June 5th muscular power and cutaneous sensibility had returned, though the tops of the fingers were said to be still "dead and tingling" at times.

Erythromelalgia can be distinguished from acroparæsthesia by the associated marked vaso-motor changes, by its affecting the feet and legs almost exclusively, and by its dependence on the position of the limb.

Acrocyanosis may be accompanied by abnormal sensations resembling those of acroparæsthesia; the paroxysms, however, are not dependent on using the hands but, at least at first, on external cold, and are always accompanied by well-marked signs of vaso-motor change.

In acromegaly the abnormal sensations in the arms and hands may, as the following case proves, closely simulate those of acroparæsthesia.

CASE 7.—A woman, aged 34 years, came to the Bristol Royal Infirmary on Sept. 27th, 1899, complaining that both her hands and arms felt dead and tingling, especially on first awakening, so that she could not dress herself in the morning. The tingling gradually wore off as the day went on. She had had this for the previous two years and it was gradually getting worse. She had also noticed for about the same length of time that her hands and feet were gradually increasing in size, more especially in breadth. It was found on examination that she had the spade-like hands, broad feet, and coarse features of acromegaly. There was neither anæsthesia of the hands or arms nor evidence of vaso motor disturbances. Under the administration of thyroid and pituitary extracts the abnormal sensations disappeared, though temporarily relapsing when she ceased for a time to take the medicine. The physical signs of acromegaly persisted.

In some cases paræsthesia of the hands may be dependent on arterial degeneration. The condition, however, may be distinguished from acroparæsthesia proper by the greater age of the patients, by the constancy of the abnormal sensations, by the presence of more or less anæsthesia, and by the existence of thickening of the arterial coats. The following are two such cases.

CASE 8.—A needlewoman, aged 60 years, came to the Bristol Royal Infirmary on Dec. 23rd, 1896, complaining of a constant dead tingling feeling in both hands which she had had for the previous nine months and which was gradually getting worse. The hands felt cold and numb and she could not readily pick up a pin or perform any delicate movement with them. She had generally drunk as much beer as she could afford. On examination the hands felt cold and looked bluish and slightly swollen. There was distinct dulling of sensibility to touch and pain in the hands and in the lower part of the forearms, more marked in the right than in the left hand. Muscular power was normal. The radial and brachial arteries were tortuous with thickened coats and the radial pulses were very small. The aortic second sound was somewhat accentuated and the apex beat was displaced a little outwards and downwards. The urine was normal and there was no dropsy. This condition persisted for the eight months during which she attended the Infirmary.

CASE 9.—The patient, a tailor, aged 65 years, came to the Bristol Royal Infirmary on April 9th, 1900, saying that he had a constant sense of numbness and tingling in both hands which had been gradually coming on since the previous November. This numbness and tingling got much better on putting the hands in hot water and when he became warm in bed at night. He also said that he could not feel with the fingers as well as he had been used to and had had to give up his employment. On examination it was found that there was some dulling of sensibility for touch, heat, and pain in both hands below the wrists without any definitely marked upper limit. Muscular power was good. The colour of the hands was normal, though they felt a little cold. There was no swelling. The radial and brachial pulses were small and the coats of the arteries were irregularly thickened. The aortic second sound was slightly accentuated and the apex beat was in the fifth space in the nipple line.

[1] Deutsche Zeitschrift fur Nervheilkunde, 1893.
[2] Thèse de Lyon, 1896. Brit. Med. Jour., Epitome, Jan. 21st, 1897.
[3] Gazette Hebdomadaire de Medecine, Sept. 21st, 1899. Medical and Surgical Review of Reviews.

The condition in these two cases is probably to be attributed to arterial degeneration with resulting insufficient blood-supply to the extremities; in neither was there evidence of arterial thrombosis which, as is well known, may be the proximate cause of even gangrene in atheroma.

These various affections which simulate acroparæsthesia ca[illegible] presence of physical signs wi[illegible] [illegible]gly persistent and very rebellious to treatment. It may last for years and seriously incapacitate the sufferer from earning a living. Quinine and galvanism have been recommended by Chabot and ergot is highly praised by Sinkler.[4] As far as my experience goes bromides combined with a small dose of nitro-glycerine were of most service. Under this treatment the first two cases described above completely recovered in six months.

Clifton, Bristol.

THE COMPARATIVE GERMICIDAL ACTION OF SOME DISINFECTANTS.

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THE following experimental investigation was undertaken in order to ascertain the relative germ-destroying power possessed by some of the so-called disinfectants in common use when tested under conditions as precisely similar as it is possible to obtain. For this purpose their individual action was tried upon the same species of germ, of the same degree of virulence, under the same general environment, and for the same length of time, by means of a method which, briefly stated, is as follows: a pure culture of a germ having first been obtained, silk threads are impregnated with this and are afterwards exposed to the action of the disinfectant to be tested in a solution of known strength for a certain definite length of time, at the expiration of which they are removed, well washed in sterilised water, and placed under conditions known to [illegible] of the germ in c[illegible] nt that the disinfe[illegible]ion has failed to destroy the vitality of the germ; in other words, that disinfection has not taken place, and *vice versâ*.

The specific germ selected for these experiments was the bacillus coli communis, a bacillus which occurs normally in the human intestinal tract, and in health appears to be innocuous, but which under abnormal conditions may become markedly pathogenic. This bacillus possesses some very distinct advantages for the purpose of this investigation: it is extremely easy to obtain it in large quantity owing to the profuse nature of its growth on potato; it has many characteristic reactions by which it can be readily distinguished from other bacilli and by applying these at different stages in the course of the experiments it is possible to establish the purity of the cultures throughout; while, since it has, for a non-sporing bacillus, a comparatively high power [illegible] results obtained with i[illegible] forcibly in the case of [illegible] of such as are pathoge[illegible] the stools of a young girl suffering from enteric fever by the method of successive gelatin plates. A pure culture having been obtained and proved by means of the characteristic reactions to be the bacillus coli communis, a stock culture was made on the sloped surface of agar-peptone bouillon in tubes and from these subcultures on potato were taken as required. These were made on the surface of freshly prepared sterilised potato medium, and were incubated at 37° C. for 10 days, when a profuse dark-brown growth, very characteristic of this bacillus, was found to have formed. This was removed with a thick sterilised platinum wire (care being taken not to carry along with it any of the potato medium), and mixed in a sterilised glass capsule with a little sterilised peptone bouillon so as to form a thick emulsion, into which the silk threads were immersed. These threads were cut from the finest "Turner's plaited silk," each being exactly one inch long, and were sterilised in a Koch's apparatus for one and a half hours in Petri's dishes, in which they were afterwards dried and kept till required for use. After immersion in the emulsion for 10 minutes the threads were transferred with sterilised forceps to a Petri's capsule, in which they were partially dried in the dark at a temperature of 24° C. for three hours by placing them in the "cool" incubator. They were next transferred to the disinfectant solutions to be tested, and after remaining in these for the allotted time were lifted out with a sterilised platinum hook, washed well in sterilised distilled water in order to remove any trace of disinfectant adhering to them, and placed each in a separate tube of sterilised peptone bouillon. These tubes were incubated at 37° C. for 10 days, being examined each 12 hours for the first 48 hours, after that daily. If no growth occurs the bouillon is perfectly clear at the end of this time; if it does occur the bouillon begins to show signs of turbidity at a period varying from 12 hours or even less to 72 hours. The presence or absence of growth is further shown by microscopical examination, and by the inoculation of gelatin plates. If no growth had taken place at the end of 10 days it was concluded that all the bacilli present on the thread had been killed by the disinfectant solution. In every case a control experiment was made precisely as above, except that sterilised distilled water replaced the disinfectant solution, and in each instance growth was found to be present at the end of 12 hours.

Objection may possibly be raised to the above method on the ground that some of the disinfectant solution might be carried over on the thread into the bouillon, and so, by its antiseptic or inhibitory action, prevent the development of bacilli in the thread which were not actually killed by it. To guard against this the threads were, as already stated, well washed in sterilised distilled water after removal from the action of the disinfectant, and as a further precaution all those tubes which exhibited no growth at the end of 10 days were re-inoculated from an emulsion of bacilli prepared as above and again placed in the incubator. In every such case growth occurred at the end of 12 hours, thus proving that the bouillon in these tubes was still a suitable medium for the development of the organism, and that their previous sterility was due, not to any transferred disinfectant, but to the fact that all the bacilli on the thread had been completely destroyed.

In order to establish a fair comparison between the germicidal effects of the various disinfectants tested I decided to allow the threads to remain in solutions of them for certain definite lengths of time, and to ascertain the weakest strength of any given disinfectant which would destroy all the bacilli on the threads in these times respectively—viz., one minute, five minutes, 10 minutes, 30 minutes, and one hour. For each strength of a disinfectant solution acting for a given time (e.g., carbolic acid, 1 in 20 acting for five minutes) six threads were used, each being subsequently placed in a separate tube of bouillon and incubated. In by far the majority of cases the result was the same in each of the six tubes, either positive or negative, showing that every care had been taken to prevent contamination of the threads in the process of transference from the disinfectant solution to the bouillon tubes. But occasionally, when approaching the limit of the germicidal power of the particular [illegible] to be the correct one. If, however, the discrepancy were more than this—e.g., four and two, or three and three—the experiment was repeated with a second set of six threads, and the majority taken.

The following substances were tested: bichloride of mercury, perchloride of mercury, chlorinated lime, formal aldehyde, lysol, carbolic acid, izal, medical izal, cresilin, Jeyes' sanitary fluid, Walker's I.X.L. disinfectant fluid, Condy's fluid, "sanitas" fluid, and boric acid. These experiments involved the inoculation and culture of some 2000 tubes of bouillon and were conducted in the laboratory of the Manchester Union Hospital, Crumpsall, during six months of my tenure of the resident medical officership there. The ultimate results obtained are arranged for ready comparison in the accompanying table, where, in addition to stating the weakest strength of each disinfectant necessary to kill the bacillus coli communis in the allotted times, I have in each case further stated that strength which just failed to do so.

In interpreting these results I wish it to be clearly understood that they are merely relative and can only be held to be absolute under the exact conditions laid down for these

[4] Philadelphia Medical News, 1891.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. PANCRAS INFIRMARY.

A CASE OF THROMBOSIS OF THE SUPERIOR MESENTERIC VEINS.

(Under the care of Dr. W. M. DUNLOP, medical superintendent.)

AMONG the many conditions simulating true intestinal obstruction there is none more interesting than thrombosis of the mesenteric vessels. Either the arteries or the veins may be affected; in thrombosis of the arteries the symptoms are very acute, but when the veins only are involved the more chronic forms of obstruction are simulated. Barth,[1] Bradford,[2] and Koster[3] have published cases of thrombosis of the mesenteric veins and 14 cases have been collected by Elliot. In most cases a diagnosis of intestinal obstruction is made and a laparotomy is performed. In one case in which the arteries were thrombosed the portion of bowel concerned was excised with success. For the notes of the case we are indebted to Miss Mabel Stevenson, M.B. Lond., junior assistant medical officer.

A man, aged 51 years, was admitted into the St. Pancras Infirmary in a state of extreme collapse. The patient could give very little account of himself, but stated that for some time he had been suffering privations and had had vague abdominal pain. Two days before admission he was suddenly seized with acute pain in the hypogastrium accompanied by vomiting. In this condition he was found by the police and taken to the infirmary. On admission he was evidently moribund, with subnormal temperature and pale and shrunken features. He complained of intense thirst, but the ingestion of the smallest quantity of food provoked copious vomiting of greenish-black fluid which was entirely free from fæcal odour. There was acute pain in the abdomen which was paroxysmal in character. The abdominal walls were flaccid, there was no abdominal distension or tenderness, and the respiratory movements were normal. A few hours later a quantity of bright red fluid blood was passed per rectum. The pain lessened considerably after this, but the patient quickly sank from exhaustion, death taking place within seven hours of admission.

Necropsy.—On post-mortem examination the body was found to be spare and thin, but not emaciated. The abdominal viscera were normal in position. Two feet of the middle part of the ileum were intensely congested, almost black in colour, but not distended. There was a sharp line of demarcation between the diseased and the healthy portions of the bowel, extending into the mesentery along the line of vessels supplying the affected part. There were no signs of peritonitis. On section the intestinal wall was thick and œdematous; the mucous surface was intact. The intestine contained some bloody fluid, similar to that passed before death, but no fæcal matter. The veins in the congested portion of the mesentery were uniformly plugged with firm, dark clotted blood; the corresponding arteries were pervious and healthy. The venous thrombosis did not extend beyond the affected part of the mesentery and no evidence of thrombosis was found in the rest of the venous system, neither could any cause for thrombosis be detected. The rest of the viscera were pale and shrunken, but showed no evidence of disease. The case was apparently one of primary thrombosis of the superior mesenteric veins.

[1] Semaine Médicale, 1897, p. 395.
[2] Transactions of the Clinical Society of London, 1898, vol. xxi., p. 203.
[3] Deutsche Medicinische Wochenschrift, May 26th, 1898.

MONSALL FEVER HOSPITAL, MANCHESTER.

TWO CASES OF PERFORATION OF THE INTESTINE DURING AN ATTACK OF TYPHOID FEVER TREATED BY LAPAROTOMY; ONE RECOVERY.

(Under the care of Dr. R. W. MARSDEN, medical superintendent.)

THERE is no more dangerous complication in typhoid fever than perforation of an ulcer. It is difficult to state with accuracy the mortality from these cases when treated medically, for in most of those in which the patients have recovered after apparent perforation a great doubt must always remain that perforation has not taken place, but we shall not be over-estimating the death-rate in such cases, when not treated surgically, if we put it as at least 90 per cent. Monod and Vauverts[1] have shown conclusively that the mortality in cases treated surgically is certainly less than this. Finney[2] collected 52 cases in which laparotomy was performed, and of these 17 patients recovered. In 1898 there had been recorded 83 cases and 16 recoveries, a mortality of a little over 80 per cent. This is still a high death-rate, but when we consider the low general condition of the patients we are justified in thinking the result good.

CASE 1.—On Nov. 23rd, 1899, a youth, aged 16 years, was admitted into the Monsall Fever Hospital suffering from typhoid fever. He had been ailing for a fortnight and on Nov. 22nd an examination of the blood had shown that it gave the Widal reaction. Clinically the symptoms were distinctive of a moderately severe attack of typhoid fever—i.e., rose spots, enlarged spleen, general bronchitis, a temperature of 104° F., &c.—but the abdomen was soft and free from tumidity, and there was only slight diarrhœa. On Dec. 10th he began to convalesce and the temperature remained normal until the 25th, when a relapse occurred. The relapse was only of moderate severity and was not accompanied by abdominal fulness or diarrhœa, and after 10 days—i.e., on Jan. 4th, 1900—it seemed to be terminating. The general condition of the patient at this time was extremely satisfactory. At 4.30 P.M. on that day, however, he complained of acute cutting pain in the abdomen, which caused the legs to be drawn up and was accompanied by an ineffectual desire to micturate. At 5.30 P.M. the pain was worse, the abdominal muscles were in a state of tonic contraction, and on percussion there was an absence of liver dulness at the ends of the eighth, ninth, and tenth ribs on the right side. The pulse was 88, the temperature was 99·2°, and there was no evidence of "primary shock." At 10.30 P.M. the condition of the abdomen was as described, there being a little fulness, but marked tenderness midway between the umbilicus and the right anterior superior iliac spine. In the interval a greenish fluid had been vomited on three occasions. As the patient was now looking much worse, the eyes being sunken, the pulse 120 and small, the temperature 102·8°, and the respiration of a purely thoracic type, Dr. Marsden decided to perform laparotomy.

The operation was done at 1 A.M. on Jan. 5th, 1900, apparently eight and a half hours after the onset of peritonitis. On opening the peritoneum through a median incision three and a half inches long, a considerable quantity of yellow serous fluid exuded, having a milky appearance from the presence of minute particles of lymph. The intestines were not at all distended—in fact, their walls were quite flaccid and soft. The first loop withdrawn contained a Meckel's diverticulum about one inch in length, and with this excellent landmark there was very little difficulty in finding the perforation, which was situated six inches to the cæcal side of it. It was small, round, about three millimetres in diameter, and, as usual, there was the increased quantity of lymph on the bowel in its immediate neighbourhood. The patches of lymph had a very "curdy" appearance and were readily wiped off. The perforation had occurred in the centre of a greatly thickened patch and had apparently arisen from a progressive ulceration, as there were no signs of sloughing at the edges. There were no peritoneal adhesions—in fact, there was a remarkable absence even of "stickiness" between opposed peritoneal surfaces, and though two and

[1] Revue de Chirurgie, March, 1897.
[2] Annals of Surgery, March, 1897.

a half feet of bowel were examined only one other inflamed patch could be detected through the walls The perforation was closed by folding inwards and uniting the peritoneum from each side of the patch by means of interrupted Lembert's sutures A large drainage tube being passed towards the pelvis, the abdominal cavity was thoroughly irrigated with warm saline solution and the operation terminated after lasting 30 minutes The patient's general condition did not seem to have suffered any deterioration, and with the exception of repeated attacks of vomiting during the next 38 hours the further course was one of uninterrupted progress The tube, which had been shortened daily, was removed on Jan 10th as there was no discharge and the wound was allowed to heal The patient left the hospital apparently perfectly recovered on Feb 13th

CASE 2 —A youth, aged 18 years, was admitted into the Monsall Fever Hospital on Jan 30th, 1900, suffering from a moderately severe attack of typhoid fever He had been ill for two or three weeks previously and from the above date to Feb 8th, when the first indications of perforation occurred, there were no signs of improvement Rose spots were numerous, the temperature continued between 102° and 104° F, the pulse remained about 120 per minute, there was marked general bronchitis and he was delirious There was only slight diarrhœa, and the distension of the abdomen, which was considerable on admission, had appreciably diminished On Feb 8th, at 8 45 A M, he complained of pain in the abdomen after defecation, and an examination revealed general tenderness over the hypogastrium, with absence of liver dulness internal to the nipple line At the same time it was noticed that the respirations were shallow, 44 per minute, and purely thoracic At 2 P M the tenderness was more extensive and the liver dulness was absent internal to the anterior axillary line The temperature remained steadily between 102° and 103°, but the pulse which was small and 158 per minute immediately after the onset of the pain, fell to 141 by 4 1 M, so that, the preliminary shock having evidently passed off, Dr Marsden decided to attempt a laparotomy

The operation was begun apparently about eight hours after the onset of peritonitis A median incision was made and on opening the peritoneum a considerable amount of light yellow milky fluid exuded The bowel was found to be only slightly distended, but much injected, and there were no signs of adhesions

A considerable length of the perforation could be detected by the increased amount of lymph upon the intestine in its neighbourhood It occupied the centre of a thickened, œdematous patch, and its edges were distinctly sloughy, whilst thin fluid yellow fæces were exuding from the opening It was closed, as in the former case, by interrupted Lembert's sutures, but owing to the œdematous condition mentioned the peritoneum was very friable, and after three unsuccessful attempts to hold the surfaces together the sutures had to be entered into the outermost part of the thickened area There was evidence of numerous other inflamed patches in the bowel but there were no signs of another perforation, so that a tube being inserted into the pelvis the peritoneal cavity was irrigated with warm saline solution and the operation terminated after lasting 35 minutes At the end of the operation the patient was evidently collapsed, the temperature in the axilla being 98 4° the extremities cold, and the face and hands slightly cyanotic He rallied, however, and on the next day (Feb 9th) seemed to be progressing favourably, but on the 10th he was distinctly worse and he died on the same afternoon 48 hours after the operation

Remarks by Dr MARSDEN —Laparotomy for perforation of the intestine in typhoid fever is still sufficiently in its infancy to call for a record of the various cases in which this treatment is pursued and the patients who have recovered are sufficiently rare to demand a detailed account of the individual cases in order that reliable statistics may be obtained for future guidance It is with this object in view that I have ventured to report the above cases It is impossible to imagine two cases which could better illustrate Hecker's statement when he says "Naturally the cases operated on after relapses or toward the end of the acute febrile attack will result better than those in which the perforation occurring earlier requires the patient not only to recover from the operation but to have strength enough to carry him through the fever which has not as yet subsided In Case 1 the patient was at the end of a relapse and evidently about to convalesce, whereas in Case 2 I think that the fatal termination was undoubtedly almost solely due to the typhoid toxæmia Moreover, from a consideration of these two cases alone one cannot help concluding that such factors as age, time of operation after perforation, and type of case—i e, whether a tympanitic abdomen preventing leakage of intestinal contents or a doughy abdomen allowing free extravasation—are insignificant as regards a successful issue compared with the general condition of the patient at the time of the operation

Medical Societies.

OPHTHALMOLOGICAL SOCIETY.

Occlusion of the Central Retinal Artery on Both Sides —The Arithmetical Triangle in Ophthalmology —Dermoid Tumour of the Conjunctiva — Periarteritis of the Retinal Arteries — Illustrations of Forest Scenery executed by an Artist after Cataract Extraction — Ophthalmitis associated with Basal Meningitis — Exhibition of Cases and Card Specimens

AN ordinary meeting of this society was held on June 14th, Mr ANDERSON CRICHTON, President, being in the chair

Mr W H ILES described a case of Occlusion of Both Central Arteries of the Retina The patient was a woman, aged 35 years, married nine years, who had no children living She had had one miscarriage soon after marrying and eight months ago she was delivered of a child at the ninth month which only lived a few hours On Oct 24th, 1899, on awaking she found that she could not see with the right eye although she was quite well at the time and had had no previous illness except an attack of influenza nine years and epistaxis two years back which continued for some weeks On ophthalmoscopic examination the eye presented the symptoms of embolism of the central artery There was doubtful perception of light The left eye was normal On Dec 28th, 1899 she suddenly at 11 20 A M lost the sight of the left eye, and on examination all the signs of embolism of the central artery were present and there was no perception of light Both optic discs were now atrophied, the retinal vessels were reduced to mere threads, and in places there was a white thickened condition of the sheath (periarteritis) The vision of the right eye had improved to $\frac{1}{6}$ but with the left there was perception of light only The patient had been treated with mercury by inunction and internally The interest of the case was in the arteries of each eye being affected and in the fact that the only symptom and sign pointing to embolus was the suddenness of each attack No possible source of the emboli could be suggested This rather pointed to a retinitis being the predisposing cause, and considering the great improvement of the vision under treatment it was probably of syphilitic origin The changes seen in the vessels pointed to arterial degeneration —Mr E T COLLINS described the case which he had shown before the society in 1897 The patient also had epistaxis and amenorrhœa He suggested the possibility of hæmorrhage into the optic nerve-sheath —Dr J MACDONALD asked if the patient had any uterine disease and suggested that spasm of an artery might last long enough to cause gangrene —Mr R W LOVNE thought that after embolism the peripheral parts of the retinal vessels were usually somewhat larger than the central portion, and this not being so in Mr Iles's case was suggestive of arterial disease as the chief cause of the condition —Mr ILES, in reply, said that he agreed with Mr Doyne and also stated that there was no uterine disease

Mr C WRAY read a paper entitled "The Arithmetical Triangle in Ophthalmology How to Use It and What It Reveals This method of investigation was a new one and Mr Wray's plan of using it was as follows Determine the maximum negative error of refraction and assume provisionally in accordance with the general law of error, that the positive errors will be equal in amount and frequency The paper assumed the negative error + 11—that is, 1 D under L —and this suggested the use of the trial lens

* Complication and Sequelæ of Typhoid Fever, p 22

line of the triangle, with the result E. = 15 per cent., M. 26 per cent., H. 59 per cent., and myopia over – 6 D. 0.66 per 1000, the minimum number found in any province of France being 1 per 1000 (French army statistics). If the twenty-fifth line were used under the assumption that the commonest refraction is E., then there would be E. 13.2 per cent., M. 43.4 per cent., and H. 43.4 per cent. This would raise the myopes with over – 6 D. far over 14.7, the very highest number that occurred per 1000, and prove E as the commonest refraction impossible. It would appear as though the highest myopia transmissible was – 11 and that the maximum grades were due to non-hereditary causes acting in addition. Mr. Wray deduced that there was no evidence that the effect of civilisation was as serious as it was usually thought, seeing that an increase of 1 D. in the commonest or normal refraction was an impossible and unnecessary hypothesis. Indeed, in that case there would be three cases per 1000 with over 6 D. of myopia from heredity alone, not counting those classed as over 6 D. from such patients generally preferring a – 6.5 lens, spasm of accommodation, &c. Seeing that the maximum is 14.7, very little room is left for the causes that operate seriously in producing acquired myopia.

Mr. SIMEON SNELL (Sheffield) related a case of Congenital Papilloma of the Conjunctiva which occurred in an infant, aged five months. The tumour hung from between the eyelids and fell over the lower lid at about its outer third, the lower part of the growth being enlarged into a rounded ball of about the size of a small pea. It was attached to the conjunctiva about halfway between the corneal margin and the inner canthus, and somewhat broadened out at this attachment. The stalk measured about half an inch, but traction readily lengthened it to an inch. The growth was snipped off with scissors. Mr. Treacher Collins had kindly examined the specimen and he had reported that its microscopical appearances were similar to those of a dermoid cyst of the eye.—Mr. J. GRIFFITH thought that the case should really be called a dermoid tumour, and with this opinion both Mr. COLLINS and Mr. SNELL agreed.

Mr. SIMEON SNELL related a case of Periarteritis of the Retinal Arteries and exhibited an Ophthalmoscopic Drawing. The patient was a woman, aged 43 years, and when first seen the sight in the right eye had been failing for about four months. On ophthalmoscopic examination a peculiar appearance of the arteries on the optic disc was observable. The arteries were encased in a snowy-white and somewhat glistening sheath. This appearance extended only a short distance beyond the optic papilla, and was confined chiefly to the arteries on the expanse of the disc. The vision equalled $\frac{1}{60}$. There was only one small hæmorrhage in the retina but now there were two others on the disc. In the left eye the appearances were very much less marked but the disease was evidently commencing. The vision equalled $\frac{6}{9}$. The urine contained a trace of albumin and there were granular casts. The arteries were rigid and tortuous and there was hypertrophy of the left ventricle. Reference was made to Mules's case recorded in the second volume of the Transactions of the Ophthalmological Society of the United Kingdom, but in the present instance, whilst the changes were confined to the optic disc and its immediate neighbourhood they appeared to be much more pronounced.—Mr. JESSOP asked if the fields of vision were contracted and, in reply, Mr. SNELL stated that such was the case.

Mr. SNELL also exhibited an Illustrated Book on Forest Scenery. The interest attaching to the work was that the illustrations, which were very numerous and of a high-class character, had all been executed by a gentleman, a patient of his, who had several years before undergone extraction of cataract in one eye. The other eye was useless for visual purposes owing to complete cataract. The same gentleman, an amateur artist, had been a successful exhibitor at the Royal Academy, but before the operation his paintings had not been accepted.

Mr. SYDNEY STEPHENSON read notes of a case of Ophthalmitis in a child of seven months associated with Simple Posterior Basic Meningitis. An effusion of lymph into the anterior chamber of one eye was seen followed by closure of the pupil, diminution of tension, and shrinking of the globe. Death took place on the thirty-third day of the disease which was characterised by retraction of the head, convulsions, progressive wasting, and fluctuating temperature. At the necropsy lympho-pus was found on the medulla and surrounding parts and could be traced along the crura, the optic tracts, and the commissure to the left optic nerve. The meningeal exudation was found to contain several micro-organisms including the diplococcus intracellularis meningitidis of Weichselbaum. Microscopically evidences of inflammation were traced from the chiasma and along the optic nerve to the papilla of the inflamed eye. The essential pathological changes in the eyeball itself were neuro-retinitis along with diffuse inflammation of the uveal tract. Mr. Stephenson concluded that inflammation passed from the cerebral meninges along the optic nerve to the eyeball, probably by means of the perivascular lymph sheaths.

The following cases and card specimens were shown:—

Dr. J. ROWAN: Sections of the Healing Stump of an Optic Nerve four days after Enucleation.

Dr. J. HERN: (*a*) A case of Essential Shrinking of the Conjunctiva; (*b*) Persistent Pupillary Membrane; (*c*) case of Abnormally large Cornea and deep Anterior Chamber.

Mr. H. E. JULER: Retinal Detachment with (?) intraocular growth.

BRITISH GYNÆCOLOGICAL SOCIETY.

Exhibition of Specimens.—Indications for the Removal of the Uterine Appendages.

A MEETING of this society was held on June 14th, Dr. W. J. SMYLY, the President, being in the chair.

Dr. W. H. A. NEWNHAM (Bristol) showed a Uterine Myoma removed by Intraperitoneal Hysterectomy from a patient, aged 24 years.

Dr. G. ELDER (Nottingham) showed a Double Ovarian Dermoid Tumour.

Mr. J. FURNEAUX JORDAN (Birmingham) showed Specimens Removed by Vaginal Cœliotomy.

The discussion on a paper by Dr. MACPHERSON LAWRIE upon Indications for the Removal of the Uterine Appendages which was adjourned from the last meeting was opened by a communication from Dr. MACNAUGHTON-JONES, sen., who was unable to be present. He held that there was unanimity of opinion as to the necessity of removing the appendages in the case of (1) disease of the oviduct, suppurative, cystic, or other, destroying its integrity and obliterating its lumen; (2) in blood cysts both of the ovaries and Fallopian tubes; (3) in solid tumours of the ovary; and (4) in most cases of ectopic gestation. As to the large number of sufferers from reflex troubles and nervous conditions, in which gross changes might or might not be found in the genitalia, it had often been proved that the pathological changes found in the ovaries and tubes, though not apparently of great importance on examination beforehand, had been of a grave character, incurable in their nature and therefore wrong to leave unremoved. On the general question of the removal of the whole or part of the internal genitalia, such removal was not to be considered except (1) where other therapeutical steps had either been tried and proved valueless or the procrastination involved in resorting to them was both directly and indirectly injurious to the woman; and (2) when the risk of operation was less than that of non-interference.

Dr. C. H. F. ROUTH strongly opposed the removal of the uterine appendages, whether the inflammation was suppurative or not. In the former case the plan he advocated was aspiration of the tumour, followed by the injection of iodine. He considered that they had no right to remove the ovaries on account of pain, especially as oöphorectomy altered the frame of the woman's mind and predisposed to insanity.

Dr. G. ELDER (Nottingham) said that none of them doubted the propriety of removing the appendages for pyosalpinx, suppurating ovaries, ectopic gestation, and tumours, and some of them believed in removing the ovaries for myoma in certain cases. But there were grounds for discussion as to the propriety of dealing with non-suppurative diseases such as Dr. Lawrie had described in group "*a*." When the late Mr. Lawson Tait had the inspiration to remove the ovaries and tubes in the case of inflammatory conditions it was a great advance on previous methods. No doubt many ovaries and tubes were subsequently removed that ought to have been allowed to remain. Probably most of those present had removed ovaries which on after-consideration they would have allowed to remain. He was led to reconsider the matter by the fact that in some instances after the removal of the appendages the pain was no better than before. His own practice now in doubtful

cases was to examine the patient under an anæsthetic and, if necessary, make an exploratory incision, dealing with the appendages according to the condition found at the time.

Mr. E. STANMORE BISHOP (Manchester) took exception to some points in the paper—e.g., to the recommendation that a pyosalpinx should be tapped and drained, if by this was meant that the swelling should be aspirated by means of a trocar. A free incision was needed, otherwise the sac would fill up again. Dr. Lawrie had mentioned two classes of cases of myoma where he advocated oöphorectomy—

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appendages because they were diseased and not on account of the myoma; in the second case, he would point out that the removal of the appendages was often insufficient to control the hæmorrhage. With regard to a second operation, his view was that this was always bad for the patient.

Mr. J. FURNEAUX JORDAN (Birmingham) agreed with the greater part of the paper. He did not think, however, that a conservative reaction could go too far. In one case of pyosalpinx he incised and washed out the tube with a good result. In another case of cystic ovaries he removed one ovary and dealt with the other ovary by ignipuncture and the patient bore a living child 12 months later. He held that the appendages should never be removed unless they were palpably diseased and for the determination of this point an exploratory incision was often valuable. He agreed with Dr. Lawrie's remarks about oophorectomy for myoma and, contrary to Mr. Stanmore Bishop's views, he held that hysterectomy was easier after a preliminary oöphorectomy, for he had operated under those circumstances in three cases.

Mr. J. BLAND-SUTTON expressed his interest in Dr. Lawrie's paper and said that it was important to observe how much the operation of oophorectomy had become limited in recent years. From the beginning of his surgical career he had always acted upon one rule—never to remove ovaries and Fallopian tubes unless there was very tangible evidence of disease in these structures. Increased experience had taught him to limit the removal of tubes and ovaries to two sets of conditions—viz., inflammatory lesions and tubal pregnancy. Under the title of inflammatory lesions of the uterine appendages he included chronic salpingitis, pyosalpinx, and hydrosalpinx, and also tuberculous salpingitis. These were the commonest conditions for which double oöphorectomy was required. The extreme frequency of gonorrhœal and post-partum endometritis among hospital patients was in striking contrast to its infrequency among private patients, and this he believed was due to the fact that the poorer harlots took less care of their genitals than the well-to-do courtesans; and that the wives of the poor did not receive the same careful obstetric nursing as the wives of the rich. He had never performed oöphorectomy for the cure of neurotic conditions and he discountenanced removal of ovaries in patients with dysmenorrhœa when there were no obvious physical signs. It was disappointing to find that such a progressive surgeon as Dr Lawrie still practised the removal of ovaries for the relief of fibroids, but that operation, like the still more unsatisfactory one of double oöphorectomy for the relief of mammary cancer, was rapidly disappearing from the field of legitimate surgery. The results in Dr. Lawrie's series of cases were very satisfactory. Dr. Victor Bonney had drawn up a series of cases in which Mr. Bland-Sutton had performed abdominal oöphorectomy for inflammatory lesions and tubal pregnancy at the Chelsea Hospital for Women since he was appointed surgeon to that institution The table contained 92 consecutive cases and there were no deaths in the series. This gratifying result was due to the maintenance of thorough asepsis, abstention from irrigation, and the substitution of a strip of sterilised gauze for the drainage-tube. Mr. Bland-Sutton requested that his table of cases should be appended to his remarks when they were published in the society's journal. His results in private practice had been equally successful, but he preferred to publish the table drawn up by an independent person, with the dates and initials of the patients operated upon in a public institution where anyone could examine the records.

Mr. F. BOWDEMAN JESSETT thought that Dr. Lawrie's attitude had been misunderstood. It had been assumed that he advocated operation in all cases, whereas he specified that it should be restricted to cases in which other methods had failed. Dr. Mary Dixon Jones had shown that there were cases in which the ovaries presented no enlargement and yet were much diseased, and he imagined that some of Dr. Lawrie's cases came under this category. He thought that the plan advocated by Dr Routh in the case of pyosalpinx was not without considerable risk.

Mr. SKENE KEITH remarked that he did not believe in removing ovaries from patients who were in perfect health. There was a condition of the ovaries to which no reference

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became emaciated; if the general health of the patient was not thus affected it was not time to operate. He did not agree with Mr Bland-Sutton as to oöphorectomy for myoma; if the whole of the ovaries were removed he would guarantee the cure of the bleeding.

Dr. FREDERICK EGGE (Wolverhampton) said that no doubt the results of conservative operations on the appendages had been disappointing in many cases but they had been equally gratifying in others, and the practical point was to find out in which cases it was well to try conservative methods. It had struck him that the cases where conservative plans had failed were much the same as those in which the removal of the appendages was not followed by full recovery—i.e., the uterus and other pelvic structures were implicated, and either radical removal of the uterus and adnexa should be performed or the case should be left to medical treatment. It was a rule with him to remove the appendages and not to try conservative operation in gonorrhœal cases; but Mr. Taylor had shown that many of these cases had a syphilitic basis, or at least alterative treatment would relieve them.

Mr CHARLES RYALL pointed out that the tendency to the removal of the ovaries had diminished since it was realised that they had a function of internal secretion which had an effect on the whole system. He believed that oöphorectomy for myoma should be abandoned except in the conditions mentioned by Mr Furneaux Jordan.

Dr. ARTHUR GILLS thought the justifiability of operations such as those grouped together by Dr. Lawrie as class "a" must largely depend on their results. If a condition incapacitated a woman and prevented her from earning her living and an operation would restore her to health and usefulness he thought that Dr. Lawrie was right in saying that it was the duty of the surgeon to perform it. They required, however, to know more of the after-histories of these cases. Neurosis was a frequent cause of failure of these as well as of other operations, and he felt that in dealing with a neurotic patient no operation at all should be performed except as a matter of the most absolute necessity. He pointed out that oöphorectomy had failed to relieve hæmorrhage in cases of myoma, not only owing to a portion of ovary being left behind, but also

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cavity of the uterus ought always to be first explored to eliminate this source of failure. The cases of myoma requiring oophorectomy were now, in his opinion, very few.

Dr. MACPHERSON LAWRIE briefly replied.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases, &c.—Blood-pressure in Sleeplessness and Sleep.—Origin, Development, and Structure of the Umbilical Cord.

THE eighth ordinary meeting of this society was held on June 6th, Dr. A. O. MILLER, the President, being in the chair.

Dr JAMES CAMERON exhibited a woman, aged 50 years, suffering from Adipo[illegible] Dolorosa; a large [illegible] pendulous tumour was present.

Mr C. W. CATHCART exhibited:—1. A boy on whom he had performed Laparotomy for Intestinal Obstruction caused by

an accumulation of foreign bodies in the lumen of the tube, together with the pressure of a calcareous tuberculous gland on the outside. The obstructive material had evidently been eaten in an Italian salad and had undergone no digestion. The boy was not seen until three days subsequent to the onset of obstruction and when operated upon was in a very collapsed condition. 2. A woman from whom he had Excised a Portion of Gangrenous Bowel resulting from a Strangulation of a Femoral Hernia.

Mr. C. W. CATHCART also showed a Surgical Operating Case made in the shape of a box of polished zinc and having a waterproof covering. Such a case was much preferable to the ordinary surgical bag which could not be sterilised. In this case various parts (such as the lid, one side, covers of boxes, &c.) were removable and formed trays for holding the instruments in antiseptic solutions. All the parts were easily sterilised and, moreover, the case was comparatively cheap and compact.

Mr. C. W. CATHCART also showed a portion of the Sigmoid Flexure removed on account of a new growth.

Dr. LEWIS C. BRUCE read a paper on the Blood-pressure in Sleeplessness and Sleep. The instrument employed to estimate the arterial blood-pressure was Barnard and Hill's sphygmometer and the statement of Hill that "the normal general arterial pressure in the horizontal posture equals about 110 mm. of mercury" was assumed to be correct. The first points investigated were: (1) Were there any unusual conditions of blood-pressure which were associated with sleeplessness in mental disease? (2) What changes occurred in the blood-pressure when sleep was induced in these cases by drugs? There were two classes of cases met with: (1) conditions of sleeplessness with high blood-pressure—i.e., above 130 mm. of mercury; and (2) sleeplessness with a low blood-pressure—i.e., below 110 mm. of mercury. The drugs employed to promote sleep were the following: paraldehyde, sulphonal, trional, and bromide of potassium. In the group of cases with a high blood-pressure paraldehyde in large doses (two drachms) was found to be the most certain sleep producer; sulphonal came next in power, and then trional. Bromide of potassium was found to be unsatisfactory. When sleep was induced by any of these drugs the blood-pressure always fell to, or even below, 110 mm. of mercury during sleep. In the second group of cases, sleeplessness with low blood-pressure, paraldehyde in large doses of two drachms acted as a cerebral excitant, tended to raise the blood-pressure, and satisfactory sleep was never obtained After small doses, however—from 15 to 30 minims—these same patients slept well. In this second class of cases trional in 20 grain doses and then sulphonal were the most satisfactory drugs. Trials were also made of erythrol tetranitrate in doses of one grain per day in cases of insomnia with high blood-pressure, the object being to induce sleep by artificially lowering the blood-pressure. Of nine cases three were immediately and permanently benefited, three were very temporarily relieved, and the remaining three cases were not affected by doses of even two grains per diem. A second series of observations was made upon convalescent patients in order to throw light upon the following questions. 1. Was sleep possible with blood-pressures of 130 mm. of mercury or higher? 2. What relation did the morning blood-pressure bear to the evening pressure when a person was sleeping well? 3. Were there any differences in the blood-pressure of the same person asleep under the action of drugs and during natural sleep? The results were as follows. 1. Sleep was possible with high blood-pressures, but the pressure always fell to 110 or about 110 mm. of mercury after the condition of sleep was established. 2. The general blood-pressure was, as a rule, higher in the morning than in the evening in a state of health and the reverse of this held good in some cases of sleeplessness. 3. In the drug sleep induced by paraldehyde the blood-pressure fell at its lowest about 10 mm. of mercury below the habitual blood-pressure of the same person when sleeping naturally. As the effect of the drug passed off the blood-pressure rose and eventually passed to the blood-pressure habitual to that person in natural sleep; in short, drug sleep passed in some cases into natural sleep.—The paper was discussed by Dr. T. S. CLOUSTON, Dr. JAMES FOULIS, Dr. CLAUDE B. KER, Dr. T. RONALDSON, Mr. C. W. CATHCART, and the PRESIDENT, and Dr. BRUCE replied.

Dr. JAMES FOULIS read a paper on the Origin, Development, and Structure of the Umbilical Cord and illustrated it with lantern slides. The object of the communication was to show that the cord itself had no covering of amnion at any period of its existence and that the usual statements in the text-books that the cord had a tubular investment of amnion were entirely wrong, the truth being that the cord proper was always within the amniotic sac and was a tubular prolongation of the somatopleure round the collapsed and shrivelled yelk sac. Numerous micro-photographs of sections of embryos from the deer and sheep were shown in order to illustrate the development of the umbilical cord. The amnion was everywhere continuous with, and an extension of, the somatopleure; and as the somatopleure itself was formed by the union of the epiblast with the somatic mesoblast the amnion was itself an extension of these two membranes and in the micro-photographs the amnion could easily be seen as a double-layered membrane as it passed round the dorsum of the embryo. Before the umbilical cord had an existence as such the amnion could be traced as an outgrowth from the sides of the *bauchstiel* of His, and from the somatopleure around the large umbilical foramen, now widely open. In the early embryo of the deer and sheep there was at first no such structure as the umbilical cord, but the vascular connexion between the embryo and the uterus was in the form of the ventral string of the *bauchstiel*. This *bauchstiel* was an outward growth of mesoblast from the caudal end of the embryo towards the chorion. In its mesoblastic substance were to be found the two large umbilical veins—two umbilical arteries with the allantois which might be traced as a tubular outgrowth from the cloacal end of the primitive intestine and lined with hypoblast. This *bauchstiel*, as the analogue of the true umbilical cord, had a great share in the formation of the cord itself. To trace out the formation of the umbilical cord from the *bauchstiel* was a difficult thing, unless the relation of the somatopleure to the amnion was constantly remembered. Transverse sections of the *bauchstiel* showed that the somatopleure folds, of which for the most part it consisted, gave out on both sides the amnion membrane by simple extension of the somatopleure substance. The caudal fold of the somatopleure gave off the amnion just in the same way as the lateral folds of somatopleure gave it off. The whole dorsal surface of the embryo was thus inclosed within the amnion sac, which was thus attached to the sides of the *bauchstiel* and to the margins of the large umbilical foramen round the collapsing yelk sac. It was important to notice that at the caudal end of the embryo the amnion was attached to, or came off from, the somatopleure at a spot between the under surface of the *bauchstiel* and the anal orifice. At first the *bauchstiel* or ventral string occupied an almost horizontal position as an extension of the caudal end of the embryo; but as soon as fluid began to accumulate within the amnion sac the *bauchstiel* was gradually raised up to an almost vertical position, the amnion coming off from its lateral margins being continuous with the amnion of the lateral somatopleure folds. The distal portion of the allantois gradually collapsed, while that part within the body cavity gradually became the urinary bladder. As a result of the distension of the amniotic sac in all parts by fluid the amnion itself was gradually lifted off the embryo at all parts except at the line of its attachment to the sides of the *bauchstiel* and to the somatopleure folds round the umbilical foramen, which was now closing in round the shrunken yelk sac. The somatic mesoblastic surfaces of the somatopleure were everywhere opposed to each other, and as they actually came in contact they adhered to each other round the yelk sac, thus shutting off the cœlom or body cavity from the false amnion sac. It was most important to bear in mind that this closing in of the somatopleure and the adhesion of its opposed mesoblastic surfaces took place only within the amnion sac, which was thus continuous with, and an extension of, the somatopleure tube thus formed round the yelk sac. No amnion at any time covered the cord or somatopleure tube thus formed, but it was always continuous with this somatopleure tube or umbilical cord at its distal end, and when the true amnion sac became more and more distended the mesoblastic surface of the amnion at last became opposed to the mesoblastic surface of the false amnion, to which it adhered slightly. The amnion thus invariably covered the fœtal surface of the placenta, from which it could be easily stripped off, but, of course, it could not be stripped off the umbilical cord because it was an extension of, and part of, the cord itself.—Dr. D. BERRY HART and others took part in the discussion which followed and Dr. FOULIS replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Cerebro-spinal Meningitis.

A MEETING of this section was held on May 18th, Sir J. W. MOORE, the President, being in the chair.

Dr. H. C. DRURY read a paper on Cases of Epidemic Cerebro-spinal Meningitis. After a brief reference to the past history of the disease from its first recognition in Geneva in 1805 he discussed its pathology and then the etiology, quoting various authorities on the questions of its contagiousness and mode of dissemination. The symptoms more or less important in, or peculiar to, this form of meningitis were then taken *seriatim* and fully discussed, and the means of certain diagnosis by the method of "lumbar puncture" and bacteriological examination were described in detail. Dr. Drury then related eight cases which he had met with in Cork-street Fever Hospital. The first patient, a man, aged 20 years, was admitted on Nov. 18th, 1899, and after a prolonged illness he recovered. Of the other seven patients four died. In only one case was there a rash—a feature so typical of the great Dublin epidemic of 1866-67—and this rash was not petechial, but pustular, with hæmorrhage into the pustules, and it came late in the disease. In all the cases the disease commenced suddenly with rigidity of the neck or actual retraction of the head, and in some cases opisthotonos; all of the patients had [illegible] head and limbs, and though not included [illegible] bacteriological examination could not have been diagnosed. It was the case of a man, aged 50 years, who had had pneumonia and was up about the ward convalescent for a week when he suddenly developed most marked symptoms of acute meningitis and died on the fourth day. Post-mortem examination revealed [illegible] all over the meninges and a fungous growth on one of [illegible] laris, though the pathologist (Dr. O'Sullivan) was [illegible] for the latter, being unaware of the previous history of pneumonia.

Dr. A. R. PARSONS read a paper on Cerebro spinal Meningitis, which was discussed with Dr. Drury's paper.

Dr. N. M. FALKINER presented a table showing the Number of Deaths in the Dublin Registration Area from all forms of Meningitis in the years 1895-1900. Taking the years 1895 to 1899 inclusive the average number of deaths from all forms of meningitis for the first 19 weeks of each year was 102·6, but in 1900 the number of deaths in a corresponding period was 182·0 and the increase embraced ordinary meningitis, tuberculous meningitis, cerebro-spinal meningitis, hydrocephalus, and secondary meningitis. All forms of meningitis should be treated as zymotic diseases. Sir Charles Cameron had adopted the proper course in making meningitis a notifiable disease.

The PRESIDENT remarked that that was the first occasion on which meningitis had been made a notifiable disease. At the Meath Hospital they had had 11 cases with three deaths and eight cases were still under treatment. This showed that the mortality was not at all so high as in the epidemic of 1867. The first case was that of a girl, aged three years, who was admitted on Feb. 24th and who recovered. As to treatment, in the present epidemic he had found that the most successful measures were leeching behind the ear and the repeated application of small blisters behind the ear. The agonising headache was relieved by a combination of acetanilide, caffein, and sodium bicarbonate.

Dr. O'SULLIVAN described the post-mortem appearances in some of the cases. The fluid obtained by lumbar puncture was turbid but colourless. The pus in the spinal region lay in one case altogether outside the spinal dura, the cord being quite firm and apparently healthy. In the other cases it lay in the meshes of or underneath the pia mater and the cord was softened. In the brain the pus was in all cases in or under the pia-arachnoid. The distribution of the pus on the surface of the brain was very symmetrical. In all cases the cerebro-spinal fluid was greatly increased in quantity and was turbid, but it was not bloody or (to the naked eye) purulent. The diplococcus intracellularis was found in the turbid fluid and in the pus, usually in pure culture. It grew best on Löffler's serum, but also on glycerine agar, and less actively on ordinary agar. In the pus the organisms were seen in the pus cells, usually in small numbers, as diplococci with their adjacent surfaces flattened, varying a good deal in size and depth of staining. They did not stain by Gram's method. Inoculation experiments were unsuccessful.

Professor E. J. MCWEENEY said that the first case which had come under his notice was that of a schoolgirl who died in the Mater Misericordiæ Hospital early in February. There was an accumulation of thick mucoid pus symmetrically placed in the posterior cornu of each lateral ventricle. Microscopical examination of the material at once revealed the intracellular diplococcus. In all the cases which he had subsequently examined post mortem the same features recurred: occurrence of actual suppuration, the pus being very tough and mucoid; symmetrical disposition of the lesions on each side of the brain; distension of the lateral ventricles with turbid fluid; implication of the sides and back of the cord; and paucity of the intracellular cocci in the fibrinous exudation on the membranes. In working with cultures of the organism care should be exercised, for three German observers had all contracted severe rhinitis and in the case of one there was some stiffness of the neck as well. This would seem to indicate a slight affection of the spinal meninges and if the observation were accurate it would serve to show that the path by which the infective matter enters the cranial cavity is through the nose—possibly then through the cribriform plate. There was a disease of horses, known in Germany as Borna's disease, in which the essential lesion was a cerebro-spinal meningitis. Intracellular cocci had been found in the pus and it seemed quite possible that the disease might prove to be identical with human cerebro-spinal meningitis. He had heard that numerous cases had lately been observed in horses about Dublin and this was of interest in connexion with the present epidemic amongst human beings.

Dr. TRAVERS SMITH, Professor E. H. BENNETT, Dr. J. KNOTT, and Dr J. CRAIG also discussed the papers.

BRI[illegible] eeting of Bristol, on this soc[illegible] May 19th.—Mr A. H. Tubby read a paper on the Treatment of Spinal Abscess. He advocated the opening of the abscess as soon as it approached the surface by two incisions as far apart as possible; its thorough evacuation, and scraping or rubbing of the lining membrane; irrigation with iodoform solution, paroleine or menthol; and closure of the incisions.—Mr. Noble Smith advocated incision and drainage and frequent irrigation.—Mr. Jackson Clarke, Mr. W. H. Harsant, and Mr. J. Ewens also spoke, and Mr. Tubby replied.—Mr. T. Carwardine opened a discussion on the Treatment of Severe Congenital Equino Varus. He divided cases into four groups: (1) severe at birth, (2) severe in childhood, (3) in [illegible] Treatment should begin [illegible] rigid was required and [illegible] ention alone cases of the third and fourth [illegible] was not enough. Tenotomy and the gradual method with apparatus needed patience and perseverance for six or twelve months. Wrenching was suitable in patients aged five years and upwards, but it was unsurgical and its results were temporary. Free subcutaneous section was too severe for young children. The skin was usually too tight to allow of correction. Phelps's operation was therefore better. With respect to tarsotomy and tarsectomy he said that Phelps's original operation did not correct the deformity of the bones, and it made a large wound which took a long time to heal with subsequent contraction. The result of astragalectomy was immediate and little after-treatment was needed, but it had ended in suppuration and amputation in some cases. Cuneiform tarsectomy corrected the varus deformity and saved time and trouble and expensive after-treatment, but it was a mutilating method and it prevented the gradual method being employed afterwards. It shortened the foot and destroyed the arch, interfered with growth, and left a stumpy inelastic foot. It treated the effect on the outer side rather than the cause on the inner side of the foot. Phelps's latest operation had the following advantages. It saved time; bony mutilation was slight, plantigrade progression was immediate; the foot was not shortened, nor was its elasticity impaired; the ankle and tarsal joints were not interfered with and their mobility was

preserved; being a less severe form of tarsectomy it was applicable to younger patients; it could not appreciably interfere with growth; and it treated the foot at the point of anatomical deformity.—Mr. Ewens, Mr. Little, Mr. Thomas, Mr. Jackson Clarke, Mr. Tubby, Mr. Noble Smith, and Mr. Harsant took part in the discussion, and Mr. Carwardine replied.—Cases were shown by Mr. Ewens and Mr. A. F Blagg.

Reviews and Notices of Books.

Ulcer of the Stomach and Duodenum and its Consequences. By SAMUEL FENWICK, M D. St. And., F.R C P. Lond, Consulting Physician to the London Hospital; and W. SOLTAU FENWICK, M.D, M R C.P. Lond., Senior Physician to the London Temperance Hospital, Physician to the Evelina Hospital for Sick Children. London: J. & A Churchill. 1900. Pp. 392. Price 10*s.* 6*d.*

THE morbid condition known as ulcer of the stomach is so frequently met with and its diagnosis and treatment present so many points of doubt and difficulty that a monograph on the subject from such a well-known authority on diseases of the digestive tract as Dr. Fenwick will be sure of a welcome from medical men. He has been assisted in the preparation of the book by his son, Dr. W. Soltau Fenwick.

The work is divided into four parts. The first part deals with the Pathology and Etiology of Gastric and Duodenal Ulcer. The chapter on Morbid Anatomy contains a very full account of the various changes found in the walls of the stomach when ulceration has occurred, and numerous reproductions of photographs of morbid specimens of ulcer of the stomach materially add to the value of the descriptive letter-press. The authors have taken considerable pains in the elaboration of their conclusions respecting the morbid anatomy; the material was derived from the post-mortem records of 1015 cases of ulcer of the stomach and of 130 cases of ulcer of the duodenum. In order to avoid the errors that are apt to arise from the collection of isolated examples of the disease the authors wisely confined themselves to the records of hospital cases. One of the principal features of the analysis of the cases is the distinction which is made between the acute and chronic forms of the complaint as regards their origin, appearances, and modes of termination. Some of the points drawn attention to in this respect are interesting. For instance, the relative frequency of acute and chronic ulcers in different regions of the stomach. Out of 39 cases of acute ulcers 13 (33 3 per cent.) occurred in the pyloric zone, whilst out of 70 cases of chronic ulcers no less than 53 (75 7 per cent) were found in that region.

The chapter on the Results of Ulceration contains a large amount of useful information. Attention will naturally be paid to the remarks on hæmorrhage and perforation. Considering the wide area of destruction wrought by a chronic ulcer and the extreme vascularity of the stomach, it seems surprising at first sight that only about 18 per cent. of the fatal cases die from hæmorrhage. The authors therefore remind the reader that not only is liability to bleeding minimised to a great extent by obliterative inflammation and thrombosis of the vessels in the immediate neighbourhood of the disease, but that any rent in their walls is rapidly closed by the contraction of the muscular coat and the coagulation of the blood at the seat of puncture. It is probable, therefore, that in every case of fatal hæmorrhage one or more of the following conditions will be present: (1) non-obliteration of the vessel previously to its erosion; (2) insufficient contractility of its muscular coat; (3) deficient coagulation of the blood; and (4) an abnormally high tension in the arterial or venous system of the organ.

The effects of perforation of the stomach and duodenum are treated in an able manner. The pathogenesis of ulcer of the stomach has always been open to doubt. Many theories have been from time to time advanced, but no single one has been universally accepted, and the remark of the late Dr. H. Gawen Sutton in his lectures to the students at the London Hospital will probably commend itself to the majority of practitioners: "When asked, 'What is the cause of simple ulcer of the stomach?' say, 'I don't know.'" The authors of the work under consideration enter fully into the many views which have been expressed, for there are few subjects in pathology that have given rise to more discussion than the mode of production of a gastric ulcer; and finally they state that although our knowledge concerning the causation of gastric ulcer is still very imperfect certain facts warrant us in coming to the following conclusions. An acute ulcer of the stomach or duodenum may either appear as a primary affection or develop during the course of some organic or constitutional affection. Acute primary ulceration often commences as a hæmorrhage into the inner coats of the stomach during the hyperæmia which takes place at each menstrual epoch and under other conditions. Chronic ulcer of the stomach or duodenum may follow the acute disease in young women or commence by the superficial digestion of a portion of the mucous membrane, where vitality has been diminished by certain conditions, such as obliteration of a nutrient vessel by atheromatous, fatty, lardaceous, or syphilitic disease, chronic inflammation of the mucous and submucous tissues, local anæmia of the gastric wall from pressure, or fibroid or fatty degeneration of the mucous membrane such as occurs spontaneously after the age of 40 years.

The second part of the book contains a description of the symptoms, varieties, and treatment of acute ulceration of the stomach and duodenum. The separation of gastric ulcer into two varieties—acute and chronic—is certainly to be commended, as without this classification confusion has arisen in differentiating many clinical varieties of the complaint according to the exceptional prominence of some particular symptom. If this pathological basis be accepted the clinical sub division is unnecessary. The account of the symptomatology and of the treatment is clearly and concisely written, and the style adopted is one calculated to attract the attention of the reader. The surgical treatment of perforation has been frequently carried out and the authors have collected the statistics of a large number of cases so treated. The results show that the operation depends for its success or failure upon three factors: 1. The time which is permitted to elapse between the occurrence of the perforation and the performance of laparotomy. The earlier the operation is performed the greater will be the chance of its success. 2. The treatment of the hole in the stomach—it is absolutely necessary that the perforation should be closed. 3. The care with which the peritoneum is cleansed. After a careful study of the reported cases the authors believe that in course of time the early performance of laparotomy, combined with skilful closure of the perforation and thorough cleansing of the peritoneum, will render the surgical treatment of perforated gastric ulcer one of the most successful operations of its kind.

The third part of the book deals with the symptomatology of the ordinary chronic ulcer. Five varieties are differentiated and the difficulties involved in their prognosis, diagnosis, and treatment are discussed. The classification is based on clinical grounds, according to the special predominance of some particular symptom such as pain, vomiting, dyspepsia, hæmorrhage, and cachexia. The chapter on Diagnosis is particularly well designed, and the introduction of tables summing up the points to be relied upon in differential diagnosis is to be commended.

The final portion of the volume is devoted to the different sequelæ of ulceration. In most text-books these have hitherto received less notice than they deserve. Special attention is directed to the effects of perigastric adhesions, to the deformities of the stomach that ensue from the cicatrisation of the ulcer, and to the various internal fistulæ. A full account is also given of such subjects as perigastric and periduodenal abscess, tetany and other nervous disorders, cancer, tuberculosis, pernicious anæmia, gastric catarrh, and hyperacretion. With regard to the latter complaint the belief is expressed that the excessive secretion of gastric juice is only a reflex result of the irritation produced by the presence of the ulcer, and reasons are given for believing that the so-called "disease of Reichmann," or gastrosuccorrhœa, instead of being a primary functional disorder of the stomach, is merely a consequence of the retention of the gastric contents in certain forms of pyloric obstruction. The arguments adduced in favour of this view are sound and we believe the authors' theory to be the correct one.

We were much interested in a study of this work and we can cordially recommend it to the attention of our readers.

Twentieth Century Practice: an International Encyclopedia of Modern Medical Science by Leading Authorities of Europe and America. Edited by THOMAS L STEDMAN, M D, New York City. In 20 Volumes. Vol. XIX.—Malaria and Micro-organisms. London: Sampson Low, Marston, and Company, Limited. 1900. Price 30s.

THE ardent way in which researches of a subtle, refined, and minute character have been pursued of late into all that relates to malaria and malarial disease, the discoveries that have been already made, and the promise of others which have yet to come, have combined to make up one of the most interesting—we might almost say romantic—stories in the history of scientific investigation on a miniature scale. The results, moreover, of our rapid progress in this direction, interesting and suggestive as they are, have this practical advantage—that they are not merely circumscribed within the limits of the scientific terms in which they are expressed, but have a very practical significance which may turn out to be capable of wide application and of the utmost value to humanity.

Having once got hold of a clue to the explanation of the nature and causes of the varied phenomena of malarial fever in man, the meaning of which had hitherto seemed so puzzling and mysterious, inquirers were naturally impelled to follow it up to a logical conclusion by tracing out the life-history of the parasitic micro-organism which is at the root of the whole matter, in order to see how it effected an entrance into the human system and, further, how this could be practically prevented.

Since Laveran in 1880 discovered the malarial parasite and opened out, as it were, an almost new zoological field of observation, the subject has been keenly investigated by numerous scientific workers, among whom the names of Golgi, Marchiafava, Bignami, Grassi, and Celli, of the Italian school, and of MacCallum, Manson, Ross, Koch, and others, will at once occur to such of our readers as have interested themselves in this special branch of natural history. More light and experimental observation are now wanted to determine the nature, and still more the extent, of the rôle played by the mosquito as a vehicle for the conveyance and spread of the malarial parasite.

The simple enumeration of the names of the contributors to this volume dealing with malaria and micro-organisms suffices to show that the subjects have been entrusted to worthy hands. Their names are Professor Bignami and Professor Marchiafava of the University of Rome, Professor Simon Flexner of the University of Pennsylvania, and Eugene L. Opie of the Johns Hopkins University at Baltimore, the section on Micro-organisms being by Professor Flexner. The contributions on Malaria by Marchiafava and Bignami are, it should be added, illustrated by a number of excellent plates. There is no need, even were it possible within the limits of a review, to deal with all the points connected with malaria. These are discussed with an elaboration of detail which leaves little to be desired. After a brief historical sketch and a reference to the parasitology of the subject, the life cycle of the malarial parasite in man in connexion with the different forms and varieties of malarial fever and the life cycle of the parasite in mosquitoes, the hæmosporidia of birds and mammals, the mode of entrance of the parasites into the human organism, the malarial environment and the general and special pathology of malarial disease are severally discussed, and a description of the varieties, complications, and sequelæ of malarial disease from a clinical and therapeutical point of view follows.

Biological researches in relation to health and disease have revolutionised our views in many respects all along the line of medical science, but this has been especially the case in regard to malaria and malarial disease. The danger now is, perhaps, lest the rising of a new and possibly partial truth should be accompanied by the setting or obscuring of some older ones. The progress of discoveries regarding the malarial parasite has been so rapid that we can quite appreciate the force of what the authors say in their introduction—namely, that it has been found necessary to re-write entire sections of their contributions and to change others. Those on Parasitology and Etiology, in particular, have had to be greatly modified as a result of the latest researches. A special section has been devoted to the subject of Tropical Malaria, and the consideration of Hæmoglobinuria has been included in the treatise. There are some descriptions of the rarer and more pernicious forms of climatic or malarial fever with which probably only those medical officers who have served a good deal abroad are acquainted. Some of the most acute and severe attacks of these forms of fever resemble Asiatic cholera so closely that they might easily be mistaken for that disease.

We may refer our readers to Dr. Patrick Manson's lecture on Malaria and the Malarial Parasite, published in THE LANCET of May 19th, 1900 (p. 1417) for much interesting and instructive information as to the position which the subject holds at the present time.

We have left ourselves very little room to speak of the section devoted to Micro organisms, contributed by Professor Simon Flexner of Philadelphia, which occupies nearly 300 pages of the present volume. The article takes a comprehensive view of the subject and is very carefully and lucidly written and illustrated.

Speaking generally of the nineteenth volume of the Twentieth Century Practice of Medicine we may say that it forms an admirably executed treatise on the subjects with which it deals. Its contributors are men of high scientific repute and are well qualified for the task which they have undertaken, and they seem to have done their best to make the fulfilment of it as complete and up-to-date as practicable. The volume will remain for a long time a valuable book of reference in connexion with the subjects of which it treats.

Atlas und Grundriss der Lehre von Geburten und der Operationen Geburtshilfe (*Atlas and Outlines of Labour and Operative Midwifery*). By Dr. OSCAR SCHWARZWALD. Fifth enlarged edition. With 16 coloured plates and 139 illustrations. Munich: T. L. Lehmann. 1900. Pp. 107. Price 8 marks.

THIS book consists of two parts with an atlas appended. The first part treats of the mechanism and the management of labour and the second part of the various obstetrical

operations. The mechanism of labour is well described and the author has happily combined the theoretical and clinical portion, so that at the end of the description of each of the stages in the mechanism the student is told what conditions he would find present on making an examination at that particular time.

The first chapter deals with the so-called natural presentations—viz., the vertex, the face, and the breech. In the second chapter abnormal varieties of the natural presentations are described, such as Naegele's and Litzmann's obliquity in vertex presentation, transverse position of the head in vertex and face presentations, and spontaneous evolution in shoulder presentations. Unnatural presentations—e.g., cross and shoulder and other varieties—are considered in Chapter III. In the second half of the book the various obstetrical operations with their indication and methods of performance are described. The atlas consists of some 120 drawings which serve as an excellent series of illustrations to the text, in which constant reference is made to them. The coloured plates, which have been drawn from a study of frozen sections and of the conditions actually met with at the bedside, are good and accurate, as are also the illustrations in the letterpress. The illustrations in the atlas can hardly be considered artistic and, indeed, in some cases they are not anatomically or clinically accurate. They are, however, really not much more than diagrams and they fully serve their purpose as diagrammatic illustrations of the various points discussed. A little more care might have been expended upon the correction of the proofs. Misprints are frequent and all the references in the text to the figures in the atlas after about figure 60 are erroneous. The book has reached a fifth edition in Germany and contains a greater amount of information upon the subjects of which it treats than many a larger and more pretentious work.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on June 14th, the President, Sir WILLIAM MAC CORMAC, Bart., K.C.V.O., being in the chair.

The PRESIDENT submitted a list of persons of distinction to whom the Centenary Committee recommended that invitations to the Centenary dinner should be sent. The list was approved. The following examiners were elected:—

Elementary Biology.—P. T. Bowman Beale, F. G. Parsons, T. W. Shore, and T. G. Stevens.

Anatomy under the Conjoint Board.—Stanley Boyd, W. Bruce Clarke A. Robinson, and A. Thomson.

Physiology under the Conjoint Board.—J. Rose Bradford, G. A. Buckmaster, and L. E. Hill.

Anatomy for the Fellowship.—J. Ernest Lane, B. G. A. Moynihan, F. G. Parsons, and A H. Young.

Physiology for the Fellowship.—T. G. Brodie, W. D. Halliburton, D'Arcy Power, and W. H. Thompson.

Midwifery under the Conjoint Board.—W. R. Dakin, W. S. A. Griffith, A. H. N. Lewers, and H. R. Spencer.

Diploma of Public Health.—Part I.: Christopher Childs. Part II.: S. A. M. Copeman.

INTERNATIONAL CONGRESS OF ELECTROLOGY AND MEDICAL RADIOLOGY.

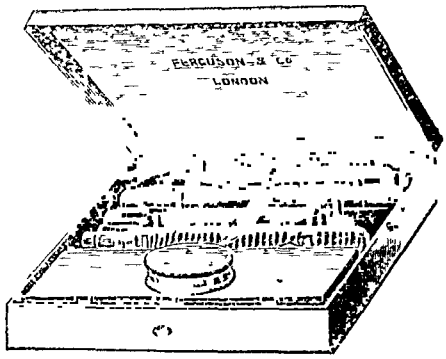
THE Organising Committee of the above Congress wish to inform those who purpose to attend the Congress that a reduction of 50 per cent. will be made for their tickets on the following French railway systems—namely, those of the west, the north, the east, the Paris-Lyons-Mediterranean, the Orleans, and the State. Reductions varying with the length of the journey will also be granted by the Italian railways, of from 30 to 50 per cent. Those who are going to attend the Congress and who desire to avail themselves of these privileges are requested to apply to the General Secretary, M. Doumer, 57, Rue Nicholas-Leblanc, Lille, before July 1st, 1900.

The committee also desire to inform intending members of the Congress that their tickets of membership confer upon them the right of free entry to the Paris Exhibition as long as the Congress lasts.

New Inventions.

AN ASEPTIC VACCINATION CASE.

THE illustration represents an aseptic vaccination case made for me by Messrs. Ferguson and Co., of Giltspur-street, London, E.C., which I think might be useful to public vaccinators, as it fulfils the requirements of the last Vaccination Act and it is so small that it can be carried in the

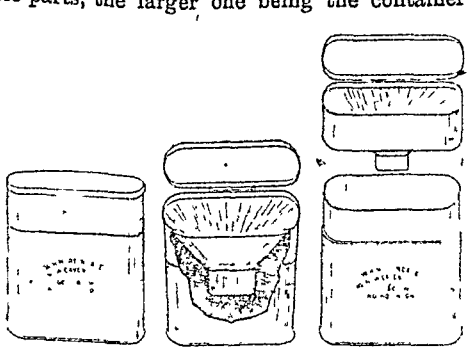


waistcoat pocket. The outside measurements are—3¼ inches by 2¾ inches by ¾ inch. The contents are—(1) spirit lamp, (2) tube of one-grain soloids of mercuric iodide (Burroughs, Wellcome, and Co.) for cleansing the skin, (3) aseptic vaccinator, (4) metal case for lymph tubes, and (5) blower. The vaccination pads can be carried in a separate case.

CHARLES CORBEN, M.R.C.S. Eng., L.R.C.P. Lond.
Caldicot, Chepstow.

A PORTABLE SPITTOON.

THE spittoon, three views of which are given in the accompanying illustrations, has been designed by Mr. W. Harrison Martindale of No. 10, New Cavendish-street, W., and is intended for the use of phthisical patients whose sputum is liable to disseminate the disease unless special precautions are taken. As will be seen, the spittoon is made in two separable parts, the larger one being the container and the



other one consisting of the funnel and lid. Being entirely of sheet metal it has a neat appearance, is not liable to be injured, and can be readily cleaned and sterilised by boiling. It is of a convenient size for the pocket, being three and a quarter inches high and two and three-quarter inches wide, or it may stand on a table beside the patient's chair or bed. The lid will, of course, generally be closed, but can be easily raised with the thumb of the hand which holds the spittoon. Some disinfectant should be used in the spittoon, and for this purpose bottles containing small tablets of thymol are supplied. The price of the spittoon is 6*s.* 6*d.*

THE LANCET.

LONDON: SATURDAY, JUNE 23, 1900.

A CASE which was tried this week in London before Mr. Justice PHILLIMORE and a common jury affords a striking example of the dangers which beset a medical man in the performance of his duty—dangers, moreover, which he cannot avoid save by shirking responsibilities not only towards his patients but towards the public at large. The action was brought by a man named SOPER, employed as a coachman, against Dr. J H. GIBSON and Dr. W M. YOUNG (practising in partnership in Maida-vale) under the following circumstances. The plaintiff consulted Dr. GIBSON who was medical officer of a club of which the plaintiff was a member. He was in a state of great mental depression because his wife had become pregnant, and the responsibilities of the future alarmed him. At the same time, according to the evidence of the two defendants, the wife of the plaintiff informed them that her husband had threatened to murder both her and her children and that "he had made up his mind to end it." One of the defendants, Dr. YOUNG, enjoyed the peculiar advantage in dealing with such a case of 15 years' experience in a county asylum. He went to the plaintiff's house and carefully examined him, when the plaintiff said, among other things, that he "heard voices which prevented him from sleeping" Dr YOUNG, satisfied as to his condition and finding the wife still alarmed, thereupon himself communicated with the relieving officer, who eventually removed the plaintiff to the lunacy ward of the workhouse infirmary. From this institution SOPER was, according to his own evidence—which does not appear to have been supported by that of any medical man connected with the workhouse or of any other person—discharged as sane after three days' detention He brought his action in respect of this detention, alleging that it was due to professional negligence on the part of the defendants that he had been sent to the lunacy ward of the workhouse and claiming as for "false imprisonment." In answer to the plaintiff the two defendants gave their version of what occurred, while Dr. J. F. WOODS (medical superintendent of the Hoxton House Asylum) and Mr. W RANNER (visiting medical officer to the Marylebone Workhouse) gave testimony in corroboration. Their evidence was to the effect that the facts as stated by the defendants showed that the case was one of suicidal mania and that the defendants had acted most properly and in the plaintiff's interest, while they further explained to the jury the possibility of rapid recovery from acute suicidal mania Dr. WOODS cited an instance that had come under his personal observation in which a patient so affected became sane after two days' confinement. The case, as summed up to the jury by Mr. Justice PHILLIMORE, resolved itself into the answer to a comparatively simple question—whether the two medical gentlemen who were brought to the court as defendants, in coming to the conclusion that the plaintiff was in a dangerous state and in communicating with the relieving officer, had acted negligently. To this the jury found the only answer that 12 sensible citizens could find, and their verdict for the defendants relieved Dr. GIBSON and Dr. YOUNG of the danger of being mulcted in damages. The verdict was endorsed by a judgment in behalf of the defendants "with costs" This means that of their expenses in defending the suit a portion, cut down to a minimum by the taxing master, will be due to them from the plaintiff who may or may not be able to pay them.

The medical aspects of the case require no discussion. At the time when SOPER left the workhouse infirmary he may have been perfectly sane without this in any way affecting the question of his condition when Dr. YOUNG examined him, as to which we have that gentleman's opinion, and also the evidence of a letter from the plaintiff in which he wrote: "Fate is against me ..... future happiness and good health seem out of the question for me," clearly showing his melancholic condition. But the story forms another example of the extraordinarily difficult position that is occupied by the medical man in affairs of this sort. Any medical man may at any time be invited to give an opinion upon the question of a man's sanity. If he honestly believes that there is danger in allowing the patient freedom of action he has one duty only, which is to declare that opinion and give effect to that opinion. By doing this he becomes directly responsible for the confinement of the person whom he believes to be insane and may be subjected to the inconvenience, anxiety, and pecuniary loss inseparable from an action at law when the person whom he has certified as a lunatic finds himself at liberty. This is because there exists no means of testing in such an action the genuineness of the plaintiff's claim until it is brought into court with all the costly accompaniments of solicitors, counsel, witnesses, and court fees, and with the further inevitable circumstances, of great consequence to medical men, of waste of time and a publicity of an unenviable sort The public must have a remedy no doubt where the medical man is negligent, and the courts should be open to all who have a just claim to prefer, but there must be some defect in our legal machinery to make the comparatively small and poor class of medical men run such risks for the good of the public. We have, perhaps, the most expensive legal system in the world, and it is one which lays all persons who are worth attacking open to the attack of anyone, be his claim just or unjust And if the claim should be unjust the unfortunate defendants have no remedy. The pecuniary loss to the successful defendants in the case of SOPER v. GIBSON and YOUNG will be at least £100, even if the plaintiff is able to pay that proportion of the expenses now due from him in accordance with the verdict It is a significant fact in this case that the solicitor who represented the plaintiff is the son of the plaintiff's employer; this the wife of the employer admitted when in the witness-box.

IT will be remembered that some few weeks ago considerable sensation was caused by the alleged abduction o

Madame DE MARTEL, widely known under her pen name of "GYP." The story, as told with circumstantial detail by Madame DE MARTEL, went the round of the press of Europe, meeting everywhere with scant credence. And this was not, and is not, surprising, for undoubtedly it bore upon its face a striking resemblance to the episodes with which popular French romances are besprent, so that many who read the narrative experienced a feeling that what had occurred to the lady was too much like a chapter from one of M. XAVIER DE MONTEPIN'S interminable and impossible novels to be an episode in real life. In particular medical men were unbelieving, for the invention of such stories by those posing as victims of assaults is a form of hysteria familiar to all of us. Consequently Madame DE MARTEL, though she was able to adduce corroborative testimony to parts of her story, and though her written work displays her as a woman of particular sanity, was very generally condemned as the victim of hallucination or of mad desire for notoriety. Possibly this condemnation was hasty. For M. KARL, the ingenious painter who hoaxed M. Q. DE BEAUREPAIRE so egregiously during the DREYFUS trial, has written to the *Matin* to say that he and three of his friends abducted "GYP" in much the way that she had described to a sceptical public. It appears from M. KARL'S confession that there were concerned in the assault on Madame DE MARTEL a gang of confederates and a complacent *cocher*, and that the drive to the distant suburb, the confinement in the deserted villa, and the escape from the windows of the second story were facts and not the imaginings of a mentally unstable person. If M. KARL'S account is true the reason why Madame DE MARTEL'S adventure looked too like the fictional heroine's misfortune to be credible becomes clear. M. KARL, in describing his method of kidnapping "GYP" has fallen back upon just those literary authorities from whom his victim was suspected of having plagiarised, and while universal opinion was right in refusing to believe the abduction to be a serious outrage it was wrong in attributing imposture to Madame DE MARTEL. If the communication to the *Matin* is untrue—a hypothesis with something to recommend it—the "joyous" KARL, as our contemporary calls him, must himself be in a curious condition of mental balance.

Practical joking is obsolete in this country, and no one of sense, especially no medical man, regrets the manners and sentiments of the time when it was held in consideration as a form of humour. Indeed, the disrepute into which practical joking has fallen may be pointed to without exaggeration as one of the most certain proofs—if proof be needed—that the race has attained to a higher plane of civilisation during the nineteenth century. A hundred years ago the practical joke flourished in England side by side with an elaborate social demeanour, the absence of which we are often called upon to deplore in the present less ceremonious days. But the appreciation bestowed by our grandfathers and their fathers upon practical jokes, however cruel, however dangerous to life and limb, and against whomsoever directed, does much to nullify the fine effect produced by the elegance of their clothes, the loftiness of their sentiments, and the formality of their diction. The callousness which derives amusement from the pain of another is now a subject of reprobation, while the extreme danger to health of many forms of practical joking has been pointed out by the medical profession in terms which have ensured the discontinuance of many favourite tricks. And this is a sign of progress. It proves that we have outgrown the schoolboy desire to inflict misery upon our neighbours that we may enjoy their mortification. Here and there a practical joke may still be tolerated, but it is certain that unless the victim is a man, and a man who has merited rough reproof, the sympathies of the spectators, even in the hilarious environment of a country house-party, will be with the victim. Those who laugh will laugh because they feel that the man who makes an unappreciated joke is in a more melancholy plight than the man against whom the joke is levelled. The position long enjoyed by THEODORE HOOK will not be filled in the twentieth century. HOOK was, as everyone knows, a greater and more honest man than his reputation, but the things that he did two generations ago only, while he was occupying a distinguished place in society and letters, would nowadays ensure his being expelled from his clubs. We have, in fact, put away this childish thing—practical joking, and that we have done so is more significant than a little. It is constantly said that modern life has lost all delicate aroma, the hurry and stress of competition leaving men no leisure to attend to niceties of behaviour. But, as in many an oft-repeated statement, the little piece of truth is outweighed by the general incorrectness. If there is less politeness on the surface now than in Georgian days there is infinitely more true courtesy. The desire to please is as great while the resolve not to give pain is far greater. In the days when practical joking was a favourite form of humour no one was exempt from the ferocity of the fun-maker. A glance at the literature, especially at the novels, of 50 and 60 years ago reveals that to be old, to be ugly, or to be a spinster, were all considered a sufficient reason for ridicule and even for personal assault. Coarse personalities reflected little discredit on the utterers, for a majority could always be found to join in a laugh at the butt. This spirit of cruelty has been largely eliminated in recent days, and as a consequence our estimate of what constitutes good breeding has changed for the better in a remarkable degree, which is the more a subject for congratulation in that it is the habit of the unthinking sweepingly to condemn modern English manners, which are found to be abrupt and only suited to a utilitarian folk. Possibly, but those who speak so forget that an exquisite appreciation of beauty, a gift of mellifluous phrase-making, and a courtesy of manner that is wearisome in its elaboration can exist in the savage breast. For what is the Chinese judged by modern standards but a savage? His centuries of semi-civilisation have never taught him to moderate his cruelty. The subjugation of the childish instinct to give pain is the truest sign of progression in a people. The possession of the fruits of learning and science, so generally acclaimed as proving attainment to a high level of living, is not so true a sign.

France has always, in theory at any rate, been the most finely civilised and gallant of nations. Many things have combined of late to render this view difficult to hold; for

example, the treatment by Frenchmen in certain of their newspapers of our venerable QUEEN and their own conscientious President. But those who have social relations with them will always be found to say that French politicians, whatever views they represent, are never representative of the people, and that French writers, and especially French journalists, appear to take pains to traduce their country. In these circumstances it will be interesting to see what attitude France takes towards M. KARL, supposing that M. KARL's words are true. When M. KARL befooled M. DE BEAUREPAIRE he shook the world with laughter. The supporters and the adversaries of DREYFUS alike saw the ridiculousness of the position occupied by the ex-judge, and M. KARL leapt into fame. It is possible that the humorist took more credit to himself than he should have done; and that his second attempt has been based upon faulty comprehension of the conditions under which his previous exploit was performed. His opportunity with regard to M. DE BEAUREPAIRE was most fortunate, for that person had laid himself specially open to the punishment that he received, proving himself credulous and ignorant in the precise directions in which he was posing as shrewd and well-informed. No such conditions exist in the case of Madame DE MARTEL, and while it is doubtful whether France will laugh again, for the rest of the world the joke will fall flat. "GYP," like M. DE BEAUREPAIRE, brought trouble upon herself. She, like him, is a vigorous political partisan—"the Eurydice of the Nationalists" M. KARL terms her—and her attitude towards the Jews is as uncompromising as was M. DE BEAUREPAIRE's towards DREYFUS. But having said this, all that can be urged in extenuation of M. KARL's cruelty has been said. We find it much too little and we trust that Frenchmen, regardless of politics, of the DREYFUS question, and of the anti-Semitic movement alike, will find it the same. If M. KARL has invented the story of the abduction he has been willing to exhibit himself as a complete anachronism and not a funny one. If he has done what he says that he has done, he should be severely punished. For practical joking is a danger and a nuisance to society that should not be tolerated.

DR. DANFORD THOMAS, coroner for Central London and Middlesex, has drawn up a series of questions relative to the cause of death in cases in which a patient has died presumably owing to an anæsthetic. In England inquests are always held in the case of such fatalities, while in Scotland the law does not deem a special inquiry necessary if the medical man in charge of the case can give a satisfactory statement that the death was not due to gross carelessness or unprofessional conduct. The questions which Dr. DANFORD THOMAS has formulated deal with the choice of the anæsthetic, the place in which it was given, and all the circumstances attending the administration, such as the temperature of the room, the condition of the patient, and the nature and duration of the anæsthetic. They further request the medical man who gave the anæsthetic to state in how many cases he has given anæsthetics, how much air was allowed to mix with the narcotic vapour, the quantity of the drug used, and by *what method it was given*. The phenomena associated with the induction and continuance of anæsthesia, and attending the death of the patient, are also inquired into, as well as the general state of the patient with regard to the heart, lungs, kidneys, and other organs before the operation. The questions are extremely useful as a guide for the scientific inquiry into such sad occurrences as deaths under anæsthetics, but whether it is at all possible, or indeed desirable, to attempt in a coroner's court to enter so fully into the details of purely medical questions we venture to express a doubt. It is assuredly the function of the court to ascertain whether an individual died *from, we will say, an overdose of* chloroform through inexperience or malpraxis of the administrator, but it seems to us that this end may be obtained without placing before the jury purely medical facts, which are not always within their purview, or, in some instances, within that of the coroner himself. The public attending such courts as well as the jury are not, as a rule, skilled in questions of anæsthetics, and might certainly receive false impressions if the technical medical statements contained in the report were presented in detail as evidence in the case. Even experts reading answers to Dr. DANFORD THOMAS's queries might arrive at very *diverse decisions. While one might condemn the method* which his neighbour extolled, many might find a cause of death quite other than that which the administrator believed to be the true one. It is at least an ordeal for any medical man to appear in the coroner's court, having first suffered the mental shock *incident to losing a patient under* an anæsthetic, when he has done his best according to his lights for that patient. If to this be added a searching inquiry into the scientific questions involved, with possibly a severe heckling *from jurymen whose want of technical* knowledge is often apt to induce misunderstanding of scientific facts and to confuse the issues, the medical witness will hardly welcome the innovation *suggested*.

We may not unreasonably expect that Dr. DANFORD THOMAS will regard such reports as "private and confidential" *communiqués*, and that the evidence thus collected will result in the ascertaining of facts and details which will be of scientific interest and benefit to those employed in the administration of anæsthetics. Provided that such inquiries are conducted by medical coroners and the statements made by the medical witness are given *purely for the guidance of* the coroner and not for that of the jury, we think that Dr. DANFORD THOMAS's schedule of questions is to be welcomed. But unfortunately all coroners are not medical and we cannot quite see of what use the questions, which are of a highly technical medical nature, would be in the hands of legal coroners. Certainly the suggestion now under consideration appears to us to add one more to the many reasons why in all cases coroners' inquiries should be conducted by medical men and not by lawyers.

GIFT TO BLYTH.—Sir Matthew White Ridley, the Home Secretary, who is lord of the manor, has given land of some extent to the Blyth District Council for a park for the use of the inhabitants of the report.

Annotations.

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WE publish in another column a letter from the Lord Mayor urging on the public of London in terms of admirable directness the absolute necessity of contributing this year to the utmost of their power to the Metropolitan Hospital Sunday Fund. His lordship evidently feels that there is reason for apprehension that the very heavy calls which have been made during the past nine months of war and suffering upon the public purse may influence in an unfortunate manner the subscriptions to the Fund. In our Special Suppement in behalf of the Fund issued last week we spoke of the position in much the same terms. We admitted that the demands upon the benevolent had been so very heavy that the Fund might this year find itself in difficulties, and to the best of our power we urged upon the public the true view—viz., that a year of national suffering is a year when this Fund requires more than ever all the pecuniary assistance that the public can afford. The Lord Mayor boldly asks the public to send him £100,000, that is to say rather more than double the average annual total of the Fund. It will be an event of almost national importance if the sum he asks for is obtained. The Fund has started splendidly. Mr. George Herring, whose great generosity to the Fund we have chronicled on previous occasions, has given towards this ideal total of £100,000 no less than £10,000, and has also promised to give £10,000 more if the sum of £90,000 is raised. In the name of the suffering poor of London we thank Mr. Herring for his splendid munificence and we trust that the necessary subscribers will come forward to deplete his open purse of the second donation. We beg our readers to remember that next Sunday is Hospital Sunday, and we hope that they will impress the fact upon all whom they can influence.

DOWLING *v.* DODS.

IN the Queen's Bench Division, before Mr. Justice Darling and a common jury, Miss Agnes Dowling, a certificated nurse, sued Mr. Louis Ferdinand Dods, L.S.A., a medical practitioner residing in Marylebone, to recover damages for libel. The alleged libel consisted in a letter which the defendant had published and written to the relieving officer of the Paddington district in which he certified that to the best of his knowledge and belief the plaintiff was of unsound mind. The letter also stated that the plaintiff had passed an examination at the Apothecaries' Hall for certification as a dispenser, and that in her present frame of mind this constituted a danger to the community. He had interviewed sundry people who agreed as to her insanity and were afraid of her. The plaintiff gave evidence in support of her case and was cross-examined by Mr. Hammond Chambers. She said that she had been an inmate of the House of the Holy Cross in Ladbroke-square and admitted that she had written several letters to the nurses To Sister St. Clair, the assistant matron, she had written, "When I was on night duty and sleeping at your home you kept me awake often, and made me write letters to you at Fulham" That, she said, was by telepathy. She also said, "You tried to take my soul from me with your diabolical practices ..... You took possession of my mind, you could read most of my thoughts, you threw me down in the streets one day because you did not approve of them." This she accounted for by "thought body" phenomena In reply to the judge the plaintiff admitted that when she was in Ireland she distinctly heard Dr. Groves's voice. He was at the time in the Isle of Wight. Mr. Dods gave evidence as to seeing the plaintiff with Mr. Farrar, a tutor whose lectures she attended at Westbourne Park-road. He had seen plaintiff in Mr. Farrar's house waving her arms about and talking to herself. He wrote the letter in the plaintiff's interest. Mr. Farrar gave evidence of eccentric behaviour on the part of the plaintiff, and Miss Matilda Ashby, matron of the Holy Cross Society, a Roman Catholic institution for training nurses, said that the behaviour of the plaintiff while in the home was very strange. Mr. Justice Darling, in the course of his summing-up, read passages from the plaintiff's letters to Miss Ashby which, in his opinion, justified the defendant's statement that persons went in terror of their lives on account of the plaintiff. He held that the letter was privileged, but left the following questions to the jury:—1. Did the defendant write to the relieving officer without malice and *bonâ fide* believing that the statements were true. 2. Were the statements true? 3. Did the defendant act in good faith and with reasonable care in the manner in which he brought the matter before the relieving officer? The jury answered the first and third questions in the negative and assessed the damages at £100. With regard to the second question, the jury found that the defendant had not spoken truly in stating that the plaintiff was of unsound mind, that it was not true that the plaintiff had sent threatening letters, that it was not true that she would be a source of danger as a dispenser. It was true, however, that she had hallucinations. Judgment was therefore entered for the plaintiff To our minds the finding of the jury is remarkable. We can see no evidence to show that Mr. Dods did not act in good faith, and plaintiff was admitted by the jury to have hallucinations. A dispenser who has hallucinations is, we should say, by no means unlikely to make disastrous mistakes. Suppose, for instance, that a prescription recommended salicylate of soda and the dispenser heard a voice from the Isle of Wight recommending the substitution of arsenic? It must be remembered, too, that Miss Dowling could not have been committed to a lunatic asylum on the strength of Mr. Dods's letter. That letter was only the commencement of a possible inquiry into the plaintiff's state of mind.

THE ALDERSHOT FIELD DAY.

AFTER the expressions of regret that have been made regarding the recent catastrophe at Aldershot and the desire which evidently exists to lose no opportunity of preventing any similar disaster in the future we might be presumed to be able to rest content But we regret to say that we cannot regard the result of what had previously taken place in the House of Commons and the statement of the Under-Secretary for War as to its causes as altogether satisfactory. Apart from the loss of life and the suffering that were entailed, such occurrences cannot tend to popularise the army, which is what the Government and everybody else are desirous should be done at the present time. While we quite admit that the going astray of carts containing refreshments was a very unfortunate accident on the occasion in question and that the sudden accession of an exceptionally hot and close day could not have been foreseen, we nevertheless consider that under such circumstances it would have been prudent either to postpone altogether or to curtail the time of the intended military operations. This is not, however, the question which concerns us now. What the public has a right to expect is that the military authorities, with all the experience which they have had of field days, military manœuvres, and marches in and around Aldershot, should be able to show that all practicable precautions are taken against occurrences of this

kind. It is no doubt not advisable, even were it practicable, to depart from a system of decentralisation by taking out of the hands of the local military authorities the duty and responsibility of making adequate arrangements on occasions of this sort. We cannot see, however, how these arrangements can be considered adequate so long as soldiers about to take part in a long and trying field day are not provided before starting with a more substantial breakfast than they seem to get at present, together with means of obtaining light refreshment and an abundance of fluid *en route* and during halts. We know, as a matter of fact, that sportsmen and civilians take care to secure a good breakfast before commencing any unwonted exertion, and if the existing regulations do not admit of this being done on field days in the case of the soldier the War Office should issue the necessary authority and incur the cost of having it done. It goes without saying, too, that the men should be protected from the sun and the heat by suitable clothing and head-dress and by marching in as open order as possible. The so-called forage or field service cap is quite unsuitable for such occasions; either helmets should be worn or, what would probably be preferable, the slouched form of head-dress used by the colonial troops should be adopted by our infantry soldiers. But it is of little use merely to protect the head against the direct rays of the sun so long as the danger from heat exhaustion arising from insufficient nourishment and fatigue be not also guarded against. It is often a matter of emulation with corps to "force the pace" in marching back to camp after a field day and it was on the return march that the soldiers, overcome with heat and fatigue, fell out in such numbers, and it is at such a time, therefore, that extra care should be taken.

THE ROYAL SOCIETY (SECOND) ANNUAL CONVERSAZIONE.

THE exhibition held by the Royal Society on June 20th, although containing very little of an entirely novel character, yet fully maintained the high standard it has reached in recent years. It frequently happens that the second or June conversazione, generally known as "ladies' night," is more or less a repetition of the one given in May. This year, however, we are glad to find that this is by no means the case, many fresh subjects of interest being brought forward. An able demonstration of an apparatus for the production of short electric waves and the study of electro-optic phenomena was given by Dr. J. A. Fleming, F.R.S. A beam of electric radiation was produced by a radiator, the wave length being about eight inches. External radiation is prevented by enclosing the instrument in a zinc box. The receiver is of the Branly type and is connected with a relay and an electric bell to indicate the impact of electric waves. Dr. Fleming showed that the latter could penetrate ordinary insulating screens but were at once stopped by those made of metal. Damp objects, such as a wet duster, a moist brick, or the human body, were quite impervious. The refraction of these waves was also cleverly shown by turning the radiator out of the horizontal plane when the receiver bell gave no indication until a prism of paraffin wax or a grating of parallel wire held at an angle diverted the rays into the aperture of the receiver. The spectra of the inert gases of the atmosphere were exhibited by Professor W. Ramsay, F.R.S., and Dr. M. W. Travers, who have now succeeded in thoroughly separating no less than five constituents from atmospheric nitrogen—viz., helium, neon, argon, krypton, and xenon, spectra of these five gases in a pure state being on view. It is interesting to notice that krypton with an atomic weight of about 80·54 comes close to bromine in the Periodic Law, whilst xenon again, with an atomic weight of 128, is close to iodine. An ingenious apparatus for the preparation of these gases in the pure state was also shown. It consists mainly of mercury levelling tubes, by means of which atmospheric air is driven into a tube, cooled by liquid air, and thereby compelled to condense. Diminution of pressure then causes the highest boiling liquid to vaporise away from the others, thereby practically bringing about fractional distillation of the gases present. The photographic observations of the solar eclipse of May 28th formed the interesting exhibit of the Joint Eclipse Committee of the Royal and Astronomical Societies. Many positives and negatives of the various stages of the eclipse were on view and naturally many of the corona. Ordinary and chromosphere spectra of the latter were also shown, and among other attractive items in this collection were some striking paintings by Mr. Wyllie, the well-known marine artist, of incidents which he witnessed whilst accompanying the official expedition. Dr. William J. S. Lockyer showed some clever photographs of bright and dark lightning flashes, the effects being purely photographic, probably caused by several sparks of varying intensity taking place at the same time. The poisonous lotus of Egypt (*Lotus Arabicus*) was shown by Professor Wyndham Dunstan, F.R.S. This very curious plant possesses the property of being extremely poisonous to animals in its living condition from the formation of prussic acid due to the action of water on a glucoside it contains, an enzyme present converting the latter into this poison and a yellow colouring matter, *loto flavin*. When, however, the plant is cut down and dried it becomes a most useful fodder and possesses an odour closely resembling fresh hay. Dr W. J Russell, F.R.S., showed some pictures on copper developed by iodine after contact with printer's ink and also after exposure to hydrogen peroxide. Some ancient cameos and gems dating back to the second or first century B.C were exhibited by Sir John Evans, K.C.B., F.R.S., and some of the Roman remains from Silchester by Mr. W. Gowland. The latter included some fragments of the hearths of two of the old cupellation furnaces saturated with lead and copper oxide during the extraction of silver from argentiferous copper. Some very good experiments were performed by Professor Hele-Shaw, F.R.S., and Mr. Hay on stream line motion analogous to lines of magnetic induction. They exhibited a specially constructed glass plate by means of which a large number of results may be obtained with very little trouble suitable for both educational and research work. Last, but not least, Professor E. Ray Lankester, F.R.S., showed two ingenious models of mosquitoes enlarged 28 times linear and some models of human blood corpuscles infested with the malaria parasite.

UNFOUNDED CHARGES AGAINST THE CARDIFF INFIRMARY.

THE working men of Cardiff and the colliers of the surrounding districts subscribe about £1000 per annum in support of the Cardiff Infirmary, not by any means a large amount when compared with the sums raised on Hospital Saturday in other large towns, Birmingham for instance. But if the Cardiff workmen are grudging in pecuniary support they are only too ready to bring against the staff of the institution charges which are of the most trivial nature and which will not bear even the most superficial examination. The latest instance occurred last week when at a meeting of the working-men governors it was stated that a collier who had met with an accident was sent by the colliery surgeon to the infirmary and that although he had a subscriber's ticket he was sent home without having his injury attended to. Such is the statement which appeared in the Cardiff daily papers of June 12th. The actual facts are there. A collier in one of the Rhondda valley collieries badly crushed three of his

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kind. It is no doubt not advisable, even were it practicable, to depart from a system of decentralisation by taking out of the hands of the local military authorities the duty and responsibility of making adequate arrangements on occasions of this sort. We cannot see, however, how these arrangements can be considered adequate so long as soldiers about to take part in a long and trying field day are not provided before starting with a more substantial breakfast than they seem to get at present, together with means of obtaining light refreshment and an abundance of fluid *en route* and during halts. We know, as a matter of fact, that sportsmen and civilians take care to secure a good breakfast before commencing any unwonted exertion, and if the existing regulations do not admit of this being done on field days in the case of the soldier the War Office should issue the necessary authority and incur the cost of having it done. It goes without saying, too, that the men should be protected from the sun and the heat by suitable clothing and head-dress and by marching in as open order as possible. The so called forage or field service cap is quite unsuitable for such occasions; either helmets should be worn or, what would probably be preferable, the slouched form of head-dress used by the colonial troops should be adopted by our infantry soldiers. But it is of little use merely to protect the head against the direct rays of the sun so long as the danger from heat exhaustion arising from insufficient nourishment and fatigue be not also guarded against. It is often a matter of emulation with corps to "force the pace" in marching back to camp after a field day and it was on the return march that the soldiers, overcome with heat and fatigue, fell out in such numbers, and it is at such a time, therefore, that extra care should be taken.

THE ROYAL SOCIETY (SECOND) ANNUAL CONVERSAZIONE.

THE exhibition held by the Royal Society on June 20th, although containing very little of an entirely novel character, yet fully maintained the high standard it has reached in recent years. It frequently happens that the second or June conversazione, generally known as "ladies' night," is more or less a repetition of the one given in May. This year, however, we are glad to find that this is by no means the case, many fresh subjects of interest being brought forward. An able demonstration of an apparatus for the production of short electric waves and the study of electro-optic phenomena was given by Dr. J. A. Fleming, F.R.S A beam of electric radiation was produced by a radiator, the wave length being about eight inches. External radiation is prevented by enclosing the instrument in a zinc box The receiver is of the Branly type and is connected with a relay and an electric bell to indicate the impact of electric waves Dr. Fleming showed that the latter could penetrate ordinary insulating screens but were at once stopped by those made of metal. Damp objects, such as a wet duster, a moist brick, or the human body, were quite impervious. The refraction of these waves was also cleverly shown by turning the radiator out of the horizontal plane when the receiver bell gave no indication until a prism of paraffin wax or a grating of parallel wire held at an angle diverted the rays into the aperture of the receiver. The spectra of the inert gases of the atmosphere were exhibited by Professor W. Ramsay, F.R.S., and Dr. M. W. Travers, who have now succeeded in thoroughly separating no less than five constituents from atmospheric nitrogen—viz., helium, neon, argon, krypton, and xenon, spectra of these five gases in a pure state being on view. It is interesting to notice that krypton with an atomic weight of about 80 54 comes close to bromine in the Periodic Law, whilst xenon again, with an atomic weight of 128, is close to iodine. An ingenious apparatus for the preparation of these gases in the pure state was also shown. It consists mainly of mercury levelling tubes, by means of which atmospheric air is driven into a tube, cooled by liquid air, and thereby compelled to condense. Diminution of pressure then causes the highest boiling liquid to vaporise away from the others, thereby practically bringing about fractional distillation of the gases present. The photographic observations of the solar eclipse of May 28th formed the interesting exhibit of the Joint Eclipse Committee of the Royal and Astronomical Societies. Many positives and negatives of the various stages of the eclipse were on view and naturally many of the corona. Ordinary and chromosphere spectra of the latter were also shown, and among other attractive items in this collection were some striking paintings by Mr. Wyllie, the well-known marine artist, of incidents which he witnessed whilst accompanying the official expedition. Dr. William J. S. Lockyer showed some clever photographs of bright and dark lightning flashes, the effects being purely photographic, probably caused by several sparks of varying intensity taking place at the same time. The poisonous lotus of Egypt (*Lotus Arabicus*) was shown by Professor Wyndham Dunstan, F.R.S. This very curious plant possesses the property of being extremely poisonous to animals in its living condition from the formation of prussic acid due to the action of water on a glucoside it contains, an enzyme present converting the latter into this poison and a yellow colouring matter, *loto flavin*. When, however, the plant is cut down and dried it becomes a most useful fodder and possesses an odour closely resembling fresh hay. Dr W. J Russell, F.R.S., showed some pictures on copper developed by iodine after contact with printer's ink and also after exposure to hydrogen peroxide. Some ancient cameos and gems dating back to the second or first century B.C were exhibited by Sir John Evans, K.C.B., F.R.S., and some of the Roman remains from Silchester by Mr. W Gowland. The latter included some fragments of the hearths of two of the old cupellation furnaces saturated with lead and copper oxide during the extraction of silver from argentiferous copper. Some very good experiments were performed by Professor Hele-Shaw, F.R.S., and Mr. Hay on stream line motion analogous to lines of magnetic induction. They exhibited a specially constructed glass plate by means of which a large number of results may be obtained with very little trouble suitable for both educational and research work Last, but not least, Professor E. Ray Lankester, F.R.S., showed two ingenious models of mosquitoes enlarged 28 times linear and some models of human blood corpuscles infested with the malaria parasite.

UNFOUNDED CHARGES AGAINST THE CARDIFF INFIRMARY.

THE working men of Cardiff and the colliers of the surrounding districts subscribe about £1000 per annum in support of the Cardiff Infirmary, not by any means a large amount when compared with the sums raised on Hospital Saturday in other large towns, Birmingham for instance. But if the Cardiff workmen are grudging in pecuniary support they are only too ready to bring against the staff of the institution charges which are of the most trivial nature and which will not bear even the most superficial examination. The latest instance occurred last week when at a meeting of the working men governors it was stated that a collier who had met with an accident was sent by the colliery surgeon to the infirmary and that although he had a subscriber's ticket he was sent home without having his injury attended to. Such is the statement which appeared in the Cardiff daily papers of June 12th The actual facts are these. A collier in one of the Rhondda valley collieries badly crushed three of his

fingers and was attended immediately by Mr. Edwards, the colliery surgeon, who was of opinion that with proper treatment the whole hand would be saved. At the end of two days the man suggested that he should see one of the Cardiff Infirmary surgeons and Mr. Edwards readily acquiesced. Upon presenting himself at the out-patients' room of the infirmary Dr. P. Rhys Griffiths made a careful examination of the injured hand and came to the same conclusion as the colliery surgeon, that there was no necessity to amputate any of the fingers, and after having the hand dressed he wrote to Mr. Edwards giving expression to his views as to the mode of treatment to be followed. It is thus evident that instead of receiving scant courtesy, as the working-man governor would have his colleagues believe, this particular patient received exceptionally good treatment at the hands of the infirmary surgeon. It is a great pity that such charges as these should not be investigated before finding their way into the daily papers and not after. Those who bring them must surely see that even the interval of the couple of days which must elapse before explanation is possible may be long enough to do a considerable injury to the institution whose interests we are convinced they have really at heart.

MARRIAGES BETWEEN PERSONS OF THE SAME SEX.

THE determination of the sex of a new-born child with malformed genital organs must often be a matter of considerable difficulty. With the advance of years and the advent of puberty the changes which take place in the body and the development of secondary sexual characters usually enable a correct diagnosis to be made. It would seem hardly credible that individuals could grow up and even enter the marriage state without their exact sex ever having been determined. In two articles of great interest in the *Revue de Gynécologie et de Chirurgie Abdominale*, March–April, 1899, and January–February, 1900, Dr. François Neugebauer has collected notes of no less than 53 cases of marriage between persons of the same sex. He has also collected from the literature 11 cases in which marriage engagements were broken off on the discovery of an error having been made in the sex of one or other of the parties, and 15 cases of "women" living a life of prostitution who were in reality of the male sex. A careful examination by a competent observer will rarely fail to determine with certainty the sex of a new-born child, but in many cases the matter is left to the judgment of the attendant nurse or midwife, who has not a sufficient knowledge of the various kinds of malformation of the genital organs to enable her to come to a correct conclusion. The unfortunate consequences that may result from an error are illustrated by Dr. Neugebauer's cases and by the fact that two unhappy victims of such a mistake were driven to commit suicide. In the 53 cases recorded, in 49 a man had been married as a woman, in three cases a woman had been married as a man, while in one the person was said to be an hermaphrodite. The majority of the cases of the men appear to have been very evident cases of peno-scrotal hypospadias. Some of these cases, however, even when examined by trained observers, cannot be decided upon with absolute certainty unless a microscopical examination of the supposed ovaries or testes is possible. The legal relations of the correct determination of the sex of a new-born child may be of the greatest possible importance. The question of the right of succession or inheritance to landed estate or to an estate limited by entailment may depend upon a correct appreciation of the preponderance of one or the other sex in the case of an hermaphrodite. If the subject of such a malformation die a short time after birth the rights of other people may rest to a large extent upon the decision of the medical attendant in the matter of the exact sex. In such cases no conclusion should be come to without the most complete post mortem examination and if necessary a microscopical examination of the sexual glands. The law in France with regard to the nullity of marriage between two persons of the same sex differs from that in this country. If the person married is a malformed woman incapable of sexual intercourse then according to the French law no ground exists for declaring the marriage void. Such a condition is, however, recognised by English law as a sufficient cause for annulling the contract. If, on the other hand, the person is a malformed man there can have been no legal marriage and it is of necessity null and void. If the case is one of an hermaphrodite then nullity of marriage must exist since whatever the sex of the other contracting party there must be identity of sex between the two persons. In view of the grave results that may ensue cases of doubtful sex should be investigated with the greatest care, and in all cases where any doubt remains the child should be brought up and educated as a male.

THE COLONIAL SURGEONS IN ASHANTI.

THE dangers which are at present threatening our countrymen in the West Coast of Africa have a special interest for the medical profession from the fact that of the 26 Europeans whom the revolted Ashantis are believed to have surrounded in Coomassie no fewer than six are in the Colonial Medical Service. Under the most favourable conditions these gentlemen have very arduous and responsible positions, and the climate in which they live is proverbially one of the most fatal in the world for white men. At present they are in a most critical position, shut up in a native town far from the sea and with no immediate prospect of being relieved. These victims to duty, with whom we have to express the utmost sympathy, are Mr. Patrick Joseph Garland, senior assistant colonial surgeon, Gold Coast, Mr. Edward Herbert Tweedy, Mr. Albert John Chalmers, M.D. Vict., Mr. William Medlycott Graham, M.B. Dub., and Mr. J. B. Hay, M.B. Edin., assistant colonial surgeons, Gold Coast, the sixth being Mr. W. F. Macfarlane, assistant colonial surgeon, Lagos. All will unite in hoping that communication with Coomassie may be soon restored and the Europeans enabled to make their way to the sea-coast.

THE RATING OF SCIENTIFIC INSTITUTIONS.

THE Jenner Institute of Preventive Medicine has recently attempted to obtain exemption from the payment of rates and has failed to do so on its case coming before a Divisional Court. The ground of its claim to be excused was that the Jenner Institute came under the Act of Parliament passed in 1843 which exempts "any society instituted for purposes of science, literature, or the fine arts exclusively," provided that such society fulfils certain other conditions. It was not contested that the Jenner Institute did not fulfil these or that it was not instituted for purposes of science, but its difficulty arose from the application of the word "exclusively." It is, of course, well known to our readers that the Jenner Institute is not only responsible for much scientific investigation and research but also that it manufactures and sells antitoxin, mallein, tuberculin, and similar preparations for the benefit of members of the medical profession who are glad to be able to obtain them from such a source. It was not suggested to the Divisional Court that it carries on a profitable business in this respect; indeed, it was admitted that some of the preparations named were sold at a loss to the institute. The judges, however, held that giving full weight to the word "exclusively" in the Act under consideration they were bound to consider the appellants liable, Mr. Justice Channell

saying that "one of the objects of the appellants was no doubt the promotion of science, but one and probably the main object was to dispense to the public the benefits of science" We do not quite follow the distinction thus drawn which we cite from the *Times* report of the case, and we should have thought that "the dispensing of the benefits of science" to the public should hardly, according to the spirit of the Act, impose a liability from which a society not so dispensing them would be exempt, but we do not wish to re argue a case which no doubt will shortly be re-argued to the full in the two courts which still remain open to it. We would rather protest against scientific societies having either to submit to taxation or to expend their revenues in claiming the protection of an Act of Parliament passed more than half a century ago and so vague in its terms that even now the interpretation of its provisoes is wholly uncertain, while such institutions as general hospitals might well have been included in its scope had they not at the time of its passing and for many years afterwards been universally deemed to be under no obligation to pay rates. In justification of what we have said as to the uncertainty and consequent cost of such an appeal as the Jenner Institute seems to have undertaken we need only point to the history of two more or less recent appeals under the same section which were cited in the course of argument in the Divisional Court and which we select at random In the one case the Institution of Civil Engineers was the appellant. The Divisional Court decided against it. On its appealing to the Court of Appeal the decision of that tribunal was in its favour by a majority, one out of the three Lords of Appeal dissenting from the other two. In the House of Lords the Institution was again successful, but again one judge out of three—the Lord Chancellor, to wit—was against it and it succeeded by a bare majority only. In the other case the Art Union of London was the appellant. The Divisional Court decided against it; the Court of Appeal was in its favour, being, however, again divided in the proportion of two judges against one; and the House of Lords eventually reversed the decision of the Court of Appeal and held the Art Union liable. It is possible that the law on the subject of exemption from rates may have been rendered clearer by these two decisions and may be clearer still by the time the Jenner Institute has secured another from the House of Lords, but it seems time to amend, or to replace with a modern one, an old statute passed two generations ago which is still fraught with expensive litigation for the very institutions whose revenues it was passed to economise and which omits from its purview others equally deserving protection.

IRISH UNIVERSITY EDUCATION.

ALL Irishmen are naturally fond of discussion, and at the present time university education provides them with a most congenial subject, so that the question is constantly arising and the number of views put forward as solutions of the matter illustrates the proverb, "*Tot homines quot sententiæ*" *Here is the latest.* At the yearly meeting of the Assembly of the Presbyterian Church in Ireland, held in Dublin on June 8th, the convener of the Committee on Higher Education strongly commended as an equitable solution of the university question "the nationalisation of Trinity College," by which was meant that the theological degrees, as well as the degrees in arts and other faculties (medicine, law, &c), should become the property and privilege of the whole nation. According to this utopian scheme the Ulster Faculty—the six Presbyterian theological professors in Belfast and the three in Derry—should undertake the conducting of classes in Trinity College, Dublin, by availing themselves of the Trinity term that lies outside their own session. What the unfortunate professors in arts, law, and medicine of Queen's College, Belfast, or the arts professors of Derry would do under this scheme is apparently *not worth considering.* It need hardly be said that such a settlement—as the interesting debate showed, when it was broached—would be unworkable. In the first place, no statesman of any party would attempt to interfere with Trinity College, nor does any true Irishman wish to destroy the prestige and glory of a university the traditions of which go back to the days of Queen Elizabeth; secondly, it would be absurd to expect other educational bodies to join Trinity College unless on terms of absolute equality on the governing senate, as well as in other matters—a condition which Trinity College would never yield; and, finally, such a proposal as the nationalisation of Trinity College would in no way satisfy the Roman Catholic Church in Ireland, and the problem, as far as it is concerned, would be as acute as ever. The proposal to nationalise Trinity College is, therefore, as useless as it is impracticable.

THE LATE MRS. GLADSTONE.

ON June 14th Catherine Gladstone, the wife of perhaps the most notable statesman of the expiring century, passed from sleep into death She was in her eighty ninth year and no transit from this world to the next could have been more peaceful Nearly all the members of her family were present—a family as devoted to their mother as she to them and to any one of whom the exquisite lines of Pope might apply—

[illegible]

To the deceased lady the medical profession owes a great debt in that she was the pioneer of the free convalescent home movement It grew out of the distress caused by the cholera epidemic of 1866 which forced upon her attention the necessity for such institutions She appealed to the public and generous donations were sent in including one of £1000 from the Queen. The first home was opened at Snaresbrook, but it was transferred in 1869 to Woodford. From the beginning she set her face against granting to subscribers any privileges in the way of "letters" or nomination of patients, and this opinion was endorsed at a great meeting held at the Mansion House, in 1876, where Mr Gladstone spoke[1] This of course is the way in which any charity should be worked, but we fear that such a method needs the personal magnetism of a Gladstone to make it generally feasible. No better memorial could be raised to the memory of her who has gone than for one of the large London hospitals which has not already done so to do away with subscribers' letters.

RESULTS OF THE TREATMENT OF GRAVES'S DISEASE BY REMOVAL OF THE THYROID GLAND.

G. REMBACH contributes to the *Deutsche Medicinische Wochenschrift* of April 28th, 1900, a concise and very instructive review of the cases treated by removal of the thyroid gland in exophthalmic goitre. Nearly a decade has passed since *Mikulicz of Buda-Pesth* operated on his first case of Graves's (Basedow's) disease, and the final results are very gratifying to record. All the clinical symptoms of a disagreeable and distressing nature (palpitations, attacks of giddiness and of confusion, flushings and feelings of heat), have been entirely, or almost entirely, removed by the operation and the patients have been able to pursue their usual occupations and to enjoy their lives which before were wearisome and wretched. A

[1] The Lancet, April 1st, 1876, p. 567.

review is given of 18 cases which had thus been operated on with beneficial results. It may be mentioned that resection of the thyroid gland was successfully performed in 13 cases and enucleation in three cases. Bilateral resection was found necessary in six cases, and in four of these it was completed at one sitting. The arteries supplying the thyroid gland were ligatured in five cases. Microscopic examinations were made of the excised glands, but the changes found were slight and variable. No constant pathological basis could be discovered, so that, apart from the view generally entertained that the gland is in a state of hyperplasia and over-activity in this disease, no specific statement on the pathology of the disease could be put forward.

THE QUESTION OF HORSE AMBULANCES.

OUR recent reference to horse ambulances has stimulated afresh interest in this important question, and among the correspondence relating to the matter which has reached us is a note from the Hon. F. Dudley Leigh calling our attention to an article from his pen in the *Nineteenth Century* for October, 1896. The author succinctly sketches the work that has been done in this direction in other countries; his descriptions of the celerity with which the American ambulances start out, picking up a surgeon on the way, being as thrilling as an account of the almost instantaneous receipt of a call and the turn-out of the New York Fire Brigade. Mr. Leigh concludes his paper with suggestions that various public bodies might interest themselves in the question, pointing out that our hospitals are too overburdened already in the matter of finance to take up the matter themselves. It is certainly to be regretted that, in an age when every possible effort is apparently being made to alleviate suffering, London should be behindhand in providing that rapid means of transport in the case of accidents which is provided not only in America and on the continent but also, we are happy to know, in Belfast, in Bolton, in Oldham, and which will soon, we trust, be provided in Manchester. Oxford, too, as will be seen from a letter in another part of THE LANCET, has done something towards providing transport of the kind in question. Surely if the matter were taken in hand by some responsible body there would be no lack of funds for the wiping out of what is now a blot upon our city.

THE PLUMBERS' REGISTRATION BILL.

IT is satisfactory to notice that our contemporary the *Daily Express* is making an effort to arouse public interest with regard to the importance of sound plumbers' work. This is the more opportune as that much-neglected measure, the Plumbers' Registration Bill, will shortly be again before the notice of Parliament. It may be that the lack of general interest exhibited towards this Bill by Members of the House is more apparent than real, but it would seem to exercise a heavy narcotic influence whenever it is introduced. Some measure of control over men operating as plumbers is surely needful; this is more particularly the case when, under the present conditions of the building trade, such work is undertaken by employers whose ostensible avocations by no means guarantee their ability to direct their workmen in the intricacies of their craft. Probably not half the workmen engaged in plumbing work are employed by master plumbers. Any man calling himself a builder, as well as ironmongers, gasfitters, stores, or universal providers are gradually wresting the trade from the master plumber. The employés suffer from this, the men having to a large extent to pick up a knowledge of their trade as best they can, the old system of apprenticeship rapidly becoming extinct with the decadence of the master plumber. The powers for evil that repose in the hands of these men have been frequently pointed out in the pages of THE LANCET. The disastrous effects that arise from their callousness or ignorance are constantly presenting themselves to our notice. The best men are all anxious for registration; it is only those who could well be spared from the trade who are inclined to reject it.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MR. J. A. BLOXAM, senior surgeon to Charing-cross Hospital, having decided to become a candidate for a seat on the Council of the Royal College of Surgeons of England, Mr. John H. Morgan has withdrawn his name from the list of candidates.

CAMBRIDGE SUMMER SCHOOL OF MEDICINE FOR QUALIFIED PRACTITIONERS.

WE have already given some details as to the Cambridge Summer School of Medicine which it was intended to hold from June 25th to June 30th. Demonstrations of the malarial and other blood parasites and of all the most recent work on cancer had been arranged for, while in addition to these subjects lectures were to have been given by experts in their several lines of work upon various other matters of medical and surgical interest. We regret, however, to have to announce that owing to the small number of acceptances it has been decided not to hold the meeting. The response with which the offer has met with this year is all the more disappointing after the enthusiasm and gratitude of the visitors at the last meeting five years ago and we learn that the offer will not be made again.

MEDICAL MEN AND HOSPITAL BOARDS.

FROM time to time we have to record differences of opinion between the board of management and the medical board of the same hospital. When, therefore, we find evidence of great cordiality between the two boards it affords us much gratification to chronicle the same. The board of management of the Wigan Infirmary at the first meeting of the new board appointed Mr. William Berry, the senior honorary surgeon and secretary of the medical board, to be chairman of the general board for the ensuing year. That a medical officer of an institution should have been appointed to such a high post as the chairmanship of the general board of that institution is not only a high compliment to the medical profession but also a tangible proof that the working of the Wigan Infirmary is conducted upon the most harmonious principles and therefore upon the system calculated to give the best results both for the patients and for the supporters by whose generosity the needful funds are found. Wigan has set an example worthy of general imitation, and we offer those concerned in this happy procedure our warmest congratulations.

EPSOM COLLEGE: THE WAKLEY PRIZE.

ON June 16th the Council of Epsom College, on the occasion of their annual visit, awarded the prize for "Elocution" to the Senior Prefect, Mr. Colin Giffard, whose renderings of a portion of "Lear" previously "set," and of an extract from "The Spectator," which he had not previously seen, were equally excellent. To the same student was also adjudicated the "Wakley Prize." This prize is the result of a collection made by the friends of the late Thomas Wakley. The amount collected was invested and the dividends provide the funds for the prize in perpetuation of the memory of the Founder of THE LANCET. The prize is awarded to "the best fellow all round" by the votes of the boys in Upper and Middle School; on the present occasion the majority of votes gained was, we understand, the largest on record, whilst the endorsement of the staff was unanimous. The fact that a boy holding the

responsible post of Senior Prefect should have succeeded in winning so completely the approbation of the staff and the affection and confidence of his fellow-students implies the possession of a combination of qualities which we trust will stand him equally in good stead in his future career. Founder's Day will be held on Saturday, July 28th.

THE PATHOLOGICAL SOCIETY OF LONDON.

A NEW departure in the form of an extra meeting held in the Pathological Laboratory of the New Museums at Cambridge will bring the present session of the Pathological Society to a close. By the kind invitation of Professor G. Sims Woodhead the meeting will take place at 4 P.M. on Saturday, June 30th, at Cambridge. A list of the communications will be published in our Diary on Friday next. Members will be able to obtain dinner in hall at Trinity Hall at 6.30 P.M., so as to enable them to catch the 8.40 P.M. train back to town.

THE President and Council of the Medical Graduates' College and Polyclinic are issuing invitations for a conversazione to be held at the College, 22, Chenies-street, W.C., on Wednesday, July 4th. The reception by the President will take place at 8 P.M. and an address—subject, "The Teaching of Practical Medicine"—will be delivered by Professor Osler, F.R.S., of Baltimore, at 9 P.M. All inquiries should be addressed to the medical superintendent of the College, 22, Chenies-street, W.C.

THE Society of Arts Albert Medal for the present year has, with the approval of H.R.H. the Prince of Wales, president of the society, been awarded to Mr. Henry Wilde, F.R.S., "for the discovery and practical demonstration of the indefinite increase of the magnetic and electric forces from quantities indefinitely small." This principle is the one on which the invention of the modern dynamo machine is based and is employed in all modern dynamos.

THE Caroline Institute of Stockholm has just admitted a lady for the first time to the degree of Doctor of Medicine. Miss Anna Stecksén produced a thesis on the Blastomycetes of Curtis partly from studies under Dr. Roux in the Paris Pasteur Institute, and partly from work carried on in the bacteriological laboratory of the Caroline Institute.

THE governors and medical staff of Guy's Hospital are sending out invitations for a garden party to be held on Wednesday, July 4th, at 3 P.M., on the occasion of the distribution of the medals and prizes to the students by the Earl of Pembroke. The new laboratories, wards, museums, and college will be open from 3 to 5.30 P.M.

MR. O. A. BYNOE, concerning the justice of whose conviction for forgery in 1892 grave doubts have arisen, has applied unsuccessfully to the High Court for a rule *nisi* for a *mandamus* to compel the General Medical Council to hear the application that his name, which had been erased from the Medical Register, might be restored.

IT is an open secret that grave differences have arisen between the board of management and the medical staff of the National Hospital for the Paralysed and Epileptic, Queen-square. The medical staff have now drawn up a statement of their views which has been sent to the Governors of the hospital.

WE regret to learn the death of Mr. Thomas Jones, F.R.C.S.Eng., Professor of Surgery in Owens College, Manchester, and surgeon to the Manchester Royal Infirmary. Mr. Jones was surgeon in charge of the Welsh Hospital at the seat of war and his death is announced from Springfontein.

A TELEGRAM from Sir C. Bruce, Governor of Mauritius, to Mr. Chamberlain, received at the Colonial Office on June 15th, states that no cases of bubonic plague have been reported for the week ending June 14th.

THE annual distribution of prizes to the students of Charing-cross Hospital will take place on Tuesday, June 26th, at 3.30 P.M. The prizes will be distributed by Mr. H. Beerbohm Tree.

A TELEGRAM has been received at the Colonial Office, dated June 18th, stating that 74 cases of bubonic plague occurred in Ceylon last week with 64 deaths.

SIR WILLIAM MACCORMAC will receive the degrees of M.D., M.Ch. honoris causâ in the University of Dublin on Thursday, June 28th.

ROYAL ARMY MEDICAL CORPS SOUTH AFRICA FUND.

PRINCESS CHRISTIAN, the President of the Royal Army Medical Corps South Africa Fund, presided on June 19th at a meeting of the general committee of the Fund, held, by permission of Lady Broadbent, at 84, Brook-street, W. Her Royal Highness, who was attended by Miss Loch, was received by Sir William and Lady Broadbent, Sir Dyce and Lady Duckworth, and Surgeon-General H. S. Muir, Deputy Director-General of the Army Medical Department. Amongst those present were Miss Maxwell Müller, R.C., Lady Dyce Duckworth, Mrs. Anderson, Mrs. Berkeley Hill, Mrs. Ramsden, Mrs. Howard Tooth, Mrs. Jameson, Miss Quain, Mrs. Walsham, Mrs. Butlin, Lady Brunton, Mrs. Percy Kidd, Major and Miss Wilson, Mrs. Charters Symonds, Colonel and Mrs. Frank Howard, Mrs. Muir, Mrs. Thomson, Mrs. Barlow, Lady Savory, Mrs. Moore, Mrs. Hale White, Lady Russell Reynolds, Mrs. Church, Mrs. Pye-Smith, Mrs. Bradford, Mrs. Liveing, Lady Clark, Lady Fayrer, and Mrs. Charlton.

Mrs. CHARTERS SYMONDS (the honorary treasurer) in submitting her report, said: Your Royal Highness, ladies, and gentlemen,—As there may be no other opportunity of informing the committee and subscribers as to the distribution of the Fund, it may be advisable to enter into a few particulars. The total amount received to date is £2266 8s. 4d., which may be considered a successful result of our appeal. Messrs. Holt and Company have received £277 10s. 9d., and to this firm we are indebted for acting as our bankers. The committee formed in Birmingham have sent £225, and have also written to say that a further collection will be made if required. £50 have been received from the Leeds committee and £38 12s. 6d. have been received from Scarborough, while the Blackburn committee have contributed £80. The subscriptions sent direct to the treasurer amount to £1029 6s.; of this sum it may be added that the bulk was collected by the ladies of the committee and by members of the medical profession; a large sum also was raised by the Royal Army Medical Corps, due to the efforts of active and retired officers and to the wives of several gentlemen at present serving in South Africa. £23 were received from the officers and men of the Royal Army Medical Corps at Malta. We have expended £1475 11s. to date, including about £500 on flannel shirts and over £250 on tobacco. We have sent £200 to the principal medical officers in India, who purchased and despatched blankets and puttees to the Indian dhoolie-bearers now serving with the forces in South Africa. Major W. G. A. Bedford, R.A.M.C., secretary to the principal medical officer at Cape Town, has acknowledged the receipt of £200 which he will spend at his discretion and of which he will render an account to us. With regard to the auditing of the accounts Surgeon-General Muir has kindly offered to undertake the duty in

conjunction with some other officer in his department. We have in hand at present a balance of £770 of which probably £120 will be required for rent, packing expenses, and purchases up to the end of July. If we set aside another £50 for pipes and tobacco there will still be left a balance of £600; and one of our objects in meeting here to-day is to consider the best means for utilising this sum for the benefit of the corps whose splendid work in South Africa has been a striking feature throughout the whole campaign. I will leave it to Surgeon-General Muir, to whose courtesy and ready help we owe so much, to suggest the best way of dealing with this amount.

On the motion of Sir DYCE DUCKWORTH the report was adopted.

Surgeon-General H. S. MUIR then read the report of the Executive Committee. He said: Your Royal Highness, ladies and gentlemen,—The circulars which you have received have given particulars of what has been done, but a short recapitulation perhaps is desirable. Mrs. Charlton has been working at Netley, Mrs. Allin at Aldershot, and Mrs. Wilson and Mrs. Exham at Devonport, and several ladies of rank in the provinces have given their assistance. In January a letter was prepared for publication, when Mrs. Charters Symonds wrote to the Director-General of the Army Medical Department offering her kind assistance. This led to the formation of a central committee of ladies in London, and on Feb. 5th a meeting by the kind courtesy of Lady Duckworth was held at 11, Grafton-street, to organise and commence work. Your Royal Highness then graciously consented to be the honorary President. An executive committee was then appointed and an office was opened at 100, Victoria-street, Miss Maxwell Muller kindly undertaking the office of honorary secretary and Mrs Charters Symonds that of honorary treasurer. Parcels of comforts were sent to the principal medical officer of each division and to all general hospitals for distribution. The work expanded rapidly; numerous gifts in kind began to arrive and the accommodation at Victoria-street proved insufficient for our needs and necessitated our finding the new offices in George-street. This change, however, entailed the loss of the services of Miss Maxwell Muller, who had devoted much time and energy to the work. Mrs. Muir then became honorary secretary, but the secretarial work had become so extensive that it was absolutely necessary to appoint a paid secretary and the executive committee were fortunate in obtaining the services of Miss Bollast. Parcels were now sent to the men at the base depôts, the advanced depôts, on the lines of communication, and to the hospital trains and hospital ships. The army had increased in numbers and new divisions were formed which necessitated the despatch of comforts to new detachments of the corps, which now included Militia and Volunteer Medical Staff Corps. Steps were taken to provide the Indian hospital attendants and dhoolie-bearers with blankets and puttees which were sent direct from Bombay. It was also considered advisable to commence sending a second consignment to the various divisions and hospitals. Upwards of 9000 parcels have now been despatched. The parcel for each man, as a rule, was made up of a flannel shirt, two pairs of socks, two handkerchiefs, a woollen helmet or cap, a muffler, a cholera belt, a pipe and tobacco, a cake of soap, a packet of note-paper, and a pencil. Occasionally some of the following articles were added: Testaments, towels, mittens, chocolate, compressed soup, lime-juice tablets, slippers, cigarettes, buttons, playing-cards, and bootlaces. About 100,000 articles have been despatched, and as a very large number of these were gifts in kind the committee wish to acknowledge these with many thanks. They numbered as follows: 2500 shirts, 3500 cholera belts, 14,000 caps, 3600 bootlaces, 6000 mufflers, 11,000 handkerchiefs, 12,500 pairs of socks, and 1200 pencils. I beg to mention that we are indebted to your Royal Highness for many of these articles. Many articles more suitable to hospital patients than for our purposes were sent to us, probably through misapprehension, but we did our best to forward them to hospitals, so that the generous donors may feel satisfied that the articles were duly used and appreciated. These articles include pyjamas, cushions, nightingales, bed-jackets, eau-de-Cologne, games, and magazines. The kindness of the following ladies must be acknowledged:—Lady Dyce Duckworth, Lady Lauder Brunton, Lady Broadbent, Mrs. Berkeley Hill, Mrs. Barlow, Lady Bertram, Mrs. Pye-Smith, Mrs. F. Taylor, Mrs. Morriston Davies, Mrs. Jameson, Mrs. Macpherson, Mrs. Johnston, Miss Bostock, Miss Wilson, Mrs. Dawson Williams, Mrs. Squire, Mrs. Greer, Miss Verona Brooke, Mrs Oliver Barnett, Mrs. Clutton, Mrs. Bourke, Mrs. Garrett, Mrs. Steele Perkins, Mrs. Frank Howard, Mrs. Bradford, and Mrs. Forsyth. The packing of the thousands of articles which we have dispatched devolved upon a sub-committee, the members of which arranged amongst themselves as to their attendance daily. The amount of physical energy required to make up 9000 individual parcels has, I need hardly say, been very considerable, and the efforts of these ladies are worthy of the highest praise. I may add that two of the ladies mentioned voluntarily attended every day, wet or fine, and in this connexion I cannot refrain from mentioning the names of Mrs. Meredith and Miss Bowker. Our thanks are also due to the provincial committees who have done good work. Leeds, Birmingham, Liverpool, Scarborough, Blackpool, and Edinburgh have sent gifts both in money and in kind. The meeting has heard from our honorary treasurer that a balance of over £700 remains available. Subscriptions still come in from day to day, but we can hardly expect, unless we make special and earnest appeals, that any large amounts will be received henceforward. Judging from the course of events I think we may, perhaps, conclude that no such appeal will be necessary. At the same time it might be somewhat premature at present, for the reasons I shall now adduce, to declare the Fund closed. From some of the consignees we have heard of the actual receipt of our packages, but not from all. Now, that does not necessarily mean that the packages are absolutely lost, for it was only by the last mail that we heard of the arrival at Estcourt of the bales addressed to No. 7 General Hospital. We know that the traffic on the South African railways has been so congested that thousands and tens of thousands of packages of all sorts have been accumulated at wharves, railway-stations, and storehouses, and from what we learn there has no doubt been a certain amount of stealing. But the Royal Army Medical Corps are no worse off than others in this respect, and we know that hospital stores have been delayed by the more urgent necessity that food-supplies for the fighting line should have precedence. The executive committee therefore propose, with your sanction, to be guided by the information we obtain by successive mails and to send out supplies to those detachments which have been up to now by force of circumstances deprived of them. They consider, however, that it will not be necessary to keep the offices open after the end of July and to obviate the necessity of calling another meeting they propose to publish a report—probably the final one—at a date shortly afterwards, when they will be prepared to make a suggestion as to the disposal of any surplus that may then exist.

Sir WILLIAM BROADBENT moved the adoption of the report, which was agreed to.

Major WILSON moved a vote of thanks to the ladies and others who had given assistance. He said he was receiving now very pathetic letters asking what had become of the Queen's chocolate, and he need hardly assure Her Royal Highness that that matter was being most carefully looked after. It could no longer be said that the Royal Army Medical Corps, who were not a territorial corps, belonged to nobody, for the medical profession had made it their own. At present they had over 4000 men in South Africa, exclusive of the St. John Ambulance Brigade. Not many men had been killed in action, but many had died in hospital principally from the result of infection during attendance upon the sick.

The motion having been agreed to, Sir WILLIAM BROADBENT tendered the thanks of the meeting to Princess Christian for her presence. Princess CHRISTIAN bowed her acknowledgments and the proceedings terminated with a vote of thanks to Sir William and Lady Broadbent for the use of their house.

THE WAR IN SOUTH AFRICA.

ALTHOUGH there is a comparative lull in the military news from South Africa at the present moment all that has recently reached us from the seat of war is eminently satisfactory. Lord Roberts's enveloping and converging columns are slowly but surely sweeping all opposition before them. He has a very large force at his disposal,

but, considering the enormous extent and nature of the country which has to be covered and conquered, and the exceptional character of the tactics employed by the Boers, [illegible] nan too many for his purpose. [illegible] n, the temporary, success attri- [illegible] nature of the methods of the Boers, regular and disciplined troops intelligently led with a definite strategical object in view are bound to succeed eventually in accomplishing it and this is what they are now doing.

According to a recent telegram from Lord Roberts, 148 officers and 3039 men of the British prisoners in the hands of the Boers at Pretoria have been released and re-armed by us with weapons captured at that place. Of the above-named, 12 of the officers and 248 of the men are in hospital. About 900 prisoners still remain in the hands of the Boers, having been removed with Mr. Kruger when he left Pretoria on June 4th.

SIR WILLIAM MAC CORMAC AT THE SALTERS' COMPANY.

Sir William Mac Cormac, Bart., K.C.V.O., was admitted to the honorary freedom of the Salters' Company on Monday last, June 18th. After the proceedings a banquet was held at which Sir William Mac Cormac made the following interesting speech:—

WORSHIPFUL MASTER, WARDENS, AND CAPTAIN PERCIVAL CLARK,—I am exceedingly sensible and appreciative of the high honour that you, Sirs, and this worshipful and ancient Company, so well known for its benevolence, its charity, and its good works, have this day conferred upon me. When I first heard of your kind intentions in my regard I can assure you that the announcement afforded me the sincerest [illegible] privilege and pleasure [illegible] consider me in some [illegible] such men as Huxley [illegible] on, who were in their [illegible] time made honorary freemen of this Company. And now it is time, I think, to express to Captain Percival Clark my sincere gratitude and cordial thanks for the manner in which he has proposed the toast of the new freeman. He has been too kind and too generous to me in what he has told you, especially in what he has said in respect of my going out to the seat of war. I have only done what everyone else has done—tried to help that country of which we are all so proud when she appeared to need our help. There is no particular merit in this—it is only doing one's duty; and when it was represented to me that I could help in South Africa by my advice and the experience I had gained in other fields, when I knew that that advice and assistance would be willingly accepted by the officers of the Royal Army Medical Corps, when I also felt that my position at the head of the surgical profession in this country would add weight to any opinions I might form,—it seemed right for me to go. I felt that if I could tell those at home (and I was happily able to tell them) that all was being done to help their dear ones who were either sick or wounded that human foresight or skill could effect, then I still further and very deeply felt that I ought not to hesitate. War is no doubt a very terrible thing, but national honour and national greatness must be maintained at whatever cost. I have the strongest possible conviction that this war was inevitable, and I am convinced that history will pronounce that our quarrel has been a just one. I have said, and now repeat, that every care has been taken for our sick and wounded. The provision made for them has been unexampled in the history of war and profuse in every way, and the difficulties of transport in this immense territory have been overcome in a manner which is ab[illegible] [illegible] field hospitals accompany [illegible] and tending the wounded [illegible] they are hurt. We have numerous hospitals along the great lines of communication and the necessary hospital trains, and we have the general hospitals at the base and the many volunteer hospitals which the generous impulses of our people have provided. Besides these we have a fleet of hospital ships equipped with every necessary and every luxury, and we have a large staff of Army Hospital Corps and civilian surgeons and many men and women nurses. I have seen all these organisations and the working of them and can speak without stint in their praise. To mention merely the labour which this entailed I may say that I travelled over 6500 miles. Up to a recent date (June 9th) the state of affairs was the following. There were in South Africa 855 medical men attending the troops—475 officers of the Royal Army Medical Corps and 380 civil surgeons. The female nurses numbered 666 and the male nurses numbered 6669. There were 27½ field hospitals, with 100 beds in each and accommodating 2750 patients; five stationary hospitals, each with 100 beds and accommodating 500 patients; and 14 general [illegible] 7560 [illegible] meda- [illegible] avail- [illegible] 4500 special [illegible] sent out, an[illegible] trains, four [illegible] and two (i[illegible] There are 1 [illegible] each, or about 2000 beds [illegible] medical material go out to the Cape every week, and medicines in compressed form and bandages have been sent by millions. These bandages, I may say, would stretch to the Cape and a good part of the way back again if placed end to end. Every soldier as a part of his kit took with him two blankets, and in addition the War Office have sent out 372,904 more. Up to June 9th there have been 811 officers wounded, of whom 63 have died, showing a mortality of 7·2 per cent. 10,564 men have been wounded, with 551 deaths, or a mortality of 5·2 per cent. In other words, 93 per cent. to 95 per cent. recovered. Between 15,000 and 16,000 invalids have been sent home in the ships. Extensive organisation at home was required to deal with so large a number of sick and wounded, but very many have arrived practically fit to return to duty or well enough to go on sick furlough shortly after admission to hospital. With the assistance of the Director-General, Surgeon General Jameson, and the medical authorities at home the abundant supply by Government of everything that could be considered useful or desirable the organisation of this huge department and the distribution of its units over an immense territory to the places where they were wanted have been accomplished without a hitch and without drawback and to the complete satisfaction of those concerned. This has depended, in the fi[illegible] um- [illegible] mate ability, resource, and [illegible] the Principal Medical Officer, [illegible] son, and in the next upon his very able [illegible] No words of mine are needful in his praise, as the mere statement of the extent of the organisation he controls is sufficient in itself to elicit our admiration and gratitude. Nothing is more remarkable than the way in which our soldiers have recovered from their injuries and been able, in a large proportion, to return to duty. Without going into details there were amongst the wounded many of the most severe forms of injuries. Bullets traversed the brain, the chest, the heart, the abdomen, the great joints, and the largest bones, and yet complete recovery in a very large proportion followed. Many explanations have been given of this. The wonderfully pure air of the veldt is a favourite suggestion with many and all admit that antiseptic methods count for much. I am myself convinced that the main factor is the small size and high velocity of the bullet which it delets a very small and rapidly closing wound—a clean-cut wound rather than the tearing contused form of damage caused by the much heavier projectiles formerly in use. I do not think the climate has much to do with it, for in the American war in Cuba, although the troops were decimated with typhoid fever, yellow fever, and malaria besides, the wounds inflicted by the Mauser bullets which were there used were recovered from with the same facility and in exactly the same proportion as in South Africa. I trust that I have not wearied you and that you will forgive me for having talked so much about myself. Those who are indulgent and who remember on whose behalf the toast is given will, I feel sure, recognise the difficulty of altogether excluding the subject of it. As I have already said, what I did was done from a sense of duty, and if I may judge from many kind expressions which have reached me from many different sources—and not the least kind are those which have been addressed to me to-night—my action has been rewarded by a considerable measure of success. I have myself the consciousness that at all events I did my very utmost and my very best, and none can do more.

THE IMPERIAL YEOMANRY HOSPITAL.

By ALFRED D. PHILIP, M.D., F.R.C.S.

Colonel A. T. Sleeman has just returned from a flying trip to Bloemfontein and he is very pleased to get home. He

fully confirms the opinion I have already given that we are better off at this place from every point of view. The entire force under Lord Roberts has just quitted Bloemfontein and has left the town unoccupied save by a guard and the 4000 sick who are in hospital. Colonel Sloggett has not a good word to say for Bloemfontein as a site for a hospital. Dust-storms seem to be as bad there as they are at De Aar, for the ground has been trampled over for many weeks by tens of thousands of men.

We are still very full except in the two huts which, as I have already explained, we keep reserved for the Yeomanry. These are not more than half full, but almost every day a few yeomen come in. We find the patients generally prefer the tents to the huts, for, except when they are really gravely ill, they have a feeling of greater comfort and freedom when under canvas. Our field hospital has just passed up country and the *personnel* spent some hours with us before resuming their journey. We hope that they will be included in Lord Roberts's further advance.

We have managed to make quite a respectable cricket ground, the pitch of which is, of course, of matting. Fielding is possible for a few yards round the wickets, but beyond that it is very rough, for nothing has been done to the ground beyond removing boulders and karoo bushes, thus leaving an irregular and wholly un-grass-like surface. The Bedfordshire Regiment have been to play with us, and to-day a team of our men is going to De Aar to play the Civil and Military Club there. I am afraid they will not have much time, for the train which was to have taken them at 9 A.M. did not leave here till 1 P.M., and it is pitch-dark now by half-past five, sunset being at 5 o'clock and the twilight extremely short. We are still having lovely weather, about as hot in the sun as a really hot summer's day is in England, and the cold nights which set in a little while ago have ceased lately. For days together we do not see a cloud, unless, indeed, it be a cloud of locusts. These insects are always with us—sometimes a few and sometimes in large clouds, of which we have taken some excellent photographs. You will hardly believe me when I tell you that yesterday the ordinary railway-train was stopped by locusts, but it is a fact, nevertheless; for sitting on the metals, the warmth of which appears to be seductive to them, the locusts get crushed by the wheels and lubricate the surface to such a degree that the engine is unable to climb the steep incline. They settle on and around our camp—more around than on—and the other day they ate up all the little shoots of new grass and the green sprouts of the karoo bushes which have just been tempted to fresh growth by the recent rains.

The word "steal" apparently does not exist in the vocabulary of this country. Its place is always taken by "commandeer" unless a black man does it. Everybody seems to think that there is nothing wrong in "commandeering" everything he requires if he sees an opportunity, and if one man's bath towels or blankets have been "commandeered" by someone else he at once "commandeers" the first substitute for the missing articles which he comes across.

The other night a new hut which was to be filled the next day from a hospital train tempted us to push aside the 34 beds and have an impromptu dance. I think it did good to everybody who came and certainly it was greatly enjoyed by one or two local farmers and their wives and children. Wounded officers attended in their splints and bandages, and dancing was kept up until half past ten.

The growth of the hospital goes on most satisfactorily. I think we shall be completely established by June 1st, that is to say, five months—and not six, as I stated erroneously in my last letter—from the day of the letter of Lady Georgiana Curzon and Lady Chesham which called the hospital into being.

Every Saturday our weekly convalescent train goes to Cape Town. Our specialists are often asked to give an opinion outside this hospital but they are always glad to get back again.

Deelfontein, May 7th.

I am glad to say that our hospital continues popular. The men as well as the officers say, "There never was such a place." We have had great advantages in the very fine equipment which the committee in London were able to provide us with and I think that if English people could see what a very great difference can be made in the efficiency and comfort of a military hospital by means of a little more money they would be quite willing to spend more on the medical department of the army. I hope that the war will do at least one good—that a larger sum will be voted every year for the Royal Army Medical Corps. If that were done probably it would be more easy to deal with outbreaks of infectious disease such as enteric fever, there would not be overcrowding in the hospitals, and there would be room for every sick soldier. If the presence of all the many voluntary hospitals out here does lead in the future to more money being spent on the Army Medical Department the subscribers to these voluntary hospitals will, indeed, feel that they have done a good work. With enough spent on a military hospital I think that results can be obtained as good as, or better than, in any London hospital, for not only will all the artificial aids to medical skill be present, but in this war at least a military hospital will have a great pull in the splendid climate and air of the Karoo. The things in regard to which we are worse off than in London are eggs, fresh fruit, and vegetables, but we get plenty of potatoes and onions.

To-day we have 74 yeomen in hospital. They are mostly down with sickness, but a few of them have been wounded. Among these are cases from the action near Warrenton in which the Yeomanry had their baptism of fire. I saw in one of the medical papers sent from England a suggestion that a light supper ought to be provided for men in military hospitals. I quite agree with this and it is easy to do it. We started the practice here, and I think that it is done in all the hospitals, for the interval between 5 o'clock P.M. and 7 the next morning is unduly long.

Pneumonia, as we have expected, is beginning to exert itself. Already it has carried off one of our cooks (Sergeant Phillips), who died on May 10th. He is a great loss, as he was a capital man and a hard worker, doing all the cooking of the nursing department. Several orderlies are also on the sick list, two of them from enteric fever. At present, I am glad to say, they are doing well. The first death we have had in the officers' ward occurred this week, when Lieutenant Cummings, R.A., died from enteric fever. His battery is at present at De Aar, so fortunately his brother officers were able to come over to the funeral.

A present of a plant for electric light installation has arrived, and as our bill for oil is very large we got the railway people to lend us one of their oil engines which they are not now using in the hope that we should be able to work the electric light with it and so save money. The railway people complied with our request, but on giving the engine a trial we found that the noise and smell made by it quite precluded its use near the hospital and the leakage of the electric current prohibited us from placing the engine further afield, so we have had to abandon the idea of the electric light.

Deelfontein, May 14th.

BULLET WOUNDS INVOLVING THE LUNG.

Mr. H. Temple Mursell, M.B., C.M., F.R.C.S. Edin., civil surgeon attached to the British Forces, South Africa, sends us the following interesting notes:—

A considerable number of cases of bullet wounds involving the lung have come under treatment during the war in South Africa. All those which have come within my own experience have been caused by the Mauser bullet. It has been frequently stated that the damage to the tissues inflicted by a small hard-cased bullet such as the Mauser, travelling at high velocity, is comparatively small, and within certain limits the statement appears to be correct. At the same time far more injury to the tissues is caused than would appear to be the case from the small size and innocent aspect of the wounds of entrance and exit. In those instances in which it has been necessary from any cause to follow up the track of such a bullet wound, the death of tissue around the track has been found to be much in excess of what might be anticipated. In muscular and fibrous tissues the necrosis is happily of an aseptic character in the vast majority of instances, but the resulting cylindrical cicatrix is of considerable extent and often produces more crippling than would be expected owing to the muscles and their sheaths becoming firmly bound down. In the lung a similar destruction of tissue might at first sight be predicted. But the small resistance of the lung tissue, its excellent blood-supply, and its great elasticity, apparently protect it from any serious or extensive injury in the majority of cases.

Further, although the wound from access of air and the consequent increased possibility of infection by organisms might reasonably be expected to become septic it seldom appears to do so. The immediate shock is rarely great, nor is it often that the immediate hæmorrhage is alarming. In several instances though blood was pouring from the mouth the man was able to walk up and report himself to his officer.

Hæmorrhage into the pleura in any quantity is comparatively rare, though a small amount is, in my experience, usual and is discoverable by the ordinary physical signs, but often needs careful auscultation and percussion to diagnose. The effused blood as a rule rapidly disappears and the wound in the lung as rapidly heals. In one only of the cases under my care has the intra-pleural hæmorrhage been alarming, and from its comparative rarity the case seems worthy of record.

Ten days after being wounded at Paardeberg Private P—— came under my care. He was admitted to hospital late at night in a very collapsed condition, having travelled a long distance. Beneath the left clavicle, at the junction of the middle and outer thirds, was the entrance wound of a Mauser bullet, and the exit wound was found between the ninth and tenth ribs posteriorly on the same side about two inches external to the outer edge of the erector spinæ. The left chest moved well on respiration and the percussion note was resonant except for obscure dulness at the base posteriorly. (The patient was too exhausted to try the effect of change of position.) There was absence of breath-sounds on the whole left chest except near the sternum. On the right side the breathing was harsh On the left side with coin percussion the clanging sound was marked and audible without a stethoscope or application of the ear to the chest. Vocal resonance was in abeyance. The heart was pushed over to the right side till the apical impulse and point of greatest intensity of the first sound were one and a half inches to the right of the sternum. There were great loss of power and aching pain in the left arm and hand, but no loss of sensation and no swelling. Radial, brachial, and axillary pulses on the left side were imperceptible and the limb, though warm, was of lower temperature than its fellow. Apparently there was thrombosis of the subclavian artery in its third part, fair collateral circulation being established.

It was decided to aspirate the left chest, and this was done by means of an ordinary trocar and cannula, the trocar being inserted through the wound of exit of the bullet, between the ninth and tenth ribs posteriorly. Two and a half pints of fluid blood of dark colour and some air were removed. Chloroform was given as pus had been anticipated, the temperature having varied from 100° to 102° F. The relief to the breathing and to the circulation was great. The following day faint breath-sounds were audible over the left chest anteriorly and posteriorly except below the ninth rib, and the cardiac impulse and point of greatest intensity of the first sound were just at the right edge of the sternum. Four days later the physical signs remained the same, and there were much præcordial pain and dyspnœa. Aspiration was again resorted to in the same region with a Potain's aspirator, eight ounces of fluid blood and a large quantity of air being removed The relief obtained was considerable, but the temperature remained febrile. Morphia was required nightly on account of præcordial pain. 14 days later, the symptoms being aggravated, chloroform was given and a portion of the seventh rib was resected in the posterior axillary line. The pleural cavity was found to be full of fibrinous strings and about eight ounces of fluid blood. A large sized drainage-tube was inserted. From this time improvement was steadily maintained, except for a temporary relapse which was induced by the patient having to be moved from one ward to another He was sent down to Cape Town convalescent two months after being wounded.

The conclusions to be drawn from the cases seen are:—

1. In the majority of cases relatively little immediate or remote damage results from Mauser bullet wounds of the lung.

2. The immediate hæmorrhage is usually small.

3. Intra-pleural hæmorrhage in small quantity is the rule; in large quantity comparatively rare

4. In intra-pleural hæmorrhage of any large extent ultimate resection and drainage will in most cases be required.

5. The destruction of lung tissue is relatively small.

FIELD FORCE.—SERVICE ABROAD, SOUTH AFRICA.

Table showing the Personnel of Medical Units on the Lines of Communication.

Unit and place of mobilisation.	Names.	Remarks.
No. 13 General Hospital (Depot R.A.M.C., Aldershot).	*Royal Army Medical Corps.* Major W. T. Swan (a). Lieutenant T. Biggam. " H. Richardson. " W. L. Baker. " B. H. Dimis. " J. S. Twigg. " J. Powell. " R. L. Argles. " P. S Walker. " W. Bennett. " P. G. Stock. *Civil Surgeons.* Mr. W. Dick. " T H Gardner. " R L Mansel. " V. E. J. McDonogh. " W. J. Moir. " W. J. Sweeny.	145 non-commissioned officers and men (including St. John Ambulance Brigade).

(a) Secretary and Registrar, to act as officer in charge of the unit [illegible]

[illegible]

3. [illegible] ordered to [illegible]

4. [illegible] Nursing Service, to be [illegible] Africa, an extra nursing sister being included in the detail referred to in (3) to allow of the adjustment.

Medical Division, War Office, June 13th, 1900.

THE THIRTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

THE Executive Committee of the Thirteenth International Congress of Medicine announce the following entertainments offered to members attending the Congress.

[illegible] Congress August 2nd, Dr. [illegible] will give an [illegible] the Republic. [illegible] an evening [illegible] by the [illegible]

On August 5th the President of the Republic will receive the members of the Congress in the Elysée.

On August 8th an evening fête will be held in the Palais du Sénat and the Gardens of the Luxembourg, where the members of the Congress will be entertained by the Bureau and the Organising Committees of the Congress. The Town Council of Paris is to be asked to give an entertainment

Besides the above, sundry fêtes will be organised in the various sections, and it should be noted that to all these entertainments the wives, daughters, and sisters of members attending the Congress are invited. A ladies' committee has been organised for the reception of these ladies.

A NEW PUBLIC GARDEN IN THE BLACKFRIARS-ROAD.—The Bishop of Rochester on June 15th formally opened to the public the churchyard and burial ground of Christchurch, Blackfriars, which have been adapted for a public garden. Several years since a similar adaptation was considered and the Metropolitan Public Gardens Association was consulted on the question, with the result that as soon as the St Saviour's District Board of Works had a vested interest in the churchyard and burial ground the association agreed that it would at its own cost lay out the ground for public recreation purposes This generous proposal has now been fulfilled.

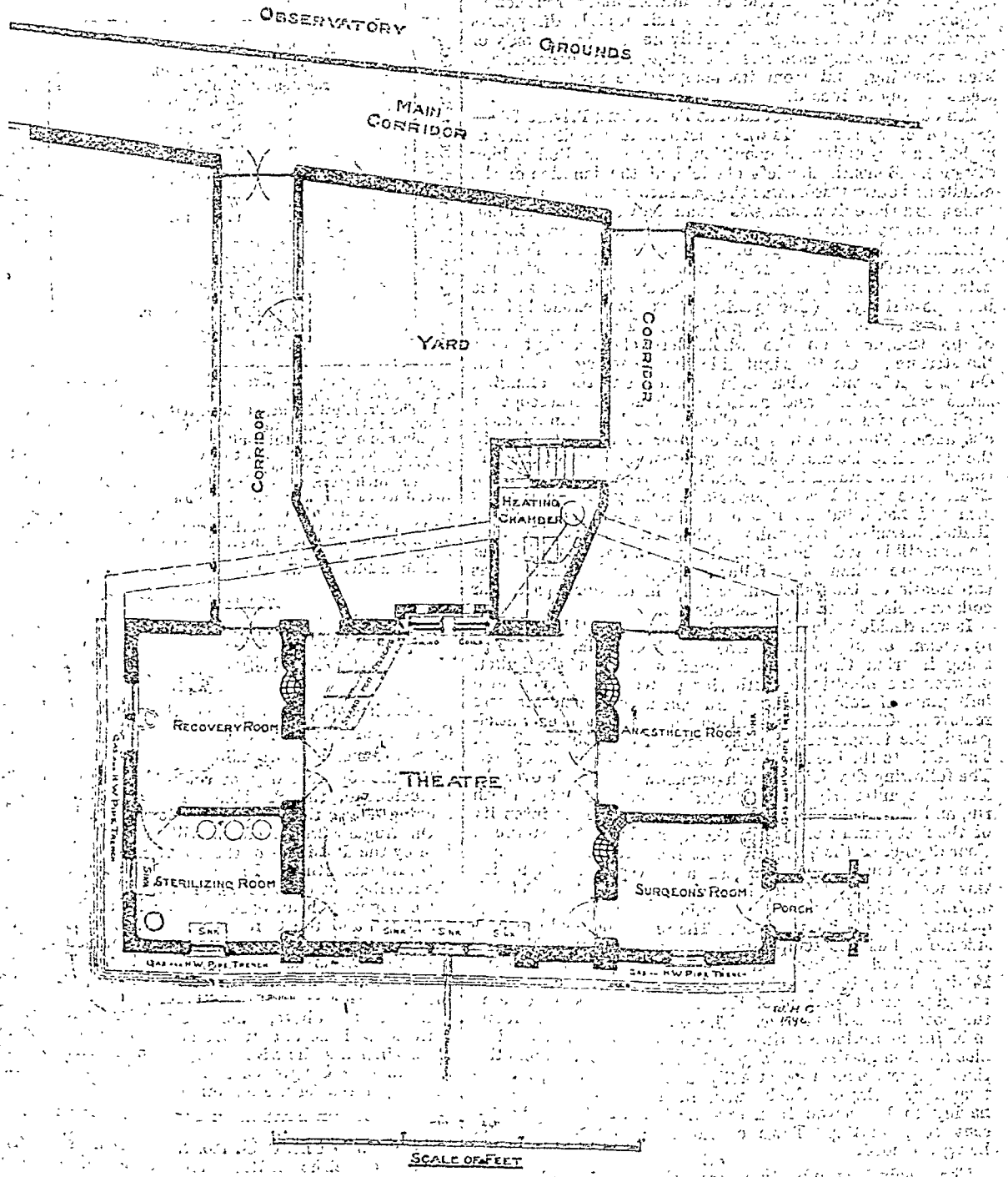
MEDICINE AT THE UNIVERSITY OF OXFORD.

THE ancient University of Oxford, although not possessing such a large and flourishing medical school as her sister Cambridge, has of late years been actively engaged in improving her facilities for giving instruction in the art and science of medicine. Among the outward and visible signs of progression two buildings stand prominently forth—namely, the new operating theatre of the Radcliffe Infirmary, which has been in working order for nearly two years, and the new laboratories for the study of pathology and the kindred sciences which are at present in course of erection.

THE NEW OPERATING THEATRE AT THE RADCLIFFE INFIRMARY.

To begin with the finished building. As will be seen by the plan (Fig. 1) the theatre is completely isolated upon three sides and only connected on the fourth to the other infirmary buildings by two corridors. The actual operating theatre occupies the middle of the building and on one side are an anæsthetic room and a surgeon's room, while on the other are a sterilising room and a recovery room. The walls of the theatre are panelled in white marble, while all the doors leading therefrom are of iron which is enamelled in white; there is an open fireplace and an electric exhaust fan in the roof. There are no shelves or brackets of any description on the walls, so that they can be washed down at any time by means of a hose. The warming is done by hot water coils which are heated

FIG. 1.



Radcliffe Infirmary, Oxford. Plan of the new Operating Teatre.

from below by gas stoves, and these coils can be, as is seen in Fig. 2, swung out from the wall so that both warming the air and removal of dust are greatly facilitated. Light is obtained from a large north window. By night, light is obtained from groups of electric lights situated in the roof above the glass ceiling, which are renewable from outside, and from a moveable standard lamp with a parabolic reflector.

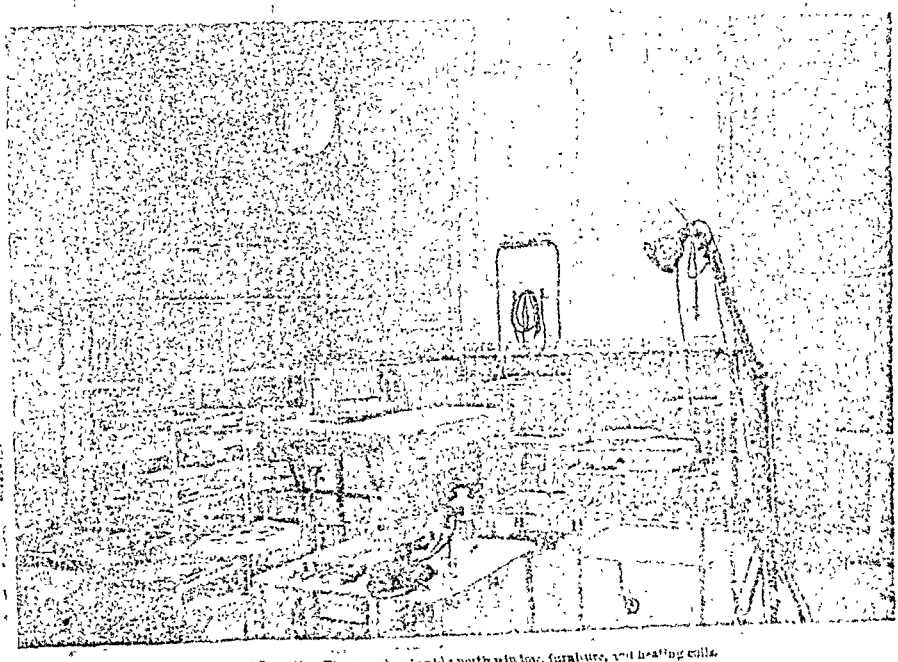
The furniture is all made of iron enamelled white and includes a specially designed operating table together with the usual instrument cabinets, which are so low that the tops can be easily seen and dusted, lotion stands, surgeon's table with douche bottles, and tables for trays. These are all fitted with ball-bearing rubber wheels. Two enamelled iron stands are provided for the use of students and spectators. The anæsthetist's room is fitted as an x ray room. Current is supplied direct from the main and serves also to work a cautery and various electric lamps. The sterilising room contains two large sterilisers for the surgeons' coats and for dressings, instrument and water sterilisers, a boiler for trays and bowls, and a towel warmer. All the water-pipes are of copper and stand three inches clear of the walls. All cupboards are of enamelled iron and glass, and all sinks are of Twyford's porcelain and drain out into the open air and so into the gutter surrounding the theatre. The plug of the basins is a simple solid indiarubber ball. The [illegible] are rounded. The total [illegible] was £3102 1s. 8d. One [illegible] lift for patients when [illegible] Mr. H. P. Symonds.

We think that the committee of management of the infirmary may well be congratulated on having obtained as perfect an operating theatre as is to be found up to the present time in any town in the kingdom. Mr. W. H. Castle of Oxford is the architect.

THE NEW PATHOLOGICAL LABORATORIES.

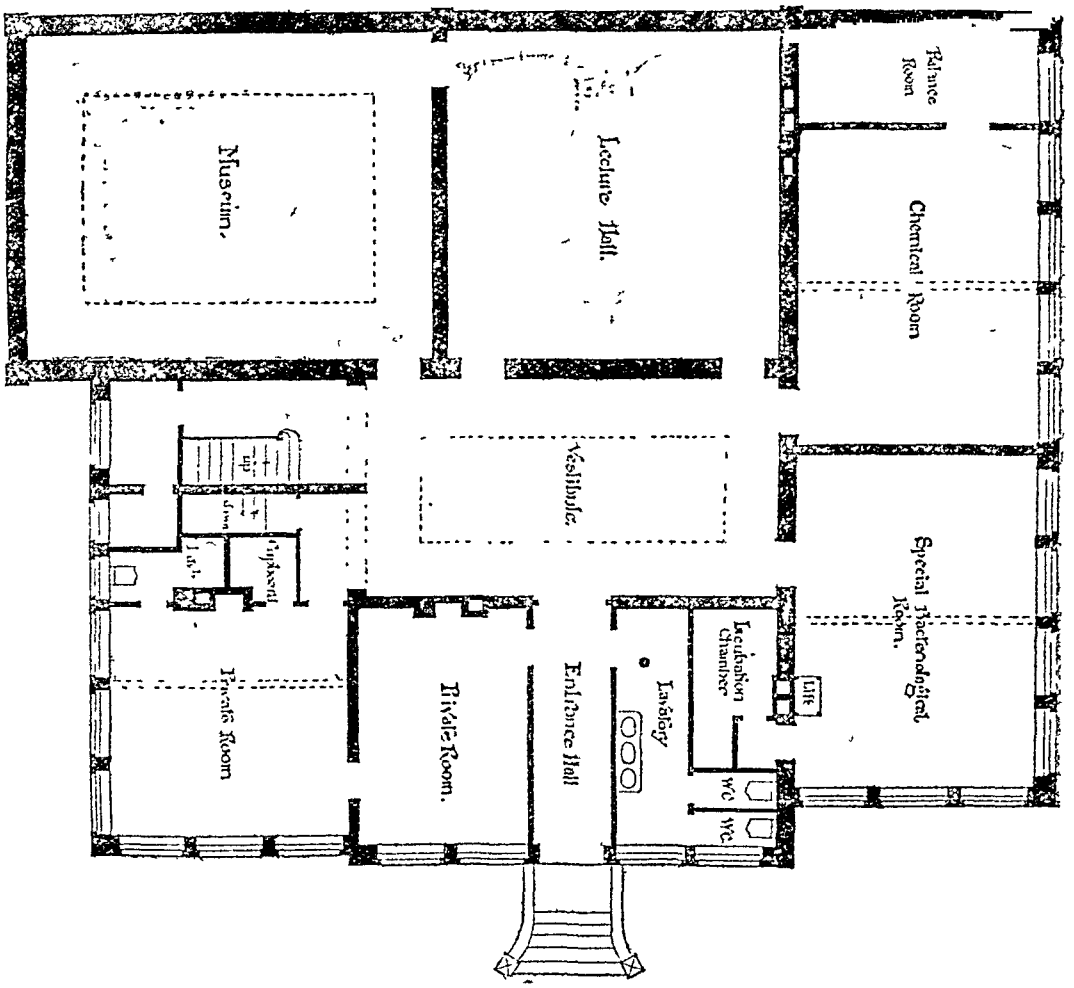
The existing accommodation for the teaching of pathology in the University of Oxford having been for some time recognised to be insufficient, about a year ago the generosity of an anonymous donor provided a sum of £5000 on condition that the University added an amount sufficient to provide for and maintain an adequate department. The University accordingly last summer added a further sum of £5000 to the gift and voted for a period of five years an annual grant of £250 for maintenance. Plans of a department, prepared by Mr. J. Augustus Souttar, of 41, Bishopsgate-street, E.C., were accepted and the erection of the building is now well advanced, its completion being expected about the beginning of 1901. The site for the department is within the grounds of the University Museum to the south of the department of human anatomy. It occupies a space 75 feet by 65 feet and to the north has a yard 60 feet by 30 feet. The front elevation, in which is the main entrance, is towards the east and nearly all the rooms are lighted either from this aspect or the north. The building is of a superior red brick with stone dressings and consists of a partially sunk basement and two floors. Entering by the main door (Fig. 3) access is given to a central hall from which or from its gallery all the rooms of the department open. Running up through both floors are a lecture room 25 feet square and 22 feet high and a museum 31 feet by 25 feet and of a similar height. Besides these on the ground floor are a research room for experimental pathology 25 feet by 18 feet, and another of similar size fitted up as a chemical research laboratory. To the former is attached an incubation room and to the latter a small balance room. On this floor there also are a private room for the head of the department, a private research laboratory, lavatory accommodation, &c. On the first floor (Fig. 4) there is a large room, 43 feet by 18 feet, for the teaching of pathological histology, and to this is attached a preparation room. There is also a class-room, 31 feet by 18 feet, for practical bacteriology, a photographic room, a demonstration room, &c. In the basement of the department are a private laboratory, a dark laboratory, a large preparation room for the routine pathological and bacteriological work of the department, store room, heating apparatus room, and workshop. The basement will also contain a refrigerating room, 10 feet square and 8 feet high, kept below zero by a Hall and Co.'s carbon dioxide freezing apparatus. Arrangements have been made by which the engine necessary for this apparatus shall be capable of also driving centrifuges or other machines.

FIG. 2.



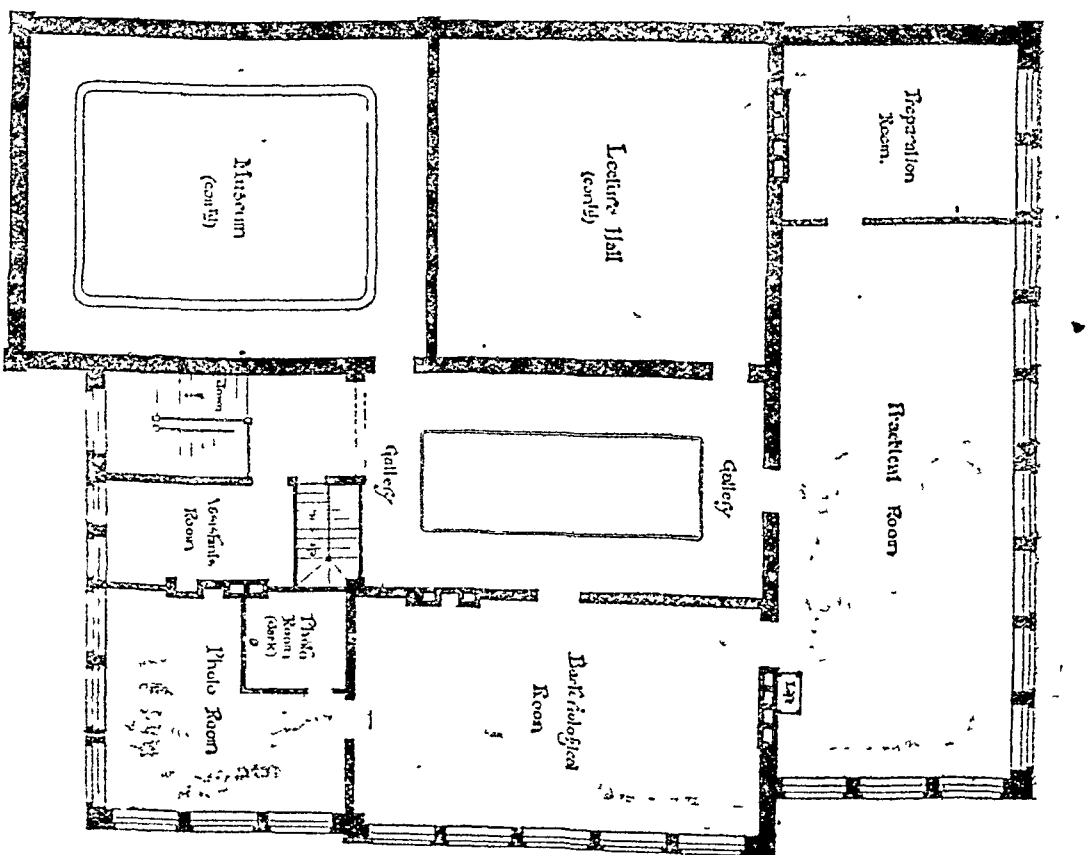
Interior of Operating Theatre, showing big north window, furniture, and heating coils.

FIG. 3.



New Pathological Laboratories, Oxford University. Plan of ground floor.

FIG. 4.



New Pathological Laboratories, Oxford University. Plan of upper floor.

REPORT OF THE EXECUTIVE COMMITTEE OF THE PRINCE OF WALES'S HOSPITAL FUND FOR LONDON

UPON THE MEMORIAL TO HIS ROYAL HIGHNESS THE PRINCE OF WALES, K.G., FROM THE COUNCIL OF THE METROPOLITAN RADICAL FEDERATION, DATED 17TH MARCH, 1900.

THE memorial (which incorporates an article in the *Contemporary Review* by the Hon. Stephen Coleridge) after stating that the Federation represents from 40,000 to 50,000 members of working men's Radical clubs and other Radical organisations in London, and that the mass of the population by reason of the dread of entering infirmaries, caused by the social ignominy that it incurs and by the social and political disqualifications that accompany it, are absolutely dependent on the London hospitals for the skilful treatment of their more serious diseases and accidents, sets forth two matters of complaint, which are summarised as "one of the gravest scandals of our time." They are as follows:—

based on sufficient ground.

general receipts of hospitals are
the inauguration of this Fund
certain hospitals in London in
the Prince of Wales's Hospital

the heavy
expressed beneficent intentions.

With regard to the first allegation the Executive Committee, under whose direction the hospitals have been recently subjected with their own accord to careful and expert inspection, are deliberately of opinion that it is unfounded in fact. No particulars are given which can be dealt with by evidence in detail. The charge is general—founded on an alleged "widely spread idea" and on what "seems to be an axiomatic truth." The committee from their knowledge of the hospitals doubt, and have reason to doubt, that any such idea is at all widely spread, and they are sure that, whether widely spread or not, *it is erroneous* and does grave injustice both to the medical men and the students. The axiom appears to them questionable and the inference drawn from it unjustified. Upon this loose and somewhat
do not con

The argu
this. The Fund subscribes to a hospital, a
organisation the main object of which is surgical and medical aid to the poor. The hospital comprises a medical school. Therefore the Fund supports the medical school. The Executive Committee loyally adhered to your Royal Highness's statement in 1897 that there was no intention of devoting any part of the Fund towards the support of medical laboratories. The honorary secretary of the Metropolitan Radical Federation has already been informed by the Executive Committee of this Fund that no grant has
towards the support of medica
case of the Middlesex or any
hospitals applying are consider
and merits as institutions for the
The utmost that can b
minute unascertained po
may have percolated un
concerned into a medi
this has been guarded against,
can ascertain no such *percolation has actually occurred.*

The awards made by this Fund to the hospitals have been made with certain conditions, following as nearly as possible the recommendations of the visitors who have inspected and *reported upon them*, and these awards and the objects for which they were made are stated in the annual reports of the Fund and have also been published in the public press. In no case can there be found in these reports an award given for a medical school or laboratory.

Nor can it be fairly said that the hospital authorities have in fact used any part of such grants for medical schools and laboratories. It is alleged that certain payments in connexion with the schools have been increased since this Fund was started, but even if this be so it by no means follows that such increases were made in consequence of the help given by this Fund to the hospitals in question. In three cases (Middlesex, London, and St. Mary's) out of the four quoted the receipts of these hospitals, excluding any grant from this Fund, were considerably over £40,000 more in 1897 than in 1896. These hospitals had, therefore, much greater resources out of which larger grants could have been made to the schools quite irrespective of any grants from this Fund. In the remaining case, that of Guy's Hospital, where £116 is mentioned as being paid for the school in 1896 and £595 in 1897, the hospital's *receipts, including £2000 from this Fund*, were less than those of 1896, thus giving a result antagonistic to the theory of greater funds greater help to the schools. There is no reason for supposing that Guy's, any more than the other three hospitals, used the contributions from this Fund, or any part of them, for the purposes of the medical school or the laboratory. It is to be observed that, accepting as correct the sum stated to have been for the benefit of *the schools*, they do not rise or fall in proportion to the grants from this Fund, and have from this point of view no co-relation with such grants; indeed, it is quite clear that the amounts paid *in connexion with the schools*, which bear only a very small proportion to the total annual expenditure of the hospitals, are determined by factors other than the receipts from the Fund. In none of the hospital accounts does it appear that any part of the grant from this Fund has been allocated to the schools. In the case of the Middlesex Hospital, which is given special prominence in the article, £600 is disbursed in 1897 in connexion with the school, forming part of a total annual expenditure of £30,000. The grant from this Fund in 1897 is quoted in the article as £1000, but as a matter of fact the amount was £2925 Looking at the varied *items* of receipts, it is not fair and reasonable to infer that because money from this Fund is included in such receipts any part of it must necessarily have been used for the school, especially when it is shown that among the other receipts *there are* annual dividends of £6615, of which £2076 are for the Cancer Fund. It would be more fair and reasonable to assume that a portion of such dividends is properly available for school purposes, and this presumption is borne out by a recent statement in the public press by Sir Ralph Thompson, who refers to some bequests to this hospital which are given not only for the cure and care of patients suffering from cancer, but also for the purpose of *investigating* and promoting a general knowledge of treating it

In administering this Fund the committee have *endeavoured in all cases* to aid the hospitals in the manner best suited in the case of each hospital to benefit the sick and suffering poor of London, and they have no reason to believe that the eminent authorities who are associated with the large and important hospitals that have medical schools have done otherwise than act to the best of their ability in promoting the highest interests of the hospital patients

THE THAMES CONSERVANCY.

THE general report of the Conservators of the river Thames for the year 1899 has recently been published. Of the public bodies which are engaged in work directly or indirectly bearing on the health of the people of London not one, perhaps, carries out the duties committed to it with *more* thoroughness and less ostentation than the Thames Conservancy Board. It is probably realised by few people that the purification of the river is only one amongst a number of important duties which the Conservators have to perform, a great part of their work being the protection of the navigation of the river, both above and below London.

The report, which is merely a brief summary of the work which has been done during the year, is divided into three parts, which deal respectively with the lower river, with the upper river, and with the prevention of pollutions. During last year the Conservators completed the deepening of the river channel from Blackwall to the Nore, and also carried out dredging operations between Crayford Ness and the Royal Albert Docks and also at Mucking Flats. A survey was carried out in the neighbourhood of Tilbury Docks, and the results of the investigation showed an improvement in the channel of the river at this point. Above London Bridge it is of interest to note that a survey has been completed as far as Vauxhall Bridge and that the result shows an improvement of from one to two feet in the depth of the river channel. The Conservators have made provision for the prevention of the discharge of refuse from the hoppers which are used for the conveyance of mud to the sea, the mooring-places and landing-places on the river have been maintained in order, and some additional moorings have been laid down. During the year 55 vessels were raised by the Conservators, and of these eight were steam-vessels and 47 sailing-vessels and barges. In the upper river above Staines dredging operations have been necessary to maintain the navigable channel, the tumbling-bay at Old Windsor weir has been extended on the Berkshire side and the crest of the existing tumbling-bay has been lowered, and the backwater below the weir has been deepened. A new weir and flood channel are in process of construction at Sonning.

We mention briefly the things which have been done on the river to give some idea of the enormous extent of the task carried out by the Thames Conservators. The most important part of their duties from a sanitary point of view is that which has to do with the prevention of pollution of the river in carrying out the extensive powers which were conferred under the Act of 1894 (57 & 58 Vict., cap. 187). The attention of the Conservators has been given chiefly to towns and large centres of population and to those places where sewage farms and works are situated. In all cases all the effluents have been frequently tested by the Conservators' analyst. During the year 1899 the pollutions from 17 towns and villages, containing together a population of over 36,000, were diverted from streams which were tributaries of the Thames. In those cases in which local authorities still cause pollution pressure has been continuously exercised and in most instances the sanitary authorities are taking measures to fulfil the requirements of the Conservators and have either submitted, or are preparing, drainage schemes for submission to the Local Government Board. Amongst other places, Witney, Thame, Aylesford, and Marlborough have commenced drainage works which will involve a considerable outlay on the part of each of those places. It was found necessary to institute legal proceedings in 14 cases in which the authorities did not comply with the requirements of the Conservators. As a result of these prosecutions four convictions were obtained, three cases were adjourned by the magistrates, and seven were withdrawn on the undertaking that the defendants would take immediate measures to carry out the necessary work. In the case of scattered farms, houses, and factories pollution has been diverted in no less than 197 instances. In regard to the pollution from houseboats and barges the powers of the Conservators have been carried into effect; these vessels have been watched by the inspector and no case of pollution has been discovered. This is a satisfactory improvement. It may be remembered that some years ago the condition of the river at Henley was most insanitary owing to the pollution from houseboats and THE LANCET at the time found it necessary to direct attention to the state of things which then existed.

The report on the flow of water in the Thames calls for notice. During the months of July, August, and September last the Conservators record that the average flow over Teddington weir was below the 200,000,000 gallons a day which they consider to be the minimum amount which should be left after the metropolitan water companies have drawn their supplies. In October the daily average rose to something over 250,000,000 gallons daily, in November to over 900,000,000 gallons, and in December it again fell to about 475,000,000 gallons daily. The fact that for three consecutive months during last year the daily average flow of water over Teddington weir was below that which is considered by the Conservators to be the minimum quantity which should flow down to the lower reaches of the river is a point of considerable importance. It emphasises the fact that too much water is already withdrawn from the Thames during periods of drought by the metropolitan water companies, and it is the strongest possible argument against allowing any further removal of water from the Thames during periods of drought. There is, of course, no doubt that if the whole of the natural flow of the Thames were allowed to pass down the river the expense of keeping open the navigable channels of the lower river would be considerably less than it is at present. The increase of outlay which is rendered necessary by the abstraction of so large a quantity of water for drinking purposes, therefore, causes an outlay in dredging which would not otherwise be needed. The flood-water which now passes down in large quantities thoroughly flushes out the lower river occasionally, but if this flood-water were taken by reservoirs in the Upper Thames it would necessarily follow that there would be a largely increased expense in dredging the lower river.

The work done by the Conservators for the purification of the upper river has been very thoroughly carried out and the improvement which has taken place in the purity of the water has been enormous. It must not be thought, however, that this purification of the upper river cleanses to any very marked extent the Thames in London. Unfortunately, during periods of drought by far the greater proportion of water which would naturally flow down through London is taken for drinking purposes and the water which is between the bridges is more affected by the state of the lower river than by that of the water which flows down from above.

THE ANNUAL DINNER OF THE INDIAN MEDICAL SERVICE.

UNDER the chairmanship of Sir TREVOR LAWRENCE, Bart., the officers of the Indian Medical Service held their annual dinner at the Hotel Cecil on June 14th. After the usual loyal toasts had been proposed and honoured that of the "Sister Services" was given by Surgeon-General C. SIBTHORPE, I M S He mentioned in the course of his speech that a professor of one of the Scotch medical schools had decried their brother officers in the Army Medical Service. The professor thought that some of the officers had not as much experience as they ought to have and were not up to the standard, but he (Surgeon General Sibthorpe) found that the standard of education was extremely high and he had never found them wanting in their professional work.

Sir HENRY NORBURY, K.C.B. (Director-General of the Medical Department of the Royal Navy), in responding to the toast, said that it was not often that the naval medical officers were associated with the Indian Medical Service, but it was not impossible that they might soon find themselves working together again as an outcome of what was then happening in China.

Surgeon-General JAMESON, C.B. (Director-General of the Army Medical Service), also replied to the toast of the "Sister Services" He said that they had at the present moment in South Africa no fewer than 8000 attendants belonging to the medical service for the care of the troops. He was happy to state that up to the present moment they had been able to meet every demand for *personnel* and *matériel* made on them. They had also made a new departure by employing in South Africa a large number of civilians in the bearer companies, thereby relieving a corresponding number of regular bearers who were more usefully employed in the field hospital. They had also taken into their service from time to time a considerable number of special bearers, which had proved a most useful plan. When Sir Redvers Buller left the railway and marched 30 miles to fight the battle of Spion Kop he engaged 1600 civilians that he picked up on the spot, and through their aid he was able before nightfall to remove every wounded man from the field of battle and to have them comfortably in hospital before breakfast time the next morning They had now the intention at home of making some further arrangements for the care of the men invalided from the seat of war. This was rendered necessary because almost every case in which it was thought the voyage home would be beneficial was being returned to this country They were receiving in England a very large number of these patients every week and that put their hospitals to a severe strain. They had not up to the present moment required to make use of the civil hospitals. Surgeon-General Jameson then referred

cult, he said, at this period to get accurate statistics, and it was quite clear that a very large number of figures must be collected before a final opinion could be arrived at. Everyone, therefore, would recognise how difficult it was to form any sort of general conclusion. They had read a good deal in the daily papers about the enormous amount of enteric fever among the troops in South Africa, but he would remind them that it was not so bad as it was in the Afghan war.

The CHAIRMAN proposed the toast of "The Guests" and referred to the good feeling, which existed between the civilians and the military medical men in South Africa. The toast was responded to by Dr W. S. CHURCH, the President of the Royal College of Physicians of London, who said that the profession owed a debt of gratitude to the Indian Medical Service. The names of Manson and Ross were familiar to all in active work and medical men looked to that service for information in regard to diseases, concerning which practical experience was not obtainable in England.

Dr. FREDERICK ROBERTS, the President of the Medical Society of London, proposed "The Indian Medical Service" and the toast was replied to by Surgeon-General SIR JOSEPH FAYRER, Bart., who referred to the very early days of the service and the influence of Broughton and of Hamilton.

The proceedings terminated with votes of thanks to the chairman and to Mr. Freyer, to whom, as secretary, the success of the dinner was largely due.

The following is a list of the names of the guests and members who were present:—

Guests.—Dr. Church, President of the Royal College of Physicians of London, Sir Henry Norbury, K.C.B., Surgeon-General J. Jameson, C.B., Dr. Pavy, President of the Royal Medical and Chirurgical Society, Dr. F. Roberts, President of the Medical Society of London, Surgeon-General T. Walsh, A.M.S., Mr. Austin Low, honorary treasurer, Dr. Dawson Williams, Editor of the *British Medical Journal*, and Mr. Thomas Wakley, jun., Joint Editor of THE LANCET.

Members.—Dr. W. S. Playfair. *Surgeon-Generals*: A. C. C. De Renzy, C.B.; Sir J. Fayrer, Bart., K.C.S.I., F.R.S., W. R. Hooper, C.S.I., W. R. Rice, C.S.I., C. Sibthorpe, C.B., and L. D. Spencer, C.B. *Colonels*: W. Cates, D. E. Hughes, J. C. Penny, D. G. Raye, W. H. Roberts, Sir George Thomson, K.C.B., B. Williamson, and W. A. S. Wynne. *Lieutenant-Colonels*: H. Atkins, F. C. Barker, W. R. Browne, W. H. Cadge, A. M. Crofts, C.I.E., A. Crombie, G. W. P. Dennys, P. J. Freyer, T. Grainger, J. Ince, D. F. Keegan, I. B. Lyon, C.I.E., G. Massy, T. Mulroney, G. Rankine, G. D. Riddell, J. Scully, T. Shardon, G. S. Sutherland, W. H. Thornhill, C. J. H. Warden, D. Warliker, A. H. Williams, and H. P. Yeld. *Majors*: W. Alpin, F. Carlea, R. H. Castor, J. W. Caldwell, F. C. Clarkson, F. J. Drury, E. Dobson, A. S. Faulkner, B. B. Grayfoot, and S. Hassan. *Captain*: J. Fisher.

ARMY MEDICAL REPORT FOR 1898.[1]

III (CONCLUDING NOTICE).[2]

IN concluding our remarks on enteric fever among the British troops serving in India and subtropical climates we may briefly advert to its relative prevalence among officers and women and children. The ratio of admissions for enteric fever to strength among officers serving in India was 40 per 1000 in 1898 (which is a rather higher ratio than that among the rank and file), while the death rate was 8·68. The cases were distributed over as many as 33 stations. The admission rate among the women for enteric fever was 12·2 and the death-rate 4·81, and among the children (with an average strength of 5592) the admission rate was 7·0, and the mortality rate 0·54 per 1000. It would appear, therefore, that officers suffer about equally with the men from enteric fever, notwithstanding that the hygienic [illegible] ably better and their risk of contracting the disease through the medium of drinks one would think less than [illegible] consumption of water and milk [illegible] would certainly not be less, but probably more, than among the men. The problem of determining what is the exact causation of enteric fever among the European residents in India is a very difficult one which has still to be satisfactorily worked out, especially [illegible] amount of prevalence of [illegible] jail-population, and the [illegible]ently so insignificant as [illegible] Europeans.

[illegible] in India it is still too early to form any reliable opinion as to the effect of the measures which have been recently adopted for its control; still, it is satisfactory to learn that the Principal Medical Officer reports that the admission rate for these diseases in 1898 shows 136·4 fewer admissions to hospital per 1000 than in 1897, nor is this to be accounted for by the employment of men on field service. The reduction is, in his opinion, attributable to the influence of other measures, such as the new cantonment rules, the putting of bazaars out of bounds, and the continuance of the treatment of men after their discharge from hospital instead of frequently re-admitting them into hospital for that purpose.

The number of surgical operations recorded for the year as having been performed among the European troops serving in India amounted altogether to 456, of which 476 were primary and 20 secondary. Death followed in 67 cases of the former and two of the latter. The majority of the operations were, however, of a minor character. It may be mentioned that of 104 cases of abscess of the liver operated upon in 1898 46 were successful, 57 ended fatally, and one was under treatment at the end of the year.

Turning to the appendix, which is the most interesting part of the volume to the professional reader, the report itself being more especially intended for the information of Parliament and lay readers, we find a good selection of papers of varying interest. The first is one upon the Progress of Hygiene for the Year 1899 by Colonel J. Lane Notter, Professor of Military Hygiene at the Netley Army Medical School. These reports are always useful and instructive because they give a short and condensed *résumé* of what has been going on in the way of sanitation and practical hygiene during the year. Under the heading of literature, for example, Professor Notter very briefly describes and sums up the contents of a large number of books which have been published on the subject of hygiene during the year. This is followed by a section on the work of societies with a succinct account of the proceedings and the papers read at them, and by another section devoted to special points of hygiene. The article, as a whole, gives medical officers what they want to know and is, at the same time, calculated to save them a good deal of labour and the inconvenience and expense of having to procure and carry about with them a number of books instead of selecting such only as they really need or desire to have.

The article containing a list of operations performed at Netley during the year 1898-99, with a return of the wounded invalids and surgical cases treated in the Royal Victoria Hospital, accompanied by descriptive accounts, with notes and comments upon these cases, is a conjoint production by Colonel W. F. Stevenson, M.B. Dub., R.A.M.C., Professor of Military Surgery, and by Major W. Dick, M.B. Edin., R.A.M.C., the Assistant Professor of the Army Medical School, Netley, and it is well worth reading. Some of the cases and the operative procedures adopted are both interesting and instructive. Colonel K. McLeod, M.D. Edin., LL.D. Aberd., I.M.S., Professor of Clinical and Military Medicine at the same school, deals with the patients treated in the medical division of the hospital. One of the cases he describes is one of splenic anæmia which followed an attack of Mediterranean fever to which it was apparently a sequela; another is a case of syphilitic cachexia and paroxysmal hæmoglobinuria associated with Raynaud's disease. Surgeon-General W. Taylor, C.B., contributes a report of the Medical Transactions of the Nile Expeditionary Force to Khartoum in 1898. Enteric fever and dysentery prevailed to a considerable extent among the troops in the Soudan. The report gives a brief account of the number and character of the wounds received in action and some useful observations on the best type of building

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[1] Army Medical Report for the Year 1899. Price 2s. 6d.

[2] The two previous articles were published in THE LANCET of May 12th, 1900, p. 1364, and June 2nd, 1900, respectively.

for hospitals, the most serviceable unit for field hospitals and many points connected with medical administration in the field. There are several other papers connected with field operations in West Africa; an elaborate report on enteric fever in Pietermaritzburg; and one on the method of preparation and control of anti-venomous serum (antivenene), with experiments by Major D. Semple, M.D. R.U.I., R.A.M.C., Assistant Professor of Pathology at Netley, who, accompanied by Major R. W. S. Lyons, M.D. R.U.I., I.M.S., and Surgeon O. W. Andrews, M.B. Durh., R.N., proceeded to the Pasteur Institute at Lille and placed themselves under a course of instruction by Dr. A. Calmette and his assistant, M. Guérin. The experiments and observations were most carefully conducted and the report is compiled with much scientific detail. Major Semple has also another paper on matters that came under his observation at the Pasteur Institute in Paris.

ASYLUM REPORTS.

Surrey County Asylum, Brookwood (Annual Report for 1899).—The average number of patients resident in the asylum during the year amounted to 1080 and comprised 437 males and 643 females. The total cases admitted during the year were 260 patients, of whom 121 were males and 139 females. The greatest number resident on any one day was 1118, and the least was on the last day of the year—viz., 999. Mr. James E. Barton, the medical superintendent, states in his report that "for the greater part of the year the asylum continued in a very overcrowded state and sleeping accommodation had to be provided on the floor. ..... Considering the crowded state of the wards and dormitories the general health of the asylum has been good throughout the year. Diarrhœa was more or less prevalent and five cases of typhoid fever occurred, one of which ended fatally. Influenza was very rife and many of the patients and staff suffered. Considerable inconvenience was caused by many attendants and nurses being off duty for lengthened periods—the debility following the attack rendering leave of absence to recuperate necessary." For a short time during the summer much anxiety and inconvenience were caused by the deficiency of the water-supply. For two days in August the institution was practically without water and for some time the canal water had to be used for laundry and flushing purposes. Of the 260 patients who were admitted during the year 123 were brought from their own homes and 109 came from workhouses; 11 were transfers from other asylums; 45 were re-admissions and included a male criminal lunatic who on expiration of sentence was transferred from the private to the pauper class. "The general type of the admissions was very unsatisfactory; the majority suffered from chronic insanity and many were dangerous to themselves or to others. Hereditary predisposition or congenital defect existed in nearly 34 per cent. ..... In addition to hereditary and congenital defect the chief causes of insanity were previous attacks, mental worry, and alcoholic intemperance. In 10 cases the insanity followed an attack of influenza, the chief feature in these cases being depression, apathy, and debility." During the year 114 cases—viz., 45 males and 69 females—were discharged as recovered, or 10·5 per cent. of the average number resident. The deaths during the year numbered 100, a proportion of 9·25 per cent. on the average population. This is a fairly low rate considering the number of feeble old people in the asylum. 11 died within a month of admission. Post-mortem examinations were made in 70 cases. Of the deaths five were due to senile decay, six to influenza, seven to cardiac disease, 10 to general paralysis of the insane, 12 to apoplexy and organic brain disease, and 18 to pulmonary phthisis. Four females and three male patients sustained serious casualties, all being with one exception fractures caused by accidental falls or struggles with other patients. The new bathroom for the female division of the main building and the bathrooms and lavatories for the medical officers were completed during the year. Many changes have occurred in the asylum staff, several of the best attendants, who were army reservists, having left to rejoin their regiments. These were granted leave of absence, and their posts are kept open for them. The new drainage system has been completed, with the exception of connecting the asylum drains with the district council's sewers at Woking, which will shortly be done. The Lunacy Commissioners in their report draw attention to the overcrowded state of the asylum and suggest the provision of an incinerator for the destruction of rubbish, as such an addition to the works would be most useful for the destruction by fire of typhoid fever patients' excreta which are now buried after treatment with carbolic acid.

Leicestershire and Rutland Lunatic Asylum (Annual Report for 1899).—The population of the asylum during the year consisted of 493 patients, of whom 232 were males and 261 were females. The admissions for the year amounted to 90 patients, of whom 48 were males and 42 were females. 16 of these—viz., 11 males and five females—were re-admissions. Mr. Rothsay C. Stewart, the medical superintendent, states in his report that of the admissions 22 patients were known to have had previous attacks and hereditary tendencies to insanity were traced in 17 cases. The epileptics numbered 12 and the general paralytics numbered six among the admissions. "22 cases were between the ages of 65 and 84 and in my opinion a fair proportion of these were more fit for a workhouse than an asylum." During the year 29 patients were discharged as recovered, 15 of these being males and 14 being females, or a total of 5·8 per cent of the average number resident. The total number of deaths during the year was 62 and comprised 32 males and 30 females, or 12·5 per cent. of the average number resident. Of the deaths two were attributed to influenza, three to pneumonia, one each to colitis and diarrhœa, three to epilepsy, five to general paralysis of the insane, seven to cerebral softening or hæmorrhage, eight to cardiac disease, 11 to senile decay, and 12 to pulmonary phthisis. The mortality from phthisis is the highest in the tables given regarding the causes of death. There were five accidents involving fractured bones, but none of them ended fatally. Two female patients, both married women, gave birth to children while in the asylum. One of these has since gone out as recovered. Two male patients escaped during the year, one being subsequently recaptured. During the month of April, 1899, there was a severe epidemic of influenza among the staff, especially on the female side. At the outbreak of the war several of the attendants who had received orders as reservists left to rejoin their regiments and the work on the male side has had to be carried out with much difficulty. "Their places are kept open for them in case they wish to rejoin us, and the committee passed a resolution to pay half the wages to the wife of every reservist so long as he was on active service." The site for a new asylum at Narborough, consisting of 182 acres, was visited in January, 1899, by the Commissioners in Lunacy, and they gave consent to its purchase under certain conditions. Arrangements have been made with the borough authorities for the purpose of securing an efficient water-supply to the new asylum, and two houses have been purchased which will serve as residences for some of the staff. The profit derived from the farm and garden amounted to £330 in round figures. The aggregated expenditure on building and repairs accounts for the year has been £1691. The Lunacy Commissioners in their report state that the case-books and medical records are admirably kept, the former being illustrated by excellent photographs of the patients taken on their admission and discharge.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Birmingham Urban District.—The estimated population of Birmingham for 1899 was 514,956, but Dr. Alfred Hill thinks that this may be some 22,000 too little. The marriage-rate for the year in question was 20·8 and the birth-rate 34·3 per 1000, only six of the great towns having a higher birth-rate than Birmingham. As regards death-rate Dr. Hill has recently adopted a system by which each death will, as far as is practicable, be referred to its own ward and locality, and by this means much more reliable data will be procured. For instance, during 1899 more than 1000 deaths were referred to the precise wards and streets from which the

deceased came instead of appearing as heretofore under the heading "Institutions." The general death-rate of the city after having been corrected in the above sense was for 1899 20·5 per 1000, and in reference to the relation between the insanitary conditions associated with poverty and the death-rate Dr. Hill furnishes the following very instructive figures:—

Proportion of houses at 3s. 6d. per week or less.	Death rate per 1000.
None	17·1
From 0 to 25 per cent.	26·1
From 25 to 50 per cent.	32 7
Over 50 per cent.	37 6

When, too, this aspect of the question is examined in more detail it is found that the same general principles obtain. Although all these figures tend to show that poverty is *per se* a cause of high mortality Dr. Hill rightly points out that material improvement can be brought about by a rigorous supervision of the conditions under which the poor live; indeed, it may surely be laid down as one of the most important duties of the officers of sanitary authorities to help the poor who for many obvious reasons are unable with chances of much success to help themselves. In Birmingham the health visitors are able, it appears, to do most valuable work in this direction, and it must be a source of much satisfaction to Dr. Hill to be so well provided in this respect. As regards infantile mortality, the figures for 1899 are again high, no fewer than 193 infants out of every 1000 born having perished before the first anniversary of their birthday. There was an outbreak of diphtheria in connexion with certain schools during 1899 and as a result the schools had eventually to be closed on two occasions, the first closure having failed to check the outbreak. Enteric fever, too, became epidemic in the fourth quarter of last year, the number of cases, 417, being far in excess of those notified during the same quarter of recent years. Personal infection seems to have played a prominent part in the outbreak, no fewer than 72 cases being attributed to this agency. Moreover, unrecognised cases seem also to have been operative. So much was Dr. Hill impressed with the infectivity of enteric fever that he has since prevailed upon the Town Council to provide hospital accommodation for the isolation of cases of this disease. There can, we think, be little doubt that the element of direct infectivity has not even yet received due recognition at the hands of the medical profession as a whole. Diarrhœa and enteritis claimed as many as 1411 victims during the year, and Dr. [illegible] nent part which fil[illegible] of these diseases. [illegible] diarrhœa deaths in houses provided with "pan" closets than in those provided with water-closets. Notwithstanding this association we learn that but 199 pan privies were converted into water-closets during 1899, while there are some 31,000 of these unwholesome arrangements still existing in Birmingham. The medical officer of health suggests that with a view of bringing about improvement the council should bear a portion of the cost of replacing these structures. In his capacity of city analyst Dr. Hill reports that there is a steady decrease in the use of boric acid as a milk preservative, but that the use of formic aldehyde is steadily increasing. It is, too, of interest to note that the use of preservatives and the question of adulteration tend to go hand-in-hand. The amount of boric acid found ranged from 21 to 126 grains per gallon.

Edinburgh Sanitary District.—Sir Henry Littlejohn, the medical officer of health of this district, estimates its population to the middle of 1899 at 298,927, although, in common with all his colleagues, he is careful to point out that the possible revelations of the forthcoming census should not be lost sight of. The birth-rate was 27·49 and the general death-rate was 19 2 per 1000. There were three deaths from typhus fever, but these are to be regarded as a legacy from the 1898 outbreak. Accompanying Sir Henry Littlejohn's report are some capital charts illustrating the prevalence and mortality of different infectious diseases. As regards the local distribution of enteric fever and diphtheria, after discussing the incidence of each disease upon the Old and New Town respectively, he points out that on a basis of the statistics for 1893-99 "the chance of taking typhoid fever among every 10,000 of the population in the Old Town, New Town, and Southern districts may be expressed as about 13, six, and seven respectively. Whereas in regard to diphtheria the chances are, in the same order, six, 11, and 10," facts which illustrate, Sir Henry Littlejohn thinks, that in so far as Edinburgh is concerned "the class of property and of inhabitants in which diphtheria on the one hand and typhoid fever on the other are most prevalent is totally different." The question of milk as a source of infection is dealt with somewhat fully in the report before us by virtue of the fact that the circumstances connected with three outbreaks of scarlet fever and one of enteric fever were suspicious of milk-borne infection, although the evidence in ce[illegible] Henry Littlejohn observes, [illegible] clusion to be arrived at. The [illegible] of a medical officer of health in connexion with what may be milk-borne epidemics or outbreaks are well brought out by Sir Henry Littlejohn. The hardship associated with the stoppage of a supply cannot be lightly inflicted by a conscientious officer, and yet even the suspicion that the milk may be operative as a carrier of infection must cause him much anxiety. The common habit of milk vendors of mixing the milk derived from different farms and of purchasing an additional supply if their own runs out introduces many complications into etiological investigations which would otherwise be often relatively easy of solution.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 33 of the largest English towns 7006 births and 4004 deaths were registered during the week ending June 16th. The annual rate of mortality in these towns, which had been 18·4, 17 7, and 16 8 per 1000 in the three preceding weeks, rose to 18 0 last week. In London the death-rate was 17 4 per 1000, while it averaged 18 4 in the 32 provincial towns. The lowest death-rates in these towns were 9 4 in Cardiff, 11·3 in Norwich, 12 0 in Nottingham, and 12·7 in Croydon; the highest rates were 22 0 in Huddersfield, 22 9 in Sheffield, 23 7 in Liverpool, 24 8 in Salford, and 25 2 in Manchester. The 4004 deaths in these towns included 427 which were referred to the principal zymotic diseases, against 473 and 386 in the two preceding weeks; of these 138 resulted from measles, 108 from whooping-cough, 65 from diphtheria, 61 from diarrhœa, 29 from "fever" (principally enteric), and 26 from scarlet fever. The lowest death-rates from these diseases last week occurred in Plymouth, Cardiff, Swansea, Leicester, Bradford, and Gateshead; and the highest rates in Derby, Manchester, Salford, Blackburn, Huddersfield, and Hull. The greatest proportional mortality from measles occurred in Huddersfield, Leeds, Hull, and Sunderland; from scarlet fever in Blackburn; from whooping cough in Croydon, Wolverhampton, and Oldham; and from diarrhœa in Birkenhead, Burnley, and Huddersfield The mortality from "fever" showed no marked excess in any of the large towns last week. The 65 deaths from diphtheria included 28 in London, nine in Sheffield, four in Manchester, and four in Leeds No fatal case of small-pox was registered last week in any of the 33 large towns There were 15 small-pox patients under treatment in the Metropolitan Asylums Hospitals on Saturday last, June 16th, against 5, 7, and 11 at the end of the three preceding weeks; eight new cases were admitted during the week, against four in each of the two preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 1766, against 1784, 1760, and 1754 at the end of the three preceding weeks; 210 new cases were admitted during the week, against 216, 194, and 203 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 268 and 260 in the two preceding weeks, declined again to 257 last week, but were 20 above the corrected average. The causes of 43, or 1 1 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner All the cases of death were duly certified in West Ham, Birmingham, Bristol, Leeds, and in 15 other smaller towns; the largest proportions of uncertified deaths were registered in Leicester, Liverpool, Salford, and Sheffield

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 15 6 and 18 5 per 1000 in the two preceding weeks, rose again to 19 9 per 1000 during the week

ending June 16th, and was 1·9 per 1000 above the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 17·2 in Greenock and 17·9 in Leith to 21·9 in Aberdeen and 27·0 in Perth. The 616 deaths in these towns included 23 which were referred to measles, 22 to diarrhœa, 21 to whooping-cough, six to scarlet fever, four to diphtheria, and two to "fever." In all 78 deaths resulted from these principal zymotic diseases, against 57 and 73 in the two preceding weeks. These 78 deaths were equal to an annual rate of 2·5 per 1000, which was 0·6 per 1000 above the mean rate for the same period in the 33 large English towns. The fatal cases of whooping-cough, which had been 25 and 17 in the two preceding weeks, rose again to 21, of which 17 occurred in Glasgow. The deaths from measles, which had been 16 and 19, in the two preceding weeks, rose again last week to 23, and included 14 in Glasgow and four in Edinburgh. The fatal cases of diarrhœa, which had been 25 and 7 in the two preceding weeks, rose again last week to 22, of which 12 were registered in Glasgow and five in Dundee. The deaths from scarlet fever, which had been one and six in the two preceding weeks, were six again last week and included two in Edinburgh. The fatal cases of diphtheria, which had been five, four, and three in the three preceding weeks, rose again to four. *The two deaths from "fever" showed a marked decline* from the number in the preceding week and were all registered in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 94, 104, and 106 in the three preceding weeks, declined again to 101 last week, and were 14 above the number in the corresponding week of last year. The causes of 28, or nearly 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 21·9 and 23·1 per 1000 in the two preceding weeks, rose to 23·8 during the week ending June 16th. During the past four weeks the death-rate in the city has averaged 23·5 per 1000, the rate during the same period being 16·7 in London and 18·6 in Edinburgh. The 160 deaths registered in Dublin during the week under notice were fifteen above the number in the preceding week, and included six which were referred to the principal zymotic diseases, against five, three, and 10; of these, two resulted from diphtheria, two from "fever," one from scarlet fever, one from diarrhœa, and not one from small-pox, measles, or whooping-cough. These six deaths were equal to an annual rate of 0·9 per 1000, the zymotic death-rate during the same period being 1·9 in London and in Edinburgh. The 160 deaths in Dublin last week included 26 of infants under one year of age and 36 of persons aged upwards of 60 years; the deaths of infants showed a decline, while those of elderly persons were 13 more than the number recorded in the preceding week. Two inquest cases and one death from violence were registered; and the causes of nine, or nearly 6 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff-Surgeon J. Bradley to the *Galatea*. Surgeons: J. A. Keogh to Hong-Kong Hospital; J. Mowat to the *Northampton* for the *Calliope*; and H. B. Hull to the *Vernon*, for the *Chasseur*.

ROYAL ARMY MEDICAL CORPS.

Captain H. W. Vaughan Williams, attached to the 3rd Battalion Grenadier Guards in South Africa, is ordered home for duty.

INDIA AND THE INDIAN MEDICAL SERVICES.

Captain W. W. Webb (retired) is granted the temporary rank of Major whilst acting as Secretary to the Army Medical School at Netley.

VOLUNTEER CORPS.

Rifle: 2nd Volunteer Battalion the Northumberland Fusiliers: Frederick William Wallace Whyte to be Surgeon-Lieutenant. 4th Volunteer Battalion the King's (Liverpool Regiment): Robert Fielding-Ould to be Surgeon-Lieutenant. 3rd Volunteer Battalion the East Surrey Regiment: Surgeon-Captain J. J. de Z. Marshall to be Surgeon-Major. 1st Bucks: Surgeon-Lieutenant F. J. Grindon to be Surgeon-Captain. 1st Volunteer Battalion the King's (Shropshire Light Infantry): Surgeon-Captain W. H. Packer to be Surgeon-Major. 3rd London: George William O'Flaherty Clark to be Surgeon-Lieutenant. 1st Volunteer Battalion the Gordon Highlanders: Surgeon-Lieutenant-Colonel P. B. Smith resigns his commission, with permission to retain his rank and to wear the uniform of the battalion on his retirement.

VOLUNTEER MEDICAL STAFF CORPS.

The Manchester Companies: Surgeon-Captain W. Coates to be Surgeon-Major (in command) on increase of establishment.; Joseph Farrall Wright to be Surgeon-Lieutenant.

THE CRISIS IN CHINA.

At the time of our writing great anxiety most naturally exists as to the very serious state of affairs in China. It seems certain that the Taku forts, after having been bombarded by the warships of the Powers, have been captured, but it is not by any means clear what has become of the composite relief force which was despatched under the command of Admiral Seymour for the succour and *protection of Europeans at Peking and elsewhere. We are* all hoping to hear of its arrival at Peking or of its safety somewhere.

At the present time all the political interest of this country is focussed on the Foreign Office, War Office, and Admiralty, which must have their hands very full of work. It is extremely fortunate for all concerned that the enmity of the Chinese is of an indiscriminate character and directed against all foreigners alike, and that the Chinese forts fired upon the war ships of the international fleet without distinction, and, as a consequence, that the action taken had to be a conjoint one on the part of all the naval powers concerned. A large military force (of the native army mainly) is being sent from India to China. This will throw a great deal of work upon the medical services of that country and a large number of medical officers now serving in India will be required to embark with and accompany the troops ordered to China. The officers of both medical services have for a long time past found full occupation with the extra work they have been called upon to perform in connexion with plague, pestilence, famine, and war, which have filled pages in the mournful history of India of late years.

The following have been ordered to proceed with the force about to embark at Calcutta for service in China:—British field hospital, No. 22, Bombay. Native hospitals No. 39, Jalandhar; 42, Ambala; 43 and 44, Lucknow; and 47, Mhow. No. 4 field medical store depôt. Native general hospital of 200 beds from Calcutta. Lieutenant-Colonel Bookey, I.M.S., will be the principal medical officer.

TRANSVAAL WAR NOTES.

A military hospital capable of accommodating 500 invalids from South Africa is to be erected at Alton, Hants.

Lieutenant Martin, Lieutenant Scott, and Lieutenant Siberry, all of the R.A.M.C., are returning to England from South Africa invalided. Major Wills, Captain Erskine, and Lieutenant Morris, invalided, have arrived in England from South Africa.

The General of Communications at Cape Town reports the following officers discharged from hospital for duty for the week ending June 3rd:—Civil Surgeons Rook, Blackwood, Turton, and Roe.

The following steamships have arrived at Southampton and have brought invalids from South Africa who have been admitted to the Royal Victoria Hospital, Netley:—June 7th, the *Orient*, with six patients; June 10th, the *Orotava*, with 337 patients; June 15th, the *Simla*, with 268 patients; and June 18th, the *Custodian*, with 92 patients.

TRANSVAAL WAR CASUALTIES.

Civil Surgeon R. T. Fitzhugh died from enteric fever at the Imperial Yeomanry Hospital, Deelfontein, on June 15th.

Civil Surgeon E. Smith, attached to the R.A.M.C., died from enteric fever at the base hospital on June 16th.

Surgeon-Captain A. E. Vidler, Imperial Yeomanry, is reported missing.

Civil Surgeon H. D. Davies, attached to the Welsh Military Hospital, died at Springfontein on June 15th.

The death of Mr. Thomas Jones, F.R.C.S. Eng., chief of

the Welsh Military Hospital, is announced in a telegram from Springfontein.

We announced last week the death at Bloemfontein from enteric fever, on June 7th, of Civil Surgeon H. Bryant, attached to the Royal Army Medical Corps. Mr. Hugh Arnold Bryant, M.R.C [illegible] bury, was a son of M [illegible] know well, will receive [illegible] in the great loss which he and his family have sustained.

The eightieth session of the Army Medical School, Netley, will terminate on June 30th. Owing to the war in South Africa there will be no public distribution of prizes.

Correspondence.

"Audi alteram partem."

THE METROPOLITAN HOSPITAL SUNDAY FUND.

To the Editors of THE LANCET.

SIRS,—The many appeals which have recently emanated from the Mansion House in respect either of the war or the famine in India are being so liberally and bountifully met that I gravely hesitate to make yet another call upon the never-failing generosity of the inhabitants of London. I feel sure, however, that in reminding the public that next Sunday is "Hospital Sunday," when for the twenty-eighth successive year collections will be made in every place of worship for the hospitals and dispensaries of this vast metropolis, they will admit that even the exigencies of the war should not divert them from rendering that annual help which has become so all-important a part of [illegible] the medical charities. While the war has dr[illegible] hospitals of London the ready services of me[illegible] nurses who have rendered devoted and inv[illegible] dealing with the sick and wounded at the front, it has materially prejudiced the institutions financially through the urgent competition of the multitude of appeals associated with the campaign.

But the progress of the war has effected no diminution of the numbers of sick poor for whom the hospitals of London labour unceasingly. Never was there a time in the history of the metropolis when there was greater need than now for the rendering of increased help towards the maintenance of these noble institutions, of whom some 200 owe their existence solely to the voluntary offerings of the benevolent public. When one reads that hundreds of beds are unused for want of funds and that last year the expenditure on the hospitals exceeded the income by nearly a quarter of a million sterling it seems time—even in a year of unparalleled stress and anxiety—to make a special effort in behalf of the medical charities of London. It is suggested that £100,000 might be raised this year for this object. Towards this Mr. George Herring has given £10,000 down and promised £10,000 more if £90,000 is raised. I trust that the generous public, by their contributions on Hospital Sunday will enable me to take advantage of this munificent offer.

[illegible] those unable [illegible] nt to me at [illegible]

ALFRED J. NEWTON, *Lord Mayor.*

The Mansion House, London, June 19th, 1900.

A PROPOS DU RAPPORT DE LA COMMISSION DE "THE LANCET" SUR LA PULPE "VACCINALE" GLYCÉRINÉE.

To the Editors of THE LANCET.

MESSIEURS,—Je voulais répondre complètement au rapport de la Commission de THE LANCET chargée d'étudier la pureté de la pulpe vaccinale glycérinée du commerce; mais le Dr. Hime a éclairci plusieurs points dont je voulais m'occuper. Je me contenterai donc de traiter les côtés de la question non envisagés par mon confrère.

Qu'il me soit permis d'abord de faire une rectification bibliographique. Le rapport dit:—

> St. Yves Ménard, working independently with the credit of determining that the [illegible] ph not only puts a stop to any [illegible] ris but actually in time kills non-spore-bearing organisms. ..... Independent testimony to this preservative and purifying action of [illegible] Klein, Koch's German Commission, [illegible] has been added to the results of [illegible] and with Bitsall, and by Chambon [illegible] Strauss."

Il y a là une grosse erreur. Le Professeur Leoni, alors directeur de l'Institut Vaccinal de l'Etat[1] à Rome, qui dans les lignes précédentes est désigné comme étant venu corroborer la découverte du Dr. Copeman d'une part et de MM. Strauss, Chambon, et St. Yves-Ménard, d'autre part, est précisément celui qui le premier a démontré la destruction des microbes se trouvant dans le vaccin par l'action de la glycérine, et a dit qu'au vieil adage, "Vaccin récent bon vaccin, vaccin vieux mauvais vaccin," il fallait substituer cet autre, "Vaccin récent mauvais vaccin, vaccin vieux bon vaccin."

Dans "The Milroy Lectures" publiées en 1893, que j'ai actuellement sous les yeux, le Dr. Copeman s'exprime ainsi: "In a paper presented to the International Congress of Hygiene held in London in 1891, and subsequently published in the Transactions of that Congress, I called attention to a special method for the bacteriological purification and preservation of vaccine lymph. This method consisted in the intimate admixture of a given amount of lymph, or rather vesicle pulp, with a sterilised 50 per cent solution of chemically pure glycerine in distilled water, and in subsequent storage of the resultant emulsion in sealed capillary tubes for several weeks." Or les recherches du Professeur Leoni datent de 1889, et sa première publication sur ce sujet a été faite en 1890.[2]

Dans le travail présenté par Leoni au Congrès de Rome[3] —travail dont j'ai sous les yeux la traduction manuscrite, [illegible] l'occasion de démontrer que ces accidents devaient être attribués à des micro-organismes pathogènes qui ordinairement contaminent le vaccin animal et en particulier le vaccin récent .....: Les agents de la contamination s'épuisent dans le vaccin conservé pendant quelque temps dans la glycérine. Le vaccin conservé dans la glycérine pendant 1 à 4 mois après la récolte représente le type du vaccin pur, d'une virulence uniquement spécifique." Cette question de priorité a été portée devant l'Académie de Médecine de Paris par M. Hervieux, qui a proclamé que le Dr. Leoni avait avant tous autres découvert l'épuration de la pulpe vaccinale glycérinée par le vieillissement.

A la page 1235 de THE LANCET, 1re colonne, le rapport s'exprime comme suit:—

> [illegible]
> not been taken.

La présence de polls dans la pulpe vaccinale n'indique pas que l'animal a été mal raié; elle n'indique pas davantage que celui qui a récolté le vaccin ne s'est pas entouré de toutes les précautions nécessaires. La génisse la mieux rasée peut donner au préparateur de vaccin le plus soigneux une pulpe vaccinale remplie de polls. En effet, pendant les quatre,

[1] Cet Institut a été supprimé depuis le gouvernement Italien estimant que l'Institut de l'Etat nuisait aux instituts privés, en craignant en maintenant cet Institut d'arriver à une disparition des établissements. Les avantages des instituts multiples ne sont [illegible] lorsque se produit un établissement [illegible] de la virulence vaccinale. Si dans une nation comme l'Angleterre par exemple il n'y avait qu'un Institut d'Etat, et si pendant un [illegible] qui peut très arriver—cet Institut d'Etat ne produisait que de la vaccine [illegible] de virulence faible ou nulle [illegible] pays [illegible] des bienfaits de la vaccine pendant le temps [illegible] certain nombre d'instituts, le pays [illegible] en pareille occurrence recourir à les instituts, de [illegible] vaccinent de la génisse ou la vaccine [illegible] précautions, il y a plus [illegible] indifférent.

[2] [illegible] Revue d'Hygiène et de la Police Sanitaire [illegible]

[3] Sur les Agents [illegible] Congrès International de Médecine, Rome, 1894.

cinq ou six jours que dure l'évolution des vésicules sur la génisse avant la récolte, les poils repoussent et quelquefois d'une façon très remarquable. Or la curette arrache une grande quantité de ces poils qui se trouvent ensuite dans la pulpe. Aucune précaution ne peut empêcher cela. Que l'on broie la pulpe avec le mortier, avec le broyeur du Dr. Chalybaüs ou avec n'importe quel autre instrument, les poils se retrouvent dans la pulpe préparée pour l'inoculation humaine.

Il y a cependant deux moyens d'enlever ces poils, celui qui consiste à les ôter un à un avec une pince; ce procédé est recommandé par le Professeur Layet[4] de Bordeaux. Il est peu pratique, car il demande un temps très long et pendant ce temps, malgré les précautions prises, les poussières de l'air peuvent tomber dans la pulpe et augmenter le nombre des microbes. Et parmi ces microbes il peut s'en trouver de nuisibles. Le second procédé consiste à tamiser la pulpe après trituration, sur un tamis métallique. C'est le procédé que j'emploie. La plus grande partie des poils reste sur le tamis, mais un certain nombre passent à travers et se retrouvent dans la pulpe. Beaucoup de tubes n'en contiennent pas, mais certains tubes peuvent en contenir plusieurs, très visibles, surtout si l'animal était de couleur foncée. Certains instituts, celui de Dresde par exemple, ne tamisent pas leur pulpe.

Je conclurai que tous ceux qui ont récolté ou vu récolter du vaccin savent qu'on recueille toujours des poils en même temps que la pulpe; que ces poils aseptisés autant que la couche épidermique constituant la pulpe vaccinale, ne présentent aucun inconvénient; que lorsqu'on récolte une très petite quantité de vaccin il est facile avec une pince stérilisée de retirer tous ou presque tous les poils; mais que lorsqu'on prépare de grandes quantités de pulpe la seule chose possible est de la tamiser après le broyage—le tamisage n'enlevant pas tous les poils—enfin qu'il serait plutôt nuisible d'exposer la pulpe vaccinale aux poussières de l'air pendant le long temps nécessaire pour débarrasser le vaccin de tous les poils. J'ajouterai enfin que j'ai en main quelques tubes provenant de l'Académie de Médecine de Paris, et que tous contiennent des poils.

A la page 1236, 1re colonne, le rapport dit:—

The presence of a small quantity of blood, therefore, is not considered to be of any importance except, as we have pointed out, that it indicates that perhaps more care might have been taken in the collection of the sample. It may, however, be pointed out that it has been proved by recent experiments that the presence of blood, even in small quantities, in vaccine lymph exerts a marked deteriorating influence. The lymph rapidly loses some of its potency, the activity falls more rapidly, and extraneous organisms develop more readily than in lymph so collected that it is not tinged with blood.

On emploie deux procédés, dans les instituts vaccinaux, pour la récolte de la pulpe. Le premier consiste à saisir la peau, au dessous de chaque pustule à l'aide d'une pince hémostatique et à gratter la pustule avec un instrument quelconque. Ce procédé ne donne que peu de sang et avec un bon outillage, avec des pinces de formes différentes, on peut avoir une pulpe complétement blanche. Mais il faut beaucoup de temps, et pendant ce temps le champ vaccinal préalablement aseptisé reçoit des poussières. On sait en chirurgie abdominale qu'une opération a d'autant plus de chances de donner un résultat favorable qu'elle a duré moins longtemps. Il en est de même pour la récolte du vaccin; la pulpe a d'autant moins de chance d'être souillée par les microbes de l'air que la durée du grattage est plus courte.

Dans le second procédé on gratte directement avec la curette. Il y a alors nécessairement du sang; plus ou moins suivant les animaux; suivant que la peau est plus ou moins congestionnée[5]; mais il y a toujours du sang si la récolte se fait sur l'animal vivant. A Cologne[6] la récolte se fait après la mort de l'animal, il n'y a pas de sang dans la pulpe par conséquent. On peut obtenir cependant du vaccin complétement blanc avec la curette sur l'animal vivant en grattant très vite et en ne revenant pas deux fois au même endroit; mais alors, ou bien on ne récolte ainsi qu'une partie du vaccin, le reste étant nécessairement mélangé de sang; ou bien on a une perte considérable. En résumé la curette permet d'aller très vite, ce qui, en dehors de l'économie de temps, évite en grande partie les souillures par les microbes de l'air; mais avec la curette on obtient le plus souvent un vaccin rosé ou rouge; c'est à dire un vaccin contenant du sang.

Je dois dire ici que la grande majorité des instituts vaccinaux[7] récoltent avec la curette sur l'animal vivant sans se préoccuper de la présence du sang. J'ai pu m'en rendre compte dans les visites faites par moi à un grand nombre d'instituts vaccinaux en France et à l'étranger.

Le rapport prétend que le sang, même en petite quantité, exerce une action nuisible très manifeste sur le vaccin et lui fait perdre rapidement ses propriétés et que les microbes étrangers s'y développent plus volontiers. Je m'inscris absolument en faux contre cette assertion. La virulence se conserve aussi bien—je n'ose pas dire mieux—j'en ai plusieurs fois fait l'expérience, dans le vaccin contenant du sang que dans celui n'en contenant pas, et le nombre des colonies se développant après ensemencement n'est pas plus élevé. Mais pour faire l'expérience il ne faut pas comparer un vaccin quelconque ne contenant pas de sang avec un autre en contenant; l'un peut être vieux et l'autre jeune; l'un peut être concentré et l'autre dilué. Il faut comparer deux vaccins de semblable dilution provenant du même animal; c'est ce que j'ai fait.

Le Dr. Hime a dit que les expériences de la Commission ne prouvaient rien au point de vue scientifique; c'est un peu vrai. On a pris sur le marché différentes marques, sans s'inquiéter de l'âge du vaccin, sans s'inquiéter de son degré de dilution, et on a tiré des conclusions de l'examen de les vaccins. Le rapport dit, p. 1235:—

If the vaccine lymph has been carefully collected and glycerine has been allowed to act for a month the number of organisms growing in any of these media should be small. If the number growing is very large, that is, if it runs up to anything like 500 in the vaccine for a single inoculation, we suggest that the maker should be apprised of the fact that the glycerination is not being properly carried out and that any stock of lymph should be returned.

La dilution de la pulpe est variable suivant les instituts; les uns mettent: pulpe 1, glycérine 1; d'autres pulpe 1, glycérine 2; d'autres pulpe 1, glycérine ou eau glycérinée 4; d'autres pulpe 1, eau glycérinée 14 (Berlin)[8]; d'autres enfin pulpe 1, eau glycérinée 15 (Cologne).[9] Si on ensemence des boites de Petri avec la dilution à 1 pour 1, il naîtra nécessairement *15 fois plus de colonies* que si on les ensemence avec la dilution à 1 pour 15. Si par exemple la première donne 500 colonies, la seconde donnera 15 fois moins ou $\frac{500}{15}$ = 33 colonies environ. Or d'après le raisonnement de l'auteur du rapport de THE LANCET le premier tube serait mauvais et le second excellent; tandis que si les deux dilutions ont été faites avec une pulpe de virulence moyenne la première peut être très bonne et la seconde médiocre au point de vue des résultats cliniques. Je m'appuie pour dire cela sur des expériences personnelles publiées dans *La Gazette Médicale du Centre*. Dans les pulpes examinées par la Commission de THE LANCET, il y en a de dilutions très différentes, et il n'a pas été tenu compte de les différences. De même la Commission aurait pu s'enquérir de l'âge du vaccin qu'elle étudiait, cela aurait donné plus de valeur à ses études. La Commission aurait pu aussi—elle aurait dû même—si elle voulait établir une classification des vaccins d'après leur pauvreté en microbes, tenir compte de tous ses examens sur les vaccins de chaque provenance; elle n'aurait pas ainsi classé en tête une marque de vaccin, qui dans un examen antérieur présentait tellement de microbes qu'ils étaient incomptables. Il est vrai de dire que ce vaccin à microbes incomptables é ait peut-être excellent au point de vue de la virulence. Mais la Commission a négligé d'étudier la valeur réelle du vaccin.

Un autre point négligé par la Commission, c'est la présence dans les pulpes examinées des microbes spécifiques du vaccin, car, il faut bien le dire, s'il y a dans le vaccin des microbes indifférents ou nuisibles, il y en a aussi d'utiles; et tous les auteurs qui se sont occupés de cette question des microbes du vaccin savent qu'Antony a démontré qu'en ajoutant certains staphylocoques (micrococque porcelaine) à de la pulpe vaccinale on augmente sa virulence, tandis qu'on la diminue en ajoutant d'autres microbes, notamment certains bacilles. Le staphylocoque utile, d'après M. Antony[10] "donne naissance, sur agar, à des colonies aplaties, crémeuses, d'un blanc de porcelaine éclatant, tout à fait caractéristique,

[4] Layet: Traité Pratique de la Vaccination Animale, Paris, 1889.

[5] Lorsque la peau est très congestionnée le vaccin est généralement moins virulent.

[6] Report to the Local Government Board on the preparation and storage of glycerinated calf vaccine lymph, with an introduction by the medical officer. London, 1897; p. 14.

[7] Voici ce qui se passe à Dresde: "The pulp is collected by scraping with a Wolkmann's spoon, but as Dr. Chalybaus goes over the same surface again and again a not inconsiderable amount of blood becomes mixed with the epithelial scrapings." (Report to the Local Government Board, &c., p. 12) A l'Académie de Médecine de Paris le vaccin contient du sang, comme le prouve sa couleur rouge.

[8] Report to the Local Government Board, &c., p. 10.

[9] Report, &c., p. 15.

[10] Hublé: Précis de la Vaccine et de la Vaccination Moderne, 1re partie, page 82, Paris, 1896.

pouvant atteindre un centimètre de diamètre, lorsqu'elles sont peu nombreuses et bien isolées. Sur gélatine ce coccus pousse lentement, les colonies n'apparaissent qu'au bout de 5 à 8 jours; la liquéfaction du milieu nutritif est très lente et ne se produit parfois qu'après 15 jours de culture. Ce micrococque existe dans le vaccin vivant d'une façon constante." "Le micrococque porcelaine ne se rencontre pas sur l'animal avant la vaccination (Antony).[11] Il ne s'y rencontre pas avant qu'on ait pratiqué les inoculations. Il semble provenir *du vaccin uniquement;* car sauf le cas de pulpes glycérinées très anciennes, il se rencontre constamment dans cette matière virulente." "Au point de vue bactériologique un vaccin peut être réputé de qualité irréprochable lorsqu'on n'y trouve, *après frottis* de la pulpe sur un tube d'agar, que des colonies de coccus porcelaine." "Les principales espèces microbiennes étrangères qu'on y rencontre sont le *staphylocoque jaune,* qui s'y trouve en proportion le plus souvent infinie; la persistance de celui-ci en trop nombreuses colonies doit faire suspecter le vaccin conservé; quelques *micro-organismes* d'impureté (saprophytes) vulgaires, tels que le bacillus subtilis, le bacille de la pomme de terre, &c. Ces derniers produits si répandus dans les étables, existent dans le vaccin en faible proportion. Leur présence ne semble avoir aucune action défavorable sur l'évolution vaccinale (Antony)."

D'après les recherches d'Antony un seul microbe, parmi ceux qu'on trouve d'ordinaire, pouvait être nuisible, lorsqu'il existe en trop grande quantité; le staphylocoque jaune. D'après mon expérience personnelle ce sont les vaccins les plus riches en staphylocoques jaunes qui produisent sur l'enfant les vaccins suintant, empesant le linge et se couvrant de croûtes irrégulières, et la vaccine ulcéreuse. D'autres microbes nuisibles, pathogènes, peuvent aussi se rencontrer accidentellement. Aussi eut-il été plus utile de rechercher quelles étaient les bactéries contenues dans le vaccin, que de les compter, *non numeranda, sed ponderanda.*

J'ai dit qu'il y av[illegible] veux revenir sur ce[illegible] virulence du vaccin [illegible] Maljean[12] a été plus loin; il a obtenu sur les animaux des [illegible] des cultures de ce microbe [illegible] noi dans un certain nombre [illegible] des vésicules vaccinales, 1° en inoculant à des génisses tous les microbes du vaccin réunis; 2° en inoculant les micrococques porcelaines; et nous n'avons rien obtenu en inoculant isolément ou réunis les microbes autres que le micrococque porcelaine. Ce qui prouve une fois de plus que sans ce microbe il n'y a pas de vésicule vaccinale.

Un certain nombre d'auteurs avaient déjà avant Maljean obtenu les vésicules caractéristiques en inoculant des cultures de vaccin. Je citerai Quist[11] en 1893; Voigt[11] en 1895; Carmichael en 1887; Garré[16] en 1887; Grigorjew en 1889; Voiton en 1890; Rueto[17] en 1891 et en 1893; Buttersack[18] en 1894; Martin et Ernst en 1895. J'ajouterai que le Dr Copeman[19] avec le Dr. Blaxall ont eux-mêmes isolé un microbe, qui inoculé aux génisses donne des vésicules vaccinales typiques.

On m'objectera que des pulpes glycérinées vieillies, ne contenant plus de microbes, produisent par l'inoculation des vésicules vaccinales aussi bien que des pulpes fraîches, riches en microbes. A celui je répondrai que les pulpes très vieilles ne produisent que des résultats nuls ou incomplets; que presque toujours dans les pulpes qui restent actives on trouve des microbes et surtout le micrococque porcelaine; mais que, même si on n'arrivait pas à cultiver ce microbe sur [illegible] du [illegible] sen [illegible] rendu impossible de le cultiver sur les milieux ordinaires, et que pour le cultiver il faut le faire passer à nouveau par l'animal vivant. De même certains produits, liquides ou solides, dans lesquels on ne peut déceler le bacille de la tuberculose, donnent naissance à la tuberculose lorsqu'on les inocule au cobaye.

Le Dr. Hime a insisté avec raison sur ce point que la virulence de la pulpe vaccinale a une plus grande importance que le nombre des microbes. Ce que l'on doit demander au vaccin c'est avant tout qu'il préserve de la variole. Du vaccin trop *dilué* peut ne produire aucune vésicule et exposer les personnes inoculées à une *fausse sécurité.* Si l'on inocule un enfant pour la première fois et si l'on n'obtient aucun résultat, on peut recommencer la vaccination jusqu'à ce qu'on ait obtenu des vésicules; mais si l'on revaccine un adolescent ou un adulte déjà inoculé, et si le vaccin ne réussit pas, on sera très porté à admettre que le sujet subit encore l'influence de l'inoculation antérieure; surtout si le même vaccin a donné des résultats chez l'enfant. Mais ce qui prouve que cet adulte retirait exposé à contracter la variole, c'est que si on le vaccine avec une pulpe fraîche très virulente l'inoculation produira des vésicules.

Je résume ma manière de voir en disant dans les instituts vaccinaux l'inoculation des génisses, la récolte et la préparation du vaccin doivent être conduites avec l'antisepsie la plus complète, les différentes opérations devront se faire dans le plus court espace de temps possible pour éviter les contaminations par les germes de l'air. Les étables devront être lavées très fréquemment avec des liquides antiseptiques ou désinfectées avec des vapeurs de formol. Chaque récolte de pulpe vaccinale, après avoir été glycérinée, devra être soumise à l'examen bactériologique, *mais bien plutôt* pour déterminer les espèces microbiennes qu'elle contient que pour compter les colonies qu'elle peut produire.[21] Si cette pulpe contient des microbes nettement pathogènes comme le streptocoque de l'érysipèle, elle devra être détruite; si elle contient un grand nombre de staphylocoques jaunes elle ne devra être employée qu'après vieillissement et après s'être assuré cliniquement qu'elle produit de la vaccine normale et qu'elle a conservé une grande virulence.

L'essai clinique devra être considéré comme plus important encore que l'examen bactériologique, car seul il montre le degré de virulence du vaccin et la tendance des vésicules à donner des croûtes irrégulières et de la vaccine ulcéreuse. On ne devra employer qu'un vaccin d'une virulence parfaite. Pour les inoculations d'enfants et en dehors des épidémies de variole on pourra préférer la pulpe vieillie donnant lieu à une areole moins étendue et à une réaction inflammatoire moins grande; mais pour les revaccinations et surtout en temps d'épidémie il est indispensable d'employer une pulpe jeune très virulente, capable de donner presque autant de résultats pour les revaccinations que pour les vaccinations.

J'ajouterai qu'il est une chose qui pour moi n'est pas démontrée, à savoir qu'un vaccin peu virulent—ancien ou récent—donnant des vésicules peu nombreuses et peu développées protège autant de la variole qu'un vaccin récent très virulent, donnant des vésicules très développées à chaque inoculation, et produisant sur une inoculation par coupure de la longueur de la coupure et à bords rectilignes.

Enfin pour terminer je ferai part de la commission de THE LANCET d'une opinion devant peser à un certain poids en la matière et se trouvant absolument en désaccord avec les idées émises par le rapporteur. Je veux parler de l'opinion de l'Académie de Médecine de Paris. Je transcris ci-dessous la notice qui accompagne chaque envoi de tubes par l'Académie de Médecine.

"[illegible] *très important.* (*Le vaccin* [illegible] *différemment*) Prière d'employer le vaccin [illegible] dans les dix jours qui suivent la réception, pour éviter les [illegible] et l'altération possible de la pulpe, altération qui peut occasionner des accidents septicémiques."

(signé) DOCTEUR [illegible]

[illegible]

[11] Antony: Recherches sur la Valeur Relative des Différentes Préparations Vaccinales, Archives de Médecine et de Pharmacie Militaires, 1893, tome xxii., p. 465 et suivantes.

[12] Maljean: Recherches sur les Microbes du Vaccin, Recueil de Médecine Militaire, et Gazette Hebdomadaire de Médecine et de Chirurgie, 1893.

[16] The Milroy Lectures, 1896.

[21] Surtout lorsque [illegible] de Tours, il y a parfois [illegible] des cultures [illegible]

THE RELATIONSHIP OF MALARIA AND THE MOSQUITO.

To the Editors of THE LANCET.

SIRS,—I may have been reading papers recently, both medical and lay, incorrectly, but I have gathered from them one and all that the unequivocal dictum of those who have been investigating the etiology and prophylaxis of malaria is to the effect that (1) the mosquito is the alternative host with man of the malaria parasite; (2) that malaria is conveyed to man by the mosquito and in no other way; and that (3) as a logical consequence it is only necessary to take precautionary measures against the malaria-bearing mosquito to be rid of malaria. In the *British Medical Journal* of Feb. 10th Professor Grassi is reported to have given it definitely as his opinion, "No man, no malaria; *no mosquito, no malaria*"; and Professor Celli and other investigators appear to be of the same mind. In THE LANCET of May 12th (p. 1400) Major Ronald Ross, I.M.S., writes: "The mosquito theory scarcely stands in much need of further proof; it was established long ago. We already know that malarial fever is communicated by gnats" Dr. Patrick Manson in a lecture reported in THE LANCET of May 19th, p 1419, also says: "..... There cannot be the slightest doubt that the mosquito acts the part of transmitting agent as well as definitive host of the malaria parasite." In the Report of the Malaria Expedition of the Liverpool School of Tropical Medicine are these lines:—

> To sum up, although [illegible] the investigation it has been shown [illegible] definite hosts of the hæmamœbida [illegible] diseased to healthy vertebrates [illegible]; and that the definitive hosts of the human parasites are certain species of anopheles.

There seems to be such unanimity of opinion on the subject in the minds of these investigators that pamphlets have been issued with instructions to those inhabiting malarious districts as to the best methods of diagnosing the malaria-bearing species of mosquito, for capturing it and destroying its larvæ in more wholesale fashion and for avoiding its bite (would that it were possible!). These are the only precautions recommended. Nothing is said as to telluric, paludal, or atmospheric conditions except as they relate to the mosquito. It is the mosquito or nothing—*aut anopheles aut nullus* That mosquitoes may frequently act as alternative or intermediary hosts with man of the malaria parasite seems now a well-established fact, but this is a widely different theory to the hard-and-fast doctrine that a species of "anopheles" is solely responsible for all malarial fevers in mankind. It is to this last dogma that I demur. The problem of malarial infection appears to me to be far too complex for so simple a solution and the question being of such great importance it is desirable to be fully satisfied with the new creed before abandoning the old.

As a sometime resident in different parts of South America, a country where neither malaria nor mosquitoes are entirely unknown, and as a native of the Fens where ague, twin brother of malaria, was common until a few decades ago, I find it difficult to believe that malaria is *only* acquired from a certain species of mosquito and that all telluric and atmospheric conditions are factors that may be safely disregarded. That I am not entirely alone in my doubts may be seen by reference to medical works of recent date, such as "Health Abroad," edited by Dr E Hobhouse, where other causes, such as a chill, a wetting, the turning over of virgin soil, exposure and fatigue in malarious districts, are credited with causing fever as well as direct infection from mosquitoes. Also in the *Times* of May 23th in an article "From the Vaal River to Pretoria" the writer speaks of Pretoria thus: "Its heavy drawback, indeed, is its periodical insalubrity. Whether owing to minute malaria in the soil, or to the unmentionable filthy habits of the genuine Boer, Pretoria is liable to epidemics of deadly jungle fever, as I learned to my bitter cost. The miasmas at sunset, attended by a bone-piercing cold, are especially dangerous." But it is now implied that the "miasma" is an obsolete myth. When I was in British Guiana the houses of sugar-planters and overseers were always built upon piles or pillars to raise the living rooms some 10 or 12 feet above the miasma which was supposed to rise after sunset and to be particularly dangerous as pregnant with the malaria poison. Most travellers in malarious districts prefer to sleep when camping out raised some distance above the ground and generally sling their hammocks so, while in the navy landing parties are instructed to make elevated platforms with boughs on which to sleep and are supplied with small axes for the purpose. Kingsley, in "Westward Ho," [illegible] from fever was obtained when the m[illegible] of the miasma. We are now told that the real reason of the danger of sleeping on or near the ground is that the mosquito is a low flyer and a night feeder. "The mosquito," it is said, "does [illegible] the air." My own personal and [illegible] does not confirm this statement. [illegible] nstant companions to whatever hei[illegible] ascended and were as unremitting i[illegible] the first-floor as upon the ground floor and by day as well as by night. They may be observed upon ceilings, rafters, and roofs, and on the leaves of trees as well as near or on the earth or water. But it is solely upon this assertion that a popular and universal belief some centuries old is discredited and the mosquito theory brought in triumphant as amply explaining the miasma.

Then, again, in the same colony there was a very general and well-founded belief that young men freshly arrived from the temperate climates, although they would be bitten more voraciously than the older residents, yet were not very liable to malarial fever until they had resided about a year in the country. Yet on the mosquito theory one would think that these fresh arrivals bitten from head to foot and living amongst men constantly down with fever, would become infected within a week of their arrival on a plantation.

To break fresh earth and turn up virgin soil has long been known to be a prolific cause of malarial outbreaks. The workmen and soldiers employed by the French in road-making during their Madagascar campaign succumbed in large numbers to malaria. It was the same with the workmen on the Panama Canal and Colon Railway where every "sleeper" was said to have cost a life. The mortality from malarial fever during the construction of the Colombo and Candy Railway was also exceptionally high. But these facts, we are now informed, are explained by the formation of little pools and puddles as the workmen dig, in which "anopheles" lays its larvæ (*vide* p. 30 of the Report of the Malaria Expedition). "Faith," as Mark Twain's schoolboy said, "is believing what you know ain't so." In 1865 at Hong-Kong the 11th Regiment stationed there and engaged on guard duty while the Kairoon docks were being made suffered from a severe outbreak of malarial fever which was attributed to the turning up of the earth. Other troops stationed there while the new Murray barracks were being constructed were also the victims of a virulent epidemic of malaria. Deaths were so numerous that salutes ceased to be fired and bells to be tolled so depressing were they in their frequency. Also in the same place, in 1891, 1892, and 1893 the Royal Engineers were engaged in excavations at the depth of from 12 to 15 feet for the emplacement of heavy guns and while engaged in this work were constantly the victims of malaria. At the time the turning up of the earth was considered to be the invariable cause of the epidemics; and it is a noteworthy fact in the last instance that the Argyll and Sutherland Highlanders also stationed there at the same time, who were not engaged in the excavation works, did not suffer similarly but enjoyed a comparative immunity. Moreover, the soil was a kind of decomposed granite, almost like sand. "*After heavy rain no water remained.*" I quote the words of my informant, an officer of the Engineers engaged on these works at the time.

It is very difficult in the face of facts like these and without further evidence to accept the "anopheles" theory and to discard telluric and atmospheric agencies. It is hard to believe that the mosquitoes would make a differential diagnosis between the Engineers and the Highlanders. Moreover, Hong-Kong is not a place particularly infested with mosquitoes. In the Ashanti expedition in 1873–74, in an area between Cape Coast Castle, Elmina, and Accra to Kumassi, about 120 miles inland, there was, I am informed by an officer who accompanied the expedition, "any amount of malarial fever but practically no mosquitoes," although in the regions to the right and left of this district mosquitoes abounded. The *Simoon* was the hospital ship to this expedition. Those who were first sent on board her derived much benefit, but in rather less than three months both the naval and the military officers condemned her and declared that malarial fever was endemic on board. Wounded men without fever would get fever from going on board. The *Simoon* was therefore sent away and the *Victor*

Emmanuel replaced her, but in this ship the same effects were not observed. If mosquitoes were the means of conveying infection in the first vessel from the fever-stricken to the free, why were they not also in the second?

That the whole question bristles with difficulties is exemplified, I think, by the following episode related to me by a naval officer who accompanied the expedition and subsequently commanded it. In the spring of 1876 a punitive expedition was sent up the Niger from H.M.S. *Active*. The party ascended the river in a steamer somewhat larger than an ordinary Dover and Calais boat. The expedition was away between six and eight weeks. There were a few mosquitoes, but they did not trouble much. Quinine and spirit were served out every morning and the men were particularly well fed and cared for, always sleeping under cover and rarely being ashore more than three or four hours at a time. There was practically no sick list except of the wounded and the men were very fit and well from first to last. The [illegible] out to sea and wi[illegible] who had taken par[illegible] of a [illegible] home [illegible] ring the many week[illegible] river, but only afterwards when the ship was cruising about at sea and when improved conditions prevailed. Nor was the morning dose of quinine discontinued when these men returned to their ship. Quinine was regularly served out daily to the entire ship's company all the time the vessel was on the West Coast. Are we to believe that "anopheles" was directly responsible for this outbreak or for its spread if a single case had developed? Assuming, for the sake of argument, that there were mosquitoes on board and that they became infected from feeding on one or two cases and so infected others, still this would not explain why only the men of the expeditionary force were attacked and why the rest of the crew remained free, which was the case.

And what are we to say of the etiology of ague in the Fen districts of this country? Was that also conveyed to man only by gnat-bites? The gnats remain still in some numbers but ague has disappeared. The past generation suffered much from it. Tertian and quartan ague were then endemic in many districts, but with the better drainage of the Fens, with the dykes, pumps, and syphons of later years, it has gone for ever, as in many other parts of Europe. Is it at present so absolutely certain, as Professor Grassi maintains, that the malaria parasite cannot exist in some phase or other of its life's cycle in the soil or in water?

In many tropical regions malaria is most rife whenever heavy rains succeed a spell of dry weather or wherever rank vegetation is decomposing. And in newly taken up countries, such as Mashonaland and Rhodesia, as the long coarse grass gets eaten down and improved by stock malaria tends to be less prevalent. That these conditions are of importance solely because they affect the multiplication or diminution of a certain species of mosquito seems somewhat difficult of belief.

Up the river Parana in South America mosquitoes teem in their millions and billions and probably every branch of the family is there strongly represented—"anopheles," "culex," and all their near and distant relations. Sporadic cases of malaria, or "chuchu," as the natives call it, are not unknown, and in Tucuman, a province somewhat west of the main river, malaria is common—owing, Dr. G. H. Pennell thinks, to its being a large sugar-producing district *where the soil is much disturbed* in its cultivation. Yet the countries adjacent to the Parana are not malarious, although hundreds of square miles of swamp and forest line its banks and those of its innumerable tributaries. Paraguay, Entre Rios, and Uruguay are extremely healthy. Moreover, people in these countries are great travellers and on this account it is inconceivable to me, if the mosquito theory is a sound one, why the entire Parana region is not as fever-stricken as any on earth. As a logical sequence it should be. Mosquitoes are there, every tribe of them, and just an occasional case of malaria to initiate a devastating epidemic. Yet no region in the world is much healthier!

The fact that an off shore wind from a malarious coast will sometimes induce an outbreak of malarial fever amongst the crews of ships lying out in estuaries or even passing some 60 miles from land seems to prove conclusively that the atmosphere has some intimate connexion with the disease even if malaria is not airborne. The argument that such ships probably harbour mosquitoes which are the real cause of the outbreak hardly holds good because it is only the *land* breeze which does the mischief, and it is difficult to understand why the land breeze should suddenly stimulate "anopheles" to activity any more than a wind from another direction; whereas on the assumption that malarial fevers are intimately related in some way or another with paludal, miasmatic, telluric, or atmospheric conditions this fact is intelligible enough. This latter view is still held in the navy, for it is customary at certain times of the year in ships on the West Indian station for the petty officers to go round at night and see that the awnings are up [illegible] a farce.

When one considers the phases in the life history of some [illegible] arger organisms, such as the frog and butterfly, to no others, it seems conceivable that the hæmoplasmalaria of man found also in "anopheles" may [illegible] st elsewhere under some other form as yet unrecognised.

> There are more things in heaven and earth, Horatio,
> Than are dreamt of in our philosophy.

The only theory to my mind that at all fits the case in some of its bearings is that in certain regions of the earth the parasite of malaria, by whatever name it may be called, disguised under whatever form, or in whatever phase of its existence, is endemic and ubiquitous, just as the tubercle bacillus is in other parts, and either readily finds a habitat in the human body and there lies dormant or is prepared constantly for invasion if occasion offers. (That the parasite can remain quiescent within the body is evidenced by the long intervening periods that sometimes elapse between attacks of fever, often of many years.) We know that this is the case with many micro-organisms and that each of us carries, so to speak, a "viper in his bosom" in the shape of various bacteria, harmless so long as we keep in health, but ready to turn and injure us whenever they can overpower the protective phagocytes, the constabulary of our tissues.

I do not, however, venture to propound any theory of my own, but I would suggest from some of the foregoing considerations that the case for the mosquito being in all instances the direct and [illegible] nd transmission of malaria has [illegible] out as yet and that it believe[illegible] r judgment and not to abandon [illegible] malaria that the accumulated experience of generations and the dictates of common-sense have taught us in favour of one line of prophylactic treatment only, to say nothing of its feasibility—i.e., that of dealing with the mosquito. Another source of malarial infection has certainly been discovered, thanks to the untiring researches of the workers in this field, but that it is the only source of infection needs yet, I think, some further proof.

I am, Sirs, yours faithfully,

J. H. DAUBER.

Charles-street, W., June 5th, 1900.

MONOGAMY IN ITS RELATION TO LONGEVITY AND THE DISEASES OF LATE LIFE.

To the Editors of THE LANCET.

SIRS,—In his interesting article on this subject in THE LANCET of June 9th Dr Campbell seems to neglect the importance of longevity to the human race as a whole and to ignore the fact that death and renewal of individuals is of vast importance in the existence and advance of any race of beings. I question whether Nature's law is a tendency to death "soon after the cessation of reproductive life," but rather "as soon as the individual has ceased to be of use to the race." If the former were the law lees and other practically neuter beings could not exist, and it is difficult to see how women could be as long (or even longer) lived as men, for that they should inherit the length of years of their fathers, and to defeat the law, lees not seem a satisfactory explanation. On the other hand, it is difficult to exaggerate the importance of women's post-reproductive life to the race in the past and amongst the less civilised at the present day. During these years she provided food and raiment, nursed the sick not only administering but also preparing her various remedies, and by her skill and knowledge

was of more immediate importance to the well-being of the race than her youthful sister. Modern civilisation and invention have destroyed her usefulness, and it is possible, but scarcely probable, that the increase of carcinoma, which especially attacks women during these years, is Nature's first effort to remove these useless individuals!

Let me hasten to add, with Dr. Campbell, that I do not advocate any startling measure of reform for the employment of women, but if women in their youth could be taught some useful employment, they might spend these years to their own good and to the advantage of the race. His suggestion of a selection of parents has often been discussed before, and is a fascinating idea, but we have not, and probably never shall have, either the power or the skill to carry it out.

I am, Sirs, yours faithfully,

Ottery St. Mary, June 15th, 1900. CLAYTON JONES.

"THE RELATIVE VALUE OF SYMPTOMS IN ACUTE PERITONITIS."

To the Editors of THE LANCET.

SIRS,—I value very highly Mr. Mansell Moullin's appreciation of my article on "The Relative Value of Symptoms in Acute Peritonitis" and regret that he cannot agree with my main contention as to the necessary presence of true rigidity of the abdominal walls in that condition. May I point out that the position stated in my paper does not depend upon the three cases mentioned therein, these being only given as more or less typical, but upon more than 20 years' careful examination of hundreds of cases. On the other hand, Mr. Mansell Moullin brings forward one case which was not, so far as his communication goes, proved by post-mortem examination. This case was, he says, septic and may well have been one of septic intoxication or septic poisoning, in which the initial or repeated doses of poison totally preclude from the first all reactive or protective efforts on the part of the peritoneum, which I conceive are the essence of peritonitis. Peritonitis in these cases never occurs; it has never any chance of existence.

Mr. Mansell Moullin mentions abdominal cramp as a close imitation of the characteristic rigidity of acute peritonitis, and I quite admit this, but such cramp is, after all, only an imitation fairly easily detected, and one which, I am sure, would never deceive Mr. Mansell Moullin or any other abdominal surgeon whose sense of touch and whose patience were fully trained.

I confess that I cannot agree with, or even admire, the ingenuity of the logic which declares that our diagnosis will be the more reliable in proportion as we realise the total unreliability of the factors which constitute it. But, after all, this is a principle which can neither be proved nor disproved by the mere *ipse dixit* of any one man. If my surgical and gynæcological *confrères* would look for and record the presence or absence of this symptom in each case the question would soon be settled. In the meantime I can confidently recommend the test, whatever may be thought of the explanation, which I have ventured to propound.

I am, Sirs, yours faithfully,

Manchester, June 18th, 1900. E. STANMORE BISHOP.

To the Editors of THE LANCET.

SIRS,—Many will agree with Mr. Mansell Moullin that Mr. Stanmore Bishop's rigidity of the abdominal walls is not absolutely diagnostic of peritonitis and also is not essential; that a marked rigidity may be found in such cases as gastric ulcer or hysteria without peritonitis; and that rigidity may not be present during the first stage of shock in perforative peritonitis nor even at all during some cases of peritonitis due to perforation in typhoid fever.

Mr. Bishop omits in his catalogue the more important fact mentioned in Mr Treves's graphic description, "abdominal respiration ceases" This is invariable even when rigidity is absent; if general peritonitis exists the whole abdomen is motionless during respiration except that a slight reversed motion may be caused in the upper part by dragging in of the abdominal wall by the exaggerated thoracic movement in inspiration. Abdominal respiration is not abolished by any of the colics or intestinal pains and its absence seems therefore a better sign to rely on than rigidity.

I am, Sirs, yours faithfully,

Brighton, June 18th. WALTER BROADBENT.

HORSE AMBULANCES.

To the Editors of THE LANCET.

SIRS,—The subject of the provision of a horse ambulance in towns having been raised in a recent issue of THE LANCET, may I relate to you what has been done in this direction in Oxford, which, so far as I know, is the only place where facilities of this kind are available? About 20 years ago a private subscription was got up and a horse ambulance purchased. It has been kept at one of the livery stables which has the advantage of a telephonic service and is thus in connexion with the hospitals and with the Acland Nursing Home. Anyone can have the use of it for about an ordinary cab-fare. Three years ago, the first ambulance having become somewhat worn out, a second horse ambulance was obtained, also by private subscription, and is in constant use. A nurse and medical man can travel with it when necessary. It is also used for local military purposes in connexion with the Oxfordshire Yeomanry.

I am, Sirs, yours faithfully,

Oxford, June 19th, 1900. HORATIO P. SYMONDS.

To the Editors of THE LANCET.

SIRS,—I notice that the subject of public ambulances has been mentioned more than once in THE LANCET recently. May I be permitted to point out to you that we have had such a one in Oldham for about two years or more. It was presented to the town, is kept at the fire-station, horsed by the fire brigade horses, and worked by the firemen, all of whom hold St. John Ambulance certificates. It turns out within one minute of receiving a call. One evening during the severe weather last winter in a blinding snowstorm there were no less than five calls for its services.

I am, Sirs, yours faithfully,

Oldham, June 20th, 1900. EDWARD KERSHAW.

PLAGUE IN AUSTRALIA.

(FROM A SPECIAL CORRESPONDENT.)

THE returns of plague in Sydney for the week ending May 5th are as follows: remaining at the beginning of the week, 75; admitted, 38; died, 10; discharged, 4; remaining at the end of the week, 99. The total cases are now 193 and the total deaths are 63; the number discharged recovered is 31. Total "contacts," 1130; "contacts" remaining, 235; cases among "contacts," 7. It is doubtless understood that the "cases among contacts" are those of persons who fell ill at the isolation ground, having been removed there merely as housemates of the primary patient; it must not be supposed that in any case there was good reason to think that the infection had been received by direct communication from the primary patient. Thus, as regards the first four contact cases mentioned at the beginning of March (D——), the infection was clearly received about the same time in the same place; in the second instance the second patient fell ill immediately after his removal; and in the third and fourth cases now added illness began 24 and 48 hours after removal respectively. The true history of the infection of five of the eight members of the D—— family seems now to have been got from the father since his recovery. It was at first thought that the four children had been in the habit of playing on a very extensive rubbish heap to which wastes continued to be removed by the city council long after the wharves from which much of it was taken had become a manifest centre of infection. Subsequently it appeared probable that the children never had been on this heap at all. Lastly, D——, after his recovery, said that a certain little outhouse in the yard attached to his cottage, which was used to hold both dirty linen and discarded bits of carpet, &c., was a place in which the younger children played; that as soon as the youngest child had been removed to the hospital where he died he cleaned out this place and found under the clothes and rags four dead rats. It has been noted already that these premises were full of fleas in extraordinary number and that the children were covered with their punctures from head to foot; it is now to be observed that the only members of the family attacked were the younger children and their father who cleaned out the place in which they often played.

Thus it seems that evidence of infectiousness is as much

wanting at this date as it was earlier in the epidemic From this point of view, however, the following occurrence has more interest A girl was taken from a cottage, occupied by a small family, all of whom were removed as contacts, after five days' detention, during which the cottage was disinfected and cleansed, the family returned The patient had but a moderate illness and an inguinal bubo which did not suppurate, she was discharged at the end of 23 days in very good health and rejoined her family Ten days later a little boy was attacked with plague As far as can be learned he must have received the infection in the cottage from which he had not been away, and there is no doubt at all as to the disinfection and destruction of the original patient's personal clothing, all other material in the cottage having been disinfected by steam or otherwise and having been used by the family (including the second patient) during all of the 33 days between the removal of the girl and the attack of the boy, except the first five of them The cottage was very well kept and stood in a good street in a poor neighbourhood, it was properly connected with the sewers and with the water service But it was a survival from older days, it was built of weatherboard, the joists almost touched the earth, and the floors were rotten and shaky Rats had been present before removal of the first case, but in no great number, and it was said that none at all had been seen since the family had returned The locality was within a few hundred yards of the rubbish tip already mentioned The floors have not yet been torn up, but this will be done, and half a dozen similar cottages in the street will be presented to the local authority as unfit for habitation

The past week has yielded more cases by nine than any previous week, and it is now evident that the localities in which the infection is present extend to a much greater distance from the primary infected area than hitherto Nevertheless, a large proportion of cases can be connected with that area by employment within it, although the number occurring in rather distant neighbourhoods, whose infection cannot at all be accounted for on that hypothesis steadily increases Plague rats have now been found in many different neighbourhoods also but the connexion between them and new cases has not been as thoroughly examined as it was hoped would be the case, the scarcity of rat catchers or the disinclination of any there may be to continue their business at this critical juncture being surprising

The bacteriologist to the Health Department (Dr Frank Tidswell) has observed the bacillus in the intestinal contents of a flea taken from a plague rat Simond is doubtless right in saying that fleas taken by him from rats in India were grey, whether there be any flea peculiar to the rat here and distinguishable by others than entomologists from ordinary kinds is an unanswered question All that can be said is that those so far examined have presented the usual appearances, being from reddish brown to blackish brown in colour, and of all sizes up to that of the monster popularly associated with dogs Valentin-Gallia's remarks on this topic[1] are hardly convincing and in one respect at least unphilosophical, his rat fleas would not bite him, but that proves nothing, for no flea whatever will bite the present writer, and many other people doubtless, nor does Netter[2] for a similar reason contribute anything of importance to the subject There is hope for some, therefore, that they may escape infection by fleas even without the aid of the neat velvet bracelets and anklets containing formic aldehyde in some form, which an ingenious French manufacturer has put upon the Paris market

The specimen of Yersin Roux serum referred to in my last letter turns out to have been forwarded in response to the well meant interference of the Consul General for France The Pasteur Institute had already sent to the Agent-General at London four litres for transmission to the Government and they are [illegible] the ten [illegible] by the [illegible] who are [illegible] others [illegible] the Past [illegible] follow [illegible] which they [illegible]

[1] Archives de Bactériologie.
[2] Lancet [illegible] p. 74.

The Government has undertaken resumption of the line of wharves so often referred to in this connexion, and of property at the back of them, with a view to reconstruction, the expenditure will be between £3 000,000 and £4 000 000 sterling Quarantining and cleansing of successive areas still continue It is noteworthy that only one of the men engaged on this work has taken the disease, the number employed has usually, or on an average, probably been 1500, but it has run up to near 3000, and in several weeks has been 2000

May 7th

THE UNIVERSAL EXHIBITION AT PARIS.

(FROM OUR SPECIAL CORRESPONDENT)

SURGICAL INSTRUMENTS AND FURNITURE

GROUP III is devoted to letters, science, and the arts, and Class 16 within this group is entitled Medicine and Surgery This class situated at the extreme end of the westerly wing of the main building on the Champ de Mars and close to the Eiffel Tower. On entering at this point and turning to the left the word "Surgery" is written upon one of the partitions, but on passing will in I was at once assailed by anxious inquiries as to my eyesight, and one eager exhibitor was particularly desirous that I should try a pair of pebble spectacles Gently releasing myself from these allurements I was next subjected to suggestions that I really ought to provide myself with some elegant opera glasses but I pushed towards a row of trumpet mouthed phonographs which, though they sang or spoke yet did not urge me to buy Now I came upon a discreetly veiled off partition so built that the passing crowds could not see what might be exhibited within Doubtless this was an arrangement to prevent nervous persons from being shocked by coming suddenly upon some sinister anatomical model or specimen Making a mental note of this delicate discretion, I braced up my nerves and entered the compartment, quite prepared to see loathsome models of lupus or some other repugnant malady In my surprise I found myself in a delightful oasis of tranquil scenery On all sides there were small stages about two feet square, brilliantly lighted from within, and on each stage one of the most elaborate and romantic scenes from a well known play or opera It was very pretty, very interesting, very ingenious, and made me feel quite sorry that I was not a theatrical critic There was, however, not even any indication as to how these model stages were warmed or ventilated so I had no pretext whatsoever for remaining in this charming little exhibit, and then it occurred to me that as Class 16 was undoubtedly in this part of the building, it must be in the large gallery above and not on the ground floor Having ascended the nearest flight of stairs I found myself at once face to face with a life size model of an individual, perfect in every respect, excepting that he had no skin and therefore exhibited his muscles, tendons, and the [illegible] There was no waiting off here, no discreet curtains [illegible] in such subjects might [illegible] are fully exposed and them, but they are not numerous Close by, and [illegible] "Microphotography of the Broca Hospital Gynæcological service of Dr Pozzi, is a large collection of coloured photographic enlargements of microbes There is here the subject matter of a useful study, and this exhibit will not fail to attract considerable attention among practitioners who treat more especially the diseases of women

Close by are numerous exhibits connected with the treatment of various diseases, such as, for instance, the Maison Pay Laurent for bandages, trusses, &c This firm has [illegible] trivance by which the pad of a truss is replaced by an inflatable rubber bag When in proper position the rubber bag can be filled by a funnel with liquid plaster which, drying in from 10 to 15 minutes, constitutes a very exact mould of the shape and size of the pad required M A [illegible] M E Morin, and M C Legrier, all of Paris, exhibit [illegible] bandages, stockings for varicose veins, [illegible] apparatus [illegible] Messrs Mac [illegible] elastic stockings and M Abiloux has orthopædic [illegible] M A Brugge [illegible] wooden legs and [illegible]

limbs, and M. F. Lacroix makes ventilated orthopædic supports, &c. M. L. Gaillard has a very large assortment of sounds, bougies, and cannulæ that can be easily sterilised; while Messrs. Bühler et Cie have some small flexible metal tubing through which gas, water, or vapour can be passed under pressure. This tubing can be bent round and round so as to form a cone or cap that may be placed on the head of a patient and when fed with a cold current of water would replace an ice-bag. In the same manner the tubing may be twisted round a limb and applied for many and various purposes.

Amid many other exhibits of this character the firm of Messrs Flicoteaux, Borne, and Boutet show an operating-room and all the appropriate furniture. On an enamelled hardware slab or table four thick glass basins are placed. Above, suspended to the wall, four glass reservoirs provide water for these basins which flows from a small nickel tube and the water is turned on by placing the foot on a lever below. In the centre of the table there is a trapped drain-pipe to carry away the dirty water. It all appears to be quite aseptic; but on passing my hand underneath this washstand I found that it was only the upper outer surface that had been enamelled and that dust was adhering to the hardware which underneath had been left in a rough and unglazed condition. How far this is porous I cannot say, but all who have had experience in testing drain-pipes are aware that hardware is porous and does absorb water. If enamelling is necessary above where dirt can be seen and washed away, it is still more necessary underneath where dirt and dust cannot be seen. The operating-table close by is probably the simplest table in the Exhibition. It consists of a small slab of opaline—i.e., a mixture of glass and porcelain. By a wheel and crank it can be lifted or made to slant, but to hold the limbs in a bent position attachments have to be affixed to this one rigid slab. Simplicity of structure and the aseptic nature of the material used is about all that can be said in favour of this operating table. But the same firm exhibits a stretcher on wheels, designed by Dr. Monprofit, and so contrived that the patient can be replaced in his bed without being lifted off the stretcher. The patient lies on two thin slabs of enamelled metal held close together by an iron frame. This can be lifted off the wheels and placed on the bed. The frame is then unscrewed and the slabs, thus released, can on each side be easily drawn away from underneath the patient. Messrs Flicoteaux, Borne, and Boutet have supplied many well-known hospitals with their various products.

M. S. Favre of Paris, exhibits a new pocket bistoury. It is in a small case, only three inches long, containing a handle and six different sorts of blades. He also shows sterilisers in which ebullition is produced very rapidly.

M. R. Mathieu of Paris has several interesting exhibits, and notably the Déchery cautery. This is composed entirely of metal. The hollow handle is charged with ether. A little spirit lamp is fitted to the case which contains the cautery. When warmed over this lamp the platinum point becomes red hot in two minutes and remains in that condition while the supply of ether lasts There are also some very ingenious crushing clamps and clamps for seizing, without injuring, the intestines For the latter purpose there is on one side a metal oval-shaped ring covered over with an indiarubber glove-finger. Opposite a small rod is also covered with indiarubber. The handle, like that of a pair of scissors, brings this rod against the soft centre of the indiarubber covering on the oval side. Thus the pressure of metal against metal is avoided. This firm has distinguished itself in the manufacture of dynamometers. For the most part they have the shape of a vesica about five inches long by two and a half inches in the centre or broadest part. It can therefore be conveniently held in the centre of the hand and squeezed. The novelty consists of clockwork in the centre which records the number of seconds the pressure continues and gives a loud tick when the muscular effort ceases to produce any further result. A handle records on a dial and in grammes what that pressure has been. By passing a finger from each hand inside the extremities of the oval or vesica the power of pulling asunder can then be tested, the result being similarly recorded. To other dynamometers a vesica is attached, large enough to be placed under the arm or between the legs, and the power of squeezing the legs together or of pressing the arm against the side can be ascertained. Thus four different tests can be made with the one instrument. This is often necessary. By holding the dynamometer in one hand and squeezing I found that the representative of the firm who showed me these instruments was very much stronger than I am. But when I took the instrument with both hands and tried to pull it asunder it was demonstrated that my pull was stronger than his. Thus one single test would have conveyed a totally false impression of our respective strengths. These instruments cost from 35 francs to 150 francs. Colonel de Rochas, Director of the Polytechnic Military School, in his "*Exteriorisation de Motricité*," remarks that persons holding Eusepia Pallidino's hands generally complained of great exhaustion at the end of 20 to 30 minutes. This led him to employ a dynamometer of this description, and he thus discovered that after experiments during which remarkable phenomena are said to have been produced the persons present had between them lost enough strength to make up the strength of an average adult. There is also a dynamometer made for the purpose of estimating with great precision the amount of pressure necessary to reduce hernia. Finally, it may be noted that this firm also manufactures the apparatus used for straightening malformations due to Pott's disease or spinal curvatures, and which is employed at the celebrated hospital of Berck-sur-Mer.

Unfortunately for these exhibitors they are very badly situated. The Exhibition is so large, people are so soon tired that many have not the courage to go up to the galleries. When, however, they do ascend to these upper regions they soon discover that they are much nearer to the glass roof of the great gallery and therefore feel the heat much more intensely. In fact, the atmosphere is that of a hothouse. The ventilating fans that are exhibited and stand idle in their particular section might here be put to a very useful practical test. Downstairs in the British section, I found but one exhibitor of hospital furniture and surgical instruments. This was the firm of Messrs. Down Brothers, and they have manufactured a new operating table expressly for the Exhibition. The table is on wheels, or rather on large improved casters that are on ball bearings like those used for bicycles. Therefore the table, in spite of its great weight and the weight of the patient who may be on it can be moved about with the utmost facility and with hardly any effort. Similar casters are used for all the other furniture and are particularly useful for the very heavy instrument cabinets. These, in consequence of their weight, are apt to be left indefinitely in their position against a wall. Consequently the space behind does not get cleaned. But now there will be no excuse for not washing and dusting behind as well as in front of all such furniture, since it is so easily moved. With regard to the operating table, if it is convenient on certain occasions that it should be moved without effort, it is essential that during an operation it should be absolutely steady. Consequently there is a lever arrangement by which the casters are raised and the table then rests on broad, flat feet and a very strong push will not move it. The next point is that due account has been taken of the fact that operating surgeons, like other mortals, vary in stature. The table is so built that its general level can be raised or lowered for a distance of nine inches so as to suit each individual operator, whether tall or short. The surface is of perforated nickel-plated metal. Underneath this there is a metal trough bed draining in the centre. The head, trunk, and limbs of the patient can be raised or lowered and put in any position. There is also a rest that can be attached to any side of the table, to support a leg or an arm or to serve as an instrument tray. The framework of the table is made of tubes, through which hot water can be made to circulate. The attachments are so arranged that the whole or only a part of the table can be heated, and if any portion of the body is raised so are the hot-water tubes; therefore the patient is not removed from the heat-giving surfaces. There is an extra trough for douching in lithotomy, &c., and this can be added to either end of the table. All the joints are of gun-metal, this, with nickel and glass, being the only materials employed for the operating room furniture. Where a glass shelf is used the corners are rounded off, so that everything is easily cleaned. The screw portion for raising the operating table is covered over, so that dust cannot lodge in the indentures. The framework of all the furniture is of drawn metal and there is no soldering, so that it cannot come to pieces. A large glass cabinet contains many beautiful instruments, notably a new cutting forceps for the resection of

ribs, the blade pressing down on a slot which is open in the centre. Then there are Beter's bone forceps. When the bone is properly gripped the forceps can be fixed by means of a screw contrivance in the handle. The operator's hands are then free to apply the sutures, &c. The lithotrite suggested by Mr. H. M. N. Milton, c
It is so arranged that the
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cemen be seen here,
making altogether a very complete surgical exhibit.

Of course there is much more appertaining to Class 16 shown elsewhere, both in the French section and among the exhibits of other nationalities, but a description of what has been omitted must now be deferred to another occasion.

Paris, June 18th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Home for Epileptics, Maghull.

THE annual meeting in connexion with the "Home for Epileptics" at Maghull, near Liverpool, took place on June 16th, under the There were 120 patients in 1899 During the year 20 patients died, and 27 were admitted, leaving 123 inmates at the end of 1899 Arrangements had been made with the Education Department for carrying on during the past winter an evening continuation school and also for giving technical instruction to such patients as were capable of receiving it The school had proved a great success and the managers are in hopes of receiving a Government grant towards the expenses. The plan of remunerating patients able and willing to undertake fixed duties had proved satisfactory, and in many instances the remuneration received had been equivalent to the value of their maintenance, the cost of rent and nursing being provided partly by payments of friends and partly by donations. To enable them to carry out the project the committee are desirous of a sum of £750 to meet the initial expenses of buildings, implements, and stock, and a guarantee fund of £250 a year for five years towards rent and nursing. It would be possible to purchase a suitable farm in the neighbourhood of the present "home" if a sum of £5000 could be raised for that object. In order to bring about a better social classification of the patients it had been decided one" vants, £3500 The prove- ghull, which mainly owes its origin, among others, to Dr William Alexander of the Royal Southern Hospital and the Workhouse Hospital, was established 11 years ago and was the first of its kind in the kingdom. The Lord Mayor said that a portion of the Manchester money of the David Lewis Trust was to be devoted to the establishment of a similar home near Manchester. The Lord Mayor promised to give a donation of £50 to the Maghull Home.

Hospital Saturday Fund: Ladies' Street Collection.

The annual street collection made by ladies on behalf of the Hospital Saturday Fund took place on June 9th The collection realised £937 10s. 11d., which is about equal to the sum collected last year.

Death of Mr. Alfred Fisher, M.R.C.S. Eng., L.R.C.P. Edin.

Much regret is felt at the death of Mr. Alfred Fisher, which took place on June 17th from pneumonia after a very short illness. Up to the last few days he had been apparently in robust health, but he was taken suddenly ill during the night of June 14th. Mr. Fisher, who was only 37 years of age, was formerly house surgeon at the Northern Hospital. He was of an extremely affable disposition and much sympathy is felt for his widow and child.

The Health of St. Helens in 1899.

The annual report on the health of the borough of St. Helens, by Dr. Drew Harris, the medical officer of health, stated that the birth-rate for 1899 was 35 97 per 1000 of the population, or 2 52 per 1000 lower than the preceding year. The death-rate was 19 16 per 1000, or 0 21 per 1000 above the previous year, and 2 2 per 1000 below the average of the preceding 10 years. It was the lowest death-rate except two on record for the borough A satisfactory feature of the report was the great saving of infant life during the year which had been brought about by the expenditure of time and money which the Health Committee had devoted to the subject. The rate of mortality among infants during the year was 157 as against 172 in the preceding year, and a mean rate of 172 in the last 10 years. The rate for England and Wales last year was 163. Thus was the first occasion upon which the infant mortality rate in St. Helens had been lower than that of England and Wales In the early part of the year a list of all the births registered in the registrar in order that might visit the parents and le A depot upon the model of that at Précamp and at Havre was opened later in the year for the supply of sterilised humanised milk, which had proved a great boon to the infants of the poorer class. The death-rate from typhoid fever was 0 43 per 1000, or 0 03 below the mean for the previous 10 years The number of cases notified was 221, in the previous 588; the total

June 19th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Irish Medical Association and the Superannuation of Medical Officers.

A DEPUTATION consisting of Sir Thornley Stoker and other members of the Irish Medical Association, waited on Mr. John Redmond, M.P., at the Imperial Hotel, Dublin, on June 13th with respect to the superannuation of medical officers. Dr Joseph Smyth of Naas stated the case on behalf of the Irish Poor-law medical officers with much ability remarked that the Superannuation Bill now advo should made replying to the deputation, said that the objects of the Association met with his entire sympathy and he promised, moreover, that when the Bill came before Parliament the support of the Irish national party might be relied upon.

The British Association.

On June 13th a public meeting summoned by the Lord Mayor in response to a numerously signed requisition was held in the council chamber of the town hall, when, on the motion of the Earl of Shaftesbury, D.L., seconded by the decided to renew the to visit Belfast in 1902. pointed to present this invitation at the forthcoming meeting of the Association in Bradford. The last meeting in Belfast was in 1874 when the President (Professor Tyndall) and Professor Huxley gave their famous addresses.

Londonderry City and County Infirmary.

A special meeting of the committee of management of the Londonderry City and County Infirmary is to be held next week to consider the question of the proposed rearrangement of the medical staff. Previously to the death of Sir W. Miller, there was only one extern medical officer, but a sub-committee who were appointed to consider the future management of the institution have after careful consideration and after having received suggestions from the medical men of the city and county of Londonderry recommended that there should be an honorary visiting staff and a resident surgeon. They also advise that the resident surgeon should have full charge of the management and administration of the infirmary as directed by the committee of management and give assistance to the visiting staff in all cases. They recommend that the extern staff should consist of two physicians, two surgeons, and one anæsthetist.

The Belfast Hospital for Sick Children.

Dr Brian O'Brien has been appointed assistant surgeon to the Belfast Hospital for Sick Children in place of Dr. James Lynass, resigned.

June 19th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Experimental Treatment of Tuberculosis by means of Raw Meat and Meat Juice.

M. Richet and M. Héricourt, pursuing the line of research which they have already undertaken and which I mentioned in a previous letter, communicated to the Society of Biology at the meeting held on June 2nd the latest results which they have obtained. They inoculated a certain number of dogs with tuberculosis and separated them into three groups. The dogs composing the first group were fed upon ordinary food and died at the end of three or four weeks. Those in the second group were fed upon cooked meat and lived very little longer than did those in the first group. Those in the third group were fed solely upon raw meat and remained in perfectly good health at the end of six months from the beginning of the experiment. The curative influence which a raw meat diet possesses over tuberculosis experimentally produced in dogs is thus established, for it is almost unknown for a tuberculous dog living under ordinary conditions to last for more than three months. Raw meat juice appears to have the same action as that of raw meat. M. Richet and M. Héricourt have also ascertained that this effect of raw meat has a prophylactic as well as a curative action. Two dogs which had been fed for many months upon raw meat and meat juice were inoculated and are alive at the present moment despite the fact that after the inoculation they were taken off the special diet and put upon ordinary diet. Control dogs inoculated at the same time, but which had not been prepared by being fed upon the special diet beforehand, are dead long ago. The two observers have also investigated the dose necessary to obtain success. One dog received a daily dose of raw meat in the proportion of five grammes per kilogramme of body weight. Another received 12 grammes per kilo., a third 32 grammes per kilo., and a fourth 64 grammes per kilo. The first dog died while the three others remained well. M. Richet and M. Héricourt therefore consider that to preserve a dog from the effects of an inoculation of tubercle it must be given a minimal dose of from 10 to 12 grammes per kilo. of body-weight every day. The active principle is evidently a soluble substance, for if the meat is chopped up and pressed to deprive it of its juice, a second pressing after moistening with water produces an absolutely inactive fluid, even after the meat has been allowed to soak for 24 hours. These facts confirm the results formerly obtained by Malassez and Vignal who laid stress upon the importance of muscular "opotherapy" in tuberculosis. They had noticed that tubercle never developed in muscles and concluded that meat juice contained some plasma inimical to the evolution of tubercle.

The Increase in the Paris Supply of Drinking Water.

The supply of water from the springs of Loing and Lunain, works for which have been in progress for many years, are now complete. The aqueduct is 100 kilometres in length, the quantity of water delivered is ample, and the works cost 24,000,000 francs. By this means even during great spells of heat Paris will have a plentiful supply of drinking water, and the fears which have been entertained of a water famine during the Exhibition are shown to be unfounded.

The Small-pox Epidemic at Lyons.

The epidemic of small-pox at Lyons still continues. The populace is very averse to revaccination, and to lessen the necessity for the workman losing half a day's work by having to attend at the vaccination station the public vaccinators are offering vaccination at workmen's houses, going from door to door to try to persuade the people to profit by revaccination. M. Roux and M. Pic have tried this plan in the working-class quarter; but have been met everywhere by formal refusals. Out of 700 hands employed by one firm only 10 have consented to be revaccinated and that only by a medical man specially supplied by the head of the firm. M. Rafin, acting in similar circumstances, has only been able to revaccinate 20 out of 300 hands. He considers that the dry sweeping (*balayage à sec*) of staircases which is the custom in Lyons is a fruitful cause of the dissemination of infectious diseases and M. Delore makes the same remark in so far as regards the custom of beating carpets in courtyards.

The Geographical Distribution of Goitre in France.

At a recent meeting of the Academy of Medicine M. Poncet of Lyons communicated to the Academy the results of some statistics drawn up by M. L. Mayet relative to the distribution of goitre in various districts of France. The figures on which the statistics were based were taken from the returns furnished by provincial councils of the physical examination of recruits enrolled each year. These documents, which cover the period 1887–1896, have enabled M. Mayet to divide the departments of France into six groups classified according to the number of cases of goitre per every 1000 conscripts. The classification shows plainly that goitre is not distributed in a haphazard way, for the departments most effected are grouped in blocks occupying the regions of the Alps, the Pyrenees, the Central Plateau, the Jura, and the Vosges. The departments of the Aisne and the Orne alone show up as black spots in otherwise unaffected districts. M. Mayet has compared these figures with others for past periods, the one from 1816 to 1825 and another from 1836 to 1845. He concludes from these that the distribution of goitre is still much the same as before but that its amount has diminished, especially within the last 50 years. The number of those affected with goitre in France has diminished but it is not known exactly in what proportion. M. Mayet considers that probably the total number of goitrous people is between 375,000 and 400,000.

June 19th.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At the Congregation on June 14th the following degrees were conferred:—

Degree of Doctor of Medicine.—J. W. Cornwall, Trinity; and W. E. Alston, Clare.

Degree of Bachelor of Medicine.—E. W. Hedley, King's; and R. S. Trevor, Clare.

Degree of Bachelor of Medicine and Bachelor of Surgery.—W. S. Darby, Trinity; J. H. Tallent, St. John's; G. F. Lobb, Caius; S. P. Pollard, Caius; J. W. Malim, Christ's; T. Burfield, Emmanuel; and D. G. Hall, Emmanuel.

Degree of Bachelor of Surgery.—L. J. Paton, Caius.

At the examinations for medical and surgical degrees, Easter term, the following candidates were successful in the subjects indicated:—

FIRST EXAMINATION.

Part I., Chemistry and Physics.—W. A. Alexander and E. E. Atkin, Caius; R. L. Barwick, Christ's; H. Beckton, M.A., Clare; A. E. Bellars, Magdalene; P. Black, Caius; C. W. Bowle, Trinity; R. Burgess, Caius; G. G. Butler, Emmanuel; D. V. Cow, Trinity; F. D. Crew, Emmanuel; J. N. F. Fergusson, St. John's; A. C. D. Firth, Trinity; R. L. Gamlen, Caius; H. P. B. Gough and G. F. Greenwood, Sidney Sussex; J. M. P. Grell, H. Selwyn; H. S. Hall, Pembroke; G. S. Haynes, King's; A. W. Hayward, St. John's; R. A. P. Hill, Caius; W. H. Hodgson and R. Hoisington, Christ's; C. W. Hutt, Trinity; T. A. Jones, Caius; W. D. Keyworth, H. Selwyn; F. P. Luard, Downing; A. Morris, A. H. Owen, and M. Phillips, Caius; W. O. Pitt, Emmanuel; S. B. Priston, St. John's; A. C. H. Rothera, Emmanuel; C. E. F. Salt, Pembroke; F. S. Scruby, H. Selwyn; E. F. Skinner, Corpus Christi; P. H. Smith, Pembroke; P. L. Stallard, Caius; B. S. Taylor, M.A., Clare; R. S. Taylor, Downing; H. A. R. E. Unwin, H. Selwyn; J. A. Venning, Trinity; G. L. Webb, Caius; C. W. H. Weekes, H. B. Weir, and W. de L. Winter, Trinity; and H. N. Wyman, Caius.

Part II., Elementary Biology.—W. A. Alexander and E. E. Atkin, Caius; J. B. Banister, Jesus; E. Beaton, Caius; H. Beckton, M.A., Clare; A. E. Bellars, Magdalene; T. R. H. Blake, Pembroke; C. W. Bowle, Trinity; W. T. Briscoe, H. Selwyn; G. G. Butler, Emmanuel; A. F. Comyn, Pembroke; A. I. Cooke and H. B. Corry, Caius; D. V. Cow, Trinity; E. A. Crossley, Clare; R. Davies-Colley, Emmanuel; E. F. de Clermont, King's; A. N. Dickson, Downing; J. N. F. Fergusson, St. John's; A. C. D. Firth, Trinity; R. L. Gamlen, Caius; L. H. Goh, Emmanuel; G. W. Goodhart, Trinity; H. P. B. Gough, Sidney Sussex; W. B. Gourlay, Trinity; W. B. Grandage, Clare; H. T. Gray, Trinity; G. F. Greenwood, Sidney Sussex; J. M. P. Grell, H. Selwyn; H. S. Hall, Pembroke; Eric F. Harrison, Trinity; G. S. Haynes, King's; A. W. Hayward, St. John's; R. A. P. Hill, Caius; R. B. Hoisington, Christ's; C. W. Hutt, Trinity; R. S. Jenkins, St. John's; T. A. Jones, Caius; W. D. Keyworth, H. Selwyn; B. T. Lang, Trinity; H. M. J. F. de P. P. Leite, Caius; [illegible] J. W. Linnell, St. John's; F. P. Luard, [illegible] St. John's; J. McIntyre, King's; A. W. M[illegible] Moore, B.A., and H. F. G. Noyes, Caius; G. G. Packe, Trinity; F. W. M. Palmer, B.A., Jesus; W. O. Pitt, Emmanuel; H. W. Pocock, Caius; S. B. Priston, St. John's; E. S. Purkis, H. Selwyn; A. C. H. Rothera, Emmanuel; D. W. Roy, Sidney Sussex; F. S. Scruby, H. Selwyn; R. B. S. Sewell, Christ's; P. H. Smith, Pembroke; P. L. Stallard, C. Strickland, and A. C. H. Suhr, Caius; D. W. Tacey, B.A., Christ's; R. S. Taylor, Downing; H. A. R. E. Unwin, H. Selwyn; B. Wallis, Trinity; G. H. H. Waylen, King's; G. L. Webb, Caius; H. B. Weir, Trinity; W. P. Williams, Downing; W. de L. Winter and J. L. Wood, Trinity; L. Worrall, B.A., Christ's; and H. N. Wyman, Caius.

SECOND EXAMINATION.

Part I., Pharmaceutical Chemistry.—L. J. Austin, Sidney Sussex; A. L. Baly, Emmanuel; A. S. B. Bankart, Trinity; J. D. Barris, Caius; E. Bell, Clare; G. L. Cox, Christ's; L. G. Davies, Trinity

T. Drysdale, Jesus, N. C. Fletcher, B.A., Queens'; R. E. French, King's, [illegible] lynn, Clare, R. E. G. [illegible] V. Hodge, Emmanu[illegible] Clare, C. L. Isaac, B[illegible] [illegible]chen, B.A., Sidney [illegible] Maclennie, Trinity, [illegible] Pembroke, S. H. Nixon [illegible] J. Robinson, Downing, F. F. Shout, Caius, G. C. E. Simpson, St. John's, P. S. Stephens, Trinity, W. H. E. Stewart, Caius, and F. P. Young, Christ's.

Part II. Human Anatomy and Physiology.—H. Ackroyd, B.A., Caius, A. E. Barclay, B.A. Christ's, H. N. Burroughes, B.A., A. Clare, R. A. Clapham, B.A., [illegible]nity; J. S. Cooper, B.A., Jesus, W. B. C. W. Cunnington, B.A., Non-A., and J. H. Donnell, B.A., Caius. Etherington Smith, B.A., Trinity, [illegible]e, F. Gayner, B.A., King's, H. C. [illegible]y. Greene, B.A., Downing, C. F. [illegible]. Hardy, B.A., Trinity Hall, [illegible] B.A., Trinity, H. [illegible] Trinity, H. [illegible] Trinity, G. [illegible] J. N. Robins, B.A., and J. [illegible] Wigram, B.A., Trinity, and S. L. O. Young, B.A., Christ's.

VICTORIA UNIVERSITY.—The Council has decided on the award of the following degrees, which will be conferred by the Chancellor, Earl Spencer, K.G., on June 30th, at the Free Trade Hall, Manchester:—

Degree of Doctor of Science.—H. T. Ashton, W. H. Bentley, F. W. Gamble, and George Wilson, Owens.
Degree of Doctor of Medicine.—Hubert Armstrong University, and Alfred Greenwood, J. A. MacLaren, W. A. Newall, and F. W. Stansfield, Owens.

FOREIGN UNIVERSITY INTELLIGENCE.—*Baltimore (Johns Hopkins University):* Dr. F. S. Cullen and Dr. W. W. Russell have been appointed Professors of Gynæcology.—*Berlin:* Dr. Albert Eulenburg has been promoted to an Extraordinary Professorship. He was formerly Professor of Pharmacology in the University of Greifswald.—*Bologna:* Dr. Serafino Patellani of Parma has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Chicago (Rush Medical College):* Dr. Henry Favill has been appointed Professor of Therapeutics.—*Genoa:* Dr. Angelo Becco of Rome has been recognised as *privat-docent* of Topographical Anatomy and Operative Medicine, and Dr. Rocco Iemma of Naples has been recognised as *privat-docent* of Pædiatry.—*Göttingen:* Dr. A. Cramer has been appointed to the chair of Psychiatry.—*Gratz:* Dr. Alois Birnbacher, Extraordinary Professor of Ophthalmology, has been promoted to an Ordinary Professorship.—*Halle.* Dr. Schick has been recognised as *privat-docent* of Ophthalmology.—*Heidelberg.* Dr. Goppert has been appointed Extraordinary Professor of Anatomy.—*Innsbruck.* A new chemical and pharmacological institute has just been erected.—Dr. Stephan Bernheimer of Vienna has been appointed Professor of Ophthalmology.—*Kiel.* Dr. Paul Sick has been [illegible] of Surgery.—*Königsberg.* Dr. [illegible] of Surgery, has been promoted [illegible] Dr. Tommaso Guido and Dr. Ettore Somma have been recognised as *privat-docenten* of Pædiatry, and Dr. Giovanni Graziani has been recognised as *privat-docent* of Medical Pathology.—*Padua:* Dr. Arslan of Turin has been recognised as *privat docent* of Otolaryngology.—*Palermo:* Dr. Fortunato of Genoa has been recognised [illegible]—*Prague (Bohemian* [illegible] o-moted to an Extra[illegible] al Anatomy; Dr. Carl Kuffner has been appointed Professor of Psychiatry and Neuropathology; and Dr. Jaroslav Bukovsky has been recognised as *privat docent* of Dermatology and Syphilis.—*Rostock.* Dr. Ehrlich has been recognised as *privat-docent* of Surgery and Dr. Scheven as *privat docent* of Medicine.—*St. Petersburg (Military Medical Academy):* Dr. Gerver has been recognised as *privat docent* of Neurology and Psychiatry.—*Strasburg.* Dr. Hans Landolt has been recognised as *privat docent* of Ophthalmology and Dr. Albrecht Lunka as *privat docent* of Midwifery and Gynæcology.—*Vienna:* Dr. A. Eizholz has been recognised as *privat-docent* of Psychiatry and Neurology.—*Würzburg:* Professor Hess of Marburg has been appointed to the chair of Ophthalmology vacated by the migration of Professor von Michel to Berlin.—*Zurich:* Dr. Paul Ernst of Heidelberg has been appointed Professor of Pathology and General Anatomy.

THE WELLCOME CHEMICAL RESEARCH LABORATORIES.—These recently completed laboratories were opened for inspection on June 18th. The building, which is situated at No. 6, King street, Snow-hill, is in the Venetian style of architecture, and consists of four storeys. On the first, second, and third floors are located the different laboratories completely equipped for their purposes while the director of the laboratories, has his library and office on the ground floor. The proprietors would appear to have spared no trouble or expense in making the laboratories complete.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Karl Lange, Professor of Pathological Anatomy in the University of Copenhagen, in his sixty-seventh year. He was editor of the Danish medical journal, *Hospitals Tidende.*—Dr. Friedrich Brosin, a well-known Dresden gynæcologist, whilst touring in Saxon Switzerland. He was only 42 years of age. [illegible] Professor of Neurology in the [illegible] Brooklyn.—Dr. Frothingham, [illegible] logy in the Ann Arbor Universi[illegible] Kuhne, the well known Heidelberg Professor of Physiology.

MAIDENHEAD COTTAGE HOSPITAL.—At a special general meeting of the supporters of this hospital, held at the Town Hall on June 15th, a question of revising the rule as to payment by, or on behalf of, patients was considered in consequence of the generous gift of Mr. W. W. Astor of £10,000 to the institution. After some discussion it was decided that "patients may be admitted to the hospital free of charge, but none shall be admitted without security from some substantial person for payment of the expenses of burial in case of death or of removal, except in cases of sudden emergency. In the case of domestic servants in active service or persons in good circumstances the house secretary may make such charge as he deem proper, not exceeding 10s. 6d. weekly."

THE SCATTERGOOD TESTIMONIAL AND YORKSHIRE COLLEGE, LEEDS.—In May last, at a meeting held in the Philosophical Hall, it was decided to raise funds for a testimonial to Mr. Thomas Scattergood, M.R.C.S. Eng., in recognition of his long and appreciated services to the medical department of Yorkshire College and that it should take the form of a portrait to hang in the medical school. Sir George Reid, president of the Royal Scottish Academy, was the artist selected to paint the portrait, and although it was not finished before Mr. Scattergood's death the likeness is a good one. On June 11th Mr. A. G. Luton, chairman of the council of the college, made the presentation, on behalf of the subscribers, to the family, and Mr. A. K. Scattergood on their behalf afterwards handed the portrait back, to be hung in the medical school. Miss Scattergood was at the same time the recipient of an inlaid wood and silver tea tray as a souvenir, and each member of the family received a bound copy of the resolutions passed by the council and the medical board which testified the esteem in which the late Mr. Scattergood was held by his colleagues. The cash surplus which remains is to be appropriated to founding a prize in the medical school to be called the "Scattergood Prize."

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Midwives Bill.

THE report stage of the Midwives Bill is [illegible] for Wednesday, June 27th—the last Wednesday reserved for the consideration of Bills introduced by private Members. It is doubtful, however, whether it will be reached on that occasion, and there are other hurdles in front of it. So far the Government has taken no [illegible] for the measure and, indeed, it is generally stated that objection is taken to certain of its provisions by the Government.

Inspection of Cows, Sales and Medical Practice.

There is a Bill before Parliament this session, introduced into the House of Commons by the President of the Board of Trade, for the

amendment of the law with regard to registered companies. It deals with such large general questions as the issue of prospectuses and the liabilities of promoters and directors, but in addition it contains a clause of special interest to medical men—a clause declaring that it shall not be lawful for companies to carry on the practice of medicine. It is to be feared, however, that the Bill will not become law during the present session. It has not yet been read a second time and so far the Government has been unable to name a probable date for the second reading.

HOUSE OF COMMONS.

THURSDAY, JUNE 14TH.

The Teaching of Infants.

Sir JOHN GORST, Vice-President of the Board of Education, reviewed at this sitting of the House the elementary education system of the country. He dealt at length with the abandonment of individual examination and the introduction of the block system, with the increased duties and powers now devolving upon inspectors in consequence of this change, with the need for m[illegible] the training of teachers, and with the [illegible] this last connexion, he said, we begin [illegible] tion a great deal too soon, just as we leave off a great deal too soon. The child was cooped up in school as soon as he was three years old when he had much better be playing about in the lanes or fields. He had a quantity of information crammed into him which his little brain was quite incapable of assimilating and he was taken out of school at 11 or 12 years to labour for the rest of his life. Infants' schools were, in the phrase of one of the inspectors, storage places for babies. They were instituted not so much for the benefit of the children as to enable the mothers to have [illegible] State chose to establish nurseries of this [illegible] nurseries, and they should assimilate the [illegible] ren at all events, to nurses. He should [illegible] squite early enough to attempt to exercise [illegible] ween six and eight years the kindergarten system of teaching was the only one which was really suitable. On the subject of the feeding of children Sir John Gorst said: It is the general opinion that this is a matter which should be left altogether to private charity, and that the school authorities should not deal with it. I got into a great scrape last year by enumerating some opinions that it was the duty of the school authorities to see that the children were fed before they were taught. I am quite willing to agree that children should be fed by charitable agencies, if they can be, but it seems to me that if you compel children to go to school and compel them to receive instruction, then you have the obligation thrown upon you to make some provision by which those children shall be sent to school in a fit state. This is not a private duty thrown on the parent, it is a public duty which the State has a right to insist on being fulfilled; and, if proper laws are made and a proper administration of the law is carried into effect, I believe the cases in which children would be sent to school unfed and unfitted to receive instruction would be extremely rare. One or two examples made of negligent parents would prevent the recurrence of the offence. It is not the poor parent—it is very seldom extreme poverty which causes the trouble as to underfed children. It is generally idleness, or drunkenness, or carelessness on the part of the parents which is at the bottom of the mischief, or it is greediness for the small earnings of the children. It is not, I say, the poor, but the negligent, parent who is the real offender. I believe that posterity will view with surprise and wonder the state of affairs in this matter, and will marvel how this generation was so stupid as to tolerate it.

FRIDAY, JUNE 15TH.

Experiments on Living Animals.

Mr. JESSE COLLINGS, Under Secretary of State for Home Affairs, moved for a return giving certain information with reference to experiments made on living animals during 1899 under Home Office licences.—Mr. JOHN ELLIS complained of the motion not having been made earlier in the session and the return prepared and presented at a period of the session which left Members interested in this subject opportunity for discussion.—Mr. COLLINGS said that although the formal motion was on this occasion somewhat late the return itself was practically ready and would be presented in the course of a week or ten days. In another session, if he had the opportunity, he would endeavour to have the return prepared earlier.—The motion was then agreed to.

Famine and Cholera in India.

Lord GEORGE HAMILTON, replying to questions on this subject, said: The total number of persons on relief works in India, according to the latest accounts, is 5,802,000. The famine was caused by the failure of last autumn's rains and has therefore lasted about seven months. It is absolutely impossible at present to form even an approximate estimate of the number of deaths which it has caused directly or indirectly. In some parts of India, where famine has been aggravated by cholera and small-pox, the mortality, I fear, has been very heavy; in other large districts where the famine is equally severe, but has not been associated with wholesale epidemic disease, the efforts of the Government of India and its organisation of relief have been so successful that the death-rate is hardly above normal. The total number of reported plague deaths from 1896, when the epidemic began, down to last April was [illegible] out one death per annum to ever [illegible] of India. At the present moment th [illegible] bay is lower th[illegible] the three preceding years.—Mr. WILLIAM [illegible] lord it his attention had been called to the r[illegible] ministrator of the fund raised in New York for the relief of distress in India, and whether he had any information to the effect, as stated in the report, that vultures, dogs, and jackals had been found [illegible] unburied; and whether, in view of t[illegible] and plague throughout India at pr[illegible] recommend at once the appointment of a Royal Commission to inquire into the best and speediest method of dealing with the state of affairs now existing in Her Majesty's Indian Empire.—Lord GEORGE HAMILTON: I have seen the telegram of Dr. Kloptsch and have read similar statements in one or two of the numerous reports that have reached me. These statements only apply to the districts, limited in number, I am glad to say, where cholera and small-pox have attacked the famine camps, thus forming a combination which for the moment baffles any administrative palliation. A Commission of great weight and authority was appointed in 1897 to report on the best method of dealing with famine in India, and its suggestions, which were published in 1898 after a most elaborate and searching inquiry, have been of great value; another similar Commission was appointed in 1898 to deal with the plague, and has produced a very important and exhaustive report, part of which only has yet been published. I do not therefore propose at present to advise the appointment of a Royal Commission, though it may hereafter be advisable, when the present epidemics are over, to utilise the experience gained by making [illegible] ports.—Mr. WILLIAM REDMOND suggested [illegible] at once raise money to relieve the distres[illegible]: It is not a question of money. The only method by which you can deal with the enormous number of people who are suffering from hunger over great areas is to aggregate them in camps on healthy sites. Unfortunately, in the west of India there has been no rain for the last seven months and the difficulty is not so much the scarcity of food as the purity of the water. If cholera attacks in its worst form one of the camps it so terrifies the people that they fly in all directions, carrying with them the germs of disease and dying by the roadsides and in the ditches. And the difficulty does not end there even, because not only does the panic affect the people who are congregated in the camps, but it affects the hospital assistants, camp followers, and camp scavengers. I believe that on more than one occasion the European officer after a panic has found himself with but few assistants in the presence of the dead and dying, all the rest having fled. It is due to such a state of things, and not to a lack of money, that the difficulty arises.

The Deaths from Heat at Aldershot.

Mr. GEORGE WYNDHAM made a long statement with reference to this subject. The essential parts were as follows, viz:—On Monday, June 11th, a field [illegible] rshot and a total of 18,002 men came on para[illegible] force on all such occasions is that the men are [illegible] before starting and that they are to be provided with light refreshments at some time during the day. The method of carrying out that order is left to the regimental authorities. The breakfast consists of bread and tea and there is no reason to believe that any regiment failed to get breakfast before starting. The light refreshment may consist of sandwiches, but the most popular thing with the men is bread-and-cheese. The men dine on their return to camp and very much prefer these arrangements to carrying an emergency ration which would not be palatable unless a prolonged halt were made for cooking it. The light refreshment of sandwiches or bread-and-cheese may either be served out to the men before they start for them to carry in their haversacks or it may be arranged that a canteen cart shall meet the regiment at some specified point. That is a matter entirely for regimental arrangement and one upon which it would be injudicious to lay down uniform regulations. On Monday morning when the troops started there was, the general commanding states, no exceptional heat; on the contrary, he expected rain. But about 10 o'clock great heat began to be felt and as it continued the "Halt" was sounded at 10.30 and the "Cease fire" at 11.15. It was then directed that the men should be marched back as easily as possible [illegible] as their officers commanding might think [illegible] back the severe heat was very much felt; [illegible]; 28 men were received in hospital suffering [illegible] of the sun, of whom four have died and 29 men suffered slightly. [illegible] have made rapid r[illegible] was at the outside: [illegible] of head-dress, in most regiments the head-dress worn was the field cap. This cap was designed to afford greater protection than the glengarry, which it has superseded in the great majority of our regiments. The problem of designing an ideal field cap is not an easy one. The cap must be sufficiently light and compact to be carried conveniently in the breast or haversack of the soldier when wearing his helmet; and it is also impossible to ignore altogether the soldier's view of what constitutes a smart head-dress. Before this melancholy occurrence the adjutant-general [illegible] be attached to the field cap. But the be[illegible] all men in possession of helmets should [illegible] whatever the forecast of the weather, and that men, principally in the Royal Reserves, who are still, owing to the exigencies of the war, unprovided with helmets, should not be allowed to undergo severe [illegible] from their barracks. The Commander-in-Chief [illegible] neral officer commanding, Aldershot, his regret [illegible] was not be followed in future. Amid much [illegible] ow that 14 medical men and an [illegible] to mitigate the sufferings to which the troops were exposed by a sudden and unforeseen rise of temperature.—Mr. BARTLEY asked whether the head-dress worn on this occasion was not the same as that worn during the manœuvres in 1898, when there were 61 cases of sunstroke.—Mr. WYNDHAM said that in the majority of cases the field cap was in use in 1898.—Mr. BARTLEY inquired whether some promise was not held out in 1898 that there would be a reform in the head-dress.—Mr. WYNDHAM replied that there had been some discussion and that attempts had been made to improve the head-dress. He still held that the better solution was to wear the proper head-dress (the helmet) and not attempt to use the field cap for purposes for which it was not intended.—Sir J. KENNAWAY asked whether he understood aright that the helmet was in future to be universally worn during manœuvres.—Mr. WYNDHAM replied that the Commander-in-Chief had issued instructions that in summer, whatever the weather, the helmet was to be worn, and that troops unprovided with helmets were not to take part in exhausting operations.

MONDAY, JUNE 18TH.

The Deaths from Heat at Aldershot.

On this subject Mr. WYNDHAM read the following report from the general officer commanding at Aldershot—viz., "With reference to your telegram of June 16th, 1900, I have the honour to report as follows: (1) Reports received from commanding officers state that all men had breakfasts before starting for the field day on the 11th inst.;

TUESDAY, JUNE 19TH.

Disease and Famine in India.

[illegible] carried out, and, whether the India Office [illegible]

[illegible] aspect of the famine.

THE PROPOSED EXEMPTION OF HOSPITALS FROM LOCAL RATES.

[illegible] mmous appointed to inquire [illegible] rom local rates held its first [illegible] on June 19th. Mr. T. W. Russell, Parliamentary Secretary to the Local Government Board, presided.

Mr. A. D. ADRIAN, legal adviser to the Local Government Board, was the first witness examined. He furnished the Committee with a long statement of the history of the question [illegible] law by means of various judicial [illegible] has produced was a report of a case [illegible] reign of Queen Anne in which hospitals [illegible] like other classes of property. In 1760 [illegible] as and St. Luke's Hospital case [illegible] King's Bench on appeal from Quarter [illegible] that the trustees of the hospital could [illegible] [illegible] Asylum case in 1832, the B[illegible] and other cases in which hospitals [illegible] from rates. He explained, h[illegible] which those decisions were fo[illegible] From 1847 onwards there had be[illegible] direction by which property us[illegible] was held to be liable to rating [illegible] that given in the House of Lords [illegible] Hikley Hospital case [illegible] judgments in relation to the St [illegible] the rating [illegible] as exempt from rates by virtue of [illegible] adjourned they took some evidence from Mr. DUFF, chairman of the Central Hospital Board, who supported the claim of the hospitals for exemption.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ABBOTT, T. E., L.S.A. Lond., has been appointed Vaccinator for the Registration District of Lyell, Tasmania.

ADDISON, G. M., M.B., Ch.M. Aberd., has been appointed Vaccinator for the Health Districts of Franklin, South Franklin, and Port Cygnet, Tasmania.

ANDERSON, J. F., L.R.C.P., L.R.C.S. Edin., has been appointed Vaccinator for the Municipal District of Longford, Tasmania.

BLOMFIELD, A. B., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the North Peckham Sanitary District of the Parish of St. Giles, Camberwell, vice S. C. Phillips, deceased.

BUTCHART, J. R., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Vaccinator for the Municipal District of Oatlands, Tasmania.

[illegible] M.R.C.S., has been appointed Vac- [illegible] District of Hobart, and the towns of [illegible] nia.

CLARKE, H. W., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Capel Sanitary District of the Dorking Union, vice J. L. Jardine, resigned.

COLLIER, JAMES, M.D., B.C. Lond., M.R.C.P., has been appointed Pathologist to the National Hospital for the Paralysed and Epileptic, Queen-square, London, vice F. E. Batten.

COLTS, P. C., L.R.C.P. Lond., M.R.C.S., has been appointed Senior House Physician to King's College Hospital, Lincoln's Inn-fields, London.

CROWTHER, E. L., M.D. Aberd., M.R.C.S., has been appointed Vaccinator for the Registration District of Hobart, Tasmania.

DAMMAN, G. W., M.B., Ch.B. Melb., has been appointed Vaccinator for the Municipal District of Deloraine, Tasmania.

DAVIS, R. H. D., M.R.C.S. Irel., has been appointed Vaccinator for the Registration District of Sheffield, Tasmania.

DEPREE, SIDNEY S., M.B., Ch.B., has been appointed Senior House Surgeon to the Beetle Borough Hospital, Liverpool.

DE RENZI, HENRY CARTER CASHIOT, M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Surgeon to the Wellington Hospital, New Zealand.

EDWARDS, C. W., F.R.C.S. Edin., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Temple Coombe Sanitary District of the Wincanton Union, vice E. O. Scallon, resigned.

FAULKNER, W. C., M.B., Ch.M. Edin., has been appointed Vaccinator for the Registration District of Waratah, Tasmania.

FENN, C. E., M.B. Durh., L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon at King's College Hospital, Lincoln's Inn-fields, London.

GIBLIN, W. W., L.R.C.P. Lond., M.R.C.S., has been appointed Vaccinator for the Registration District of Hobart, Tasmania.

GOULDEN, H. E., L.R.C.P. Lond., M.R.C.S., D.P.H. Cantab., has been appointed Medical Officer for the Fifth Sanitary District of the Honiton Union, vice H. Steven, resigned.

GRAHAM, A. W., M.B. Lond., M.R.C.S., has been appointed Vaccinator for the Health Districts of Beaconsfield and Dalrymple, Tasmania.

GUTTERIDGE, M. W., M.B., Ch.M. Edin., M.R.C.S., has been appointed Vaccinator for the City of Launceston, Tasmania.

HAINES, H. G., F.R.C.S. Edin., has been appointed Vaccinator for the Municipal District of Longford, Tasmania.

HAINES, WHEELER, B.Sc. Lond., M.R.C.S., L.R.C.P. Lond., L.S.A., has been appointed Senior Assistant Medical Officer to the North Riding Asylum, Clifton, York.

HAMILTON, A. J., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Vaccinator for the town of Queenstown, Tasmania.

HARDY, J. A., L.R.C.P. Edin., M.R.C.S., has been appointed Vaccinator for the Registration District of Hobart, Tasmania.

HERN, WILLIAM, M.R.C.S., L.D.S., has been appointed Dental Surgeon to the Middlesex Hospital, vice Storer Bennett.

HOLMES, L. S., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Vaccinator for the Registration District of Launceston, Tasmania.

HOSKENS, T., L.R.C.P. Edin., L.R.C.S. Irel., has been appointed Vaccinator for the Municipal District of Fingal, Tasmania.

HUI [illegible]

HUNTER, DAVID, M.A., M.B. B.C. Cantab., L.S.A. Lond., has been appointed Medical Superintendent of the New West Ham Borough Asylum at Chadwell Heath.

IRELAND, E. W. J., M.B., Ch.M. Edin., has been appointed Vaccinator for the City of Hobart, Tasmania.

JACKSON, A. G., M.D. Brux., L.R.C.P., L.R.C.S. Edin., has been appointed Vaccinator for the Municipal District of Russell, Tasmania.

JEFFRISS, F. B., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant House Physician to King's College Hospital, Lincoln's Inn-fields, London.

JOYCE, C., M.B. Melb., has been appointed Vaccinator for the Municipal Districts of George Town and Westbury, Tasmania.

KENNEDY, JOHN, M.D. Irel., has been appointed Vaccinator for the Registration District of Zeehan, Tasmania.

LUKE, THOMAS D., M.B., B.Ch., has been appointed Anæsthetist to the Edinburgh Deaconess Hospital.

MACKENZIE, J. H., L.R.C.S. Edin., has been appointed Vaccinator for the Registration District of Strahan, Tasmania.

MASON, JOHN B., L.R.C.P. Edin., M.R.C.S., has been appointed Vaccinator for the Municipal District of Longford, Tasmania.

amendment of the law with regard to registered companies. It deals with such large general questions as the issue of prospectuses and the liabilities of promoters and directors, but in addition it contains a clause of special interest to medical men—a clause declaring that it shall not be lawful for companies to carry on the practice of medicine. It is to be feared, however, that the Bill will not become law during the present session. It has not yet been read a second time and so far the Government has been unable to name a probable date for the second reading.

HOUSE OF COMMONS.

THURSDAY, JUNE 14TH.

The Teaching of Infants.

Sir JOHN GORST, Vice-President of the Board of Education, reviewed at this sitting of the House the elementary education system of the country. He dealt at length with the abandonment of individual examination and the introduction of the block sy
creased duties and powers now devolving upon
sequence of this change, with the need for more and
the training of teachers, and with the teaching of infants. In this last connexion, he said, we begin our attempts at education a great deal too soon, just as we leave off a great deal too soon. The child was cooped up in school as soon as he was three years old when he had much better be playing about in the lanes or fields. He had a quantity of information crammed into him which his little brain was quite incapable of assimilating and he was taken out of school at 11 or 12 years to labour for the rest of his life. Infants' schools were, in the phrase of one of the inspectors, storage places for babies. They were instituted not so much for the benefit of the children as to enable the mothers to have leisure to go to work. If the State chose to establish nurseries of this kind they should make them nurseries, and they should assimilate the teachers, of the youngest children at all events, to nurses. He should say that the age of six years was quite early enough to attempt to exercise the human brain and that between six and eight years the kindergarten system of teaching was the only one which was really suitable. On the subject of the feeding of children Sir John Gorst said: It is the general opinion that this is a matter which should be left altogether to private charity, and that the school authorities should not deal with it. I got into a great scrape last year by enumerating some opinions that it was the duty of the school authorities to see that the children were fed before they were taught. I am quite willing to agree that children should be fed by charitable agencies if they can be, but it seems to me that if you compel children to go to school and compel them to receive instruction, then you have the obligation thrown upon you to make some provision by which those children shall be sent to school in a fit state. This is not a private duty thrown on the parent, it is a public duty which the State has a right to insist on being fulfilled; and, if proper laws are made and a proper administration of the law is carried into effect, I believe the cases in which children would be sent to school unfed and unfitted to receive instruction would be extremely rare. One or two examples made of negligent parents would prevent the recurrence of the offence. It is not the poor parent—it is very seldom extreme poverty which causes the trouble as to underfed children. It is generally idleness, or drunkenness, or carelessness on
is at the bottom of the mischief, or it is
ings of the children. It is not, I say, the
at who is the real offender. I believe that
surprise and wonder the state of affairs in this matter, and will marvel how this generation was so stupid as to tolerate it.

FRIDAY, JUNE 15TH.

Experiments on Living Animals.

Mr. JESSE COLLINGS, Under Secretary of State for Home Affairs, moved for a return giving certain information with reference to experiments made on living animals during 1899 under Home Office licences.—Mr. JOHN ELLIS complained of the motion not having been made earlier in the session and the return prepared and presented at a period of the session which left Members interested in this subject opportunity for discussion.—Mr. COLLINGS said that although the formal motion was on this occasion somewhat late the return itself was practically ready and would be presented in the course of a week or ten days. In another session, if he had the opportunity, he would endeavour to have the return prepared earlier.—The motion was then agreed to.

Famine and Cholera in India.

Lord GEORGE HAMILTON, replying to questions on this subject, said: The total number of persons on relief works in India, according to the latest accounts, is 5,802,000. The famine was caused by the failure of last autumn's rains and has therefore lasted about seven months. It is absolutely impossible at present to form even an approximate estimate of the number of deaths which it has caused directly or indirectly. In some parts of India, where famine has been aggravated by cholera and small-pox, the mortality, I fear, has been very heavy; in other large districts where the famine is equally severe, but has not been associated with wholesale epidemic disease, the efforts of the Government of India and its organisation of relief have been so successful that the death-rate is hardly above normal. The total number of reported plague deaths from 1896, when the epidemic began, down to last April was 353,685—that is to say, about one death per annum to every 3000 living inhabitants of India. At the present moment the plague mortality in Bombay is lower than at any period in the three preceding years.—Mr. WILLIAM REDMOND asked the noble lord if his attention had been called to the report of Dr. Kloptsch, administrator of the fund raised in New York for the relief of distress in India, and whether he had any information to the effect, as stated in the report, that vultures, dogs, and jackals had been found devouring human bodies left unburied; and whether, in view of the suffering caused by famine and plague throughout India at present, the Government would recommend at once the appointment of a Royal Commission to inquire into the best and speediest method of dealing with the state of affairs now existing in Her Majesty's Indian Empire.—Lord GEORGE HAMILTON: I have seen the telegram of Dr. Kloptsch and have read similar statements in one or two of the numerous reports that have reached me. These statements only apply to the districts, limited in number, I am glad to say, where cholera and small-pox have attacked the famine ca nbination which for the moment baffles any A Commission of great weight and author 37 to report on the best method of dealing with famine in India, and its suggestions, which were published in 1898 after a most elaborate and searching inquiry, have been of great value; another similar Commission was appointed in 1898 to deal with the plague, and has produced a very important and exhaustive report, part of which only has yet been published. I do not therefore propose at present to advise the appointment of a Royal Commission, though it may hereafter be advisable, when the present epidemics are over, to utilise the experience gained by making it the subject of further reports.—Mr. WILLIAM REDMOND suggested that the Government should at once raise money to relieve the distress.—Lord GEORGE HAMILTON: It is not a question of money. The only method by which you can deal with the enormous number of people who are suffering from hunger over great areas is to aggregate them in camps on healthy sites.
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The Deaths from Heat at Aldershot.

Mr. GEORGE WYNDHAM made a long statement with reference to this subject. The essential parts were as follows, viz.:—On Monday, June 11th, a field day was ordered at Aldershot and a total of 18,002 men came on parade. The general order in force on all such occasions is that the men are to get their breakfast before starting and that they are to be provided with light refreshments at some time during the day. The method of carrying out that order is left to the regimental authorities. The breakfast consists of bread and tea and there is no reason to believe that any regiment failed to get breakfast before starting. The light refreshment may consist of sandwiches, but the most popular thing with the men is bread-and-cheese. The men dine on their return to
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bread-and-cheese may either be served out to the men before they start for them to carry in their haversacks or it may be arranged that a canteen cart shall meet the regiment at some specified point. That is a matter entirely for regimental arrangement and one upon which it would be injudicious to lay down uniform regulations. On Monday morning when the troops started there was, the general commanding states, no exceptional heat; on the contrary, he expected rain. But about 10 o'clock great heat began to be felt and as it continued the "Halt" was sounded at 10.30 and the "Cease fire" at 11.15. It was then directed that the men should be marched back as easily as possible and with such periods of rest as their officers commanding might think desirable. During the march back the severe heat was very much felt; a large number of men fell out; 28 men were received in hospital suffering severely from the effects of the sun, of whom four have died; and 29 men suffered slightly. With the exception of the four men the other patients have made rapid recoveries. The whole distance covered by the troops was at the outside about 14 miles and in many cases less. On the question of head-dress, in most regiments the head-dress worn was the field cap. This cap was designed to afford greater protection than the glengarry, which it has superseded in the great majority of our regiments. The problem of designing an ideal field cap is not an easy one. The cap must be sufficiently light and compact to be carried conveniently in the breast or haversack of the soldier when wearing his helmet; and it ore altogether the soldier's view of what con- iress. Before this melancholy occurrence the was at work on a sunshade to be attached to the field cap. But the best course is undoubtedly that all men in possession of helmets should wear them in summer-time, whatever the forecast of the weather, and that men, principally in the Royal Reserves, who are still, owing to the exigencies of the war, unprovided with helmets, should not be allowed to undergo severe exertion at a distance from their barracks. The Commander-in-Chief has notified to the general officer commanding, Aldershot, his regret that this course was not adopted, and has directed that it shall be followed in future. Amid much that is regrettable I am glad to know that 14 medical men and an ambulance were in attendance to mitigate the sufferings to which the troops were exposed by a sudden and unforeseen rise of temperature.—Mr. BARTLEY asked whether the head-dress worn on this occasion was not the same as that worn during the manœuvres in 1898, when there were 61 cases of sunstroke.—Mr. WYNDHAM said that in the majority of cases the field cap was in use in 1898.—Mr. BARTLEY inquired whether some promise was not held out in 1898 that there would be a reform in the head-dress.—Mr. WYNDHAM replied that there had been some discussion and that attempts had been made to improve the head-dress. He still held that the better solution was to wear the proper head-dress (the helmet) and not attempt to use the field cap for purposes for which it was not intended.—Sir J. KENNAWAY asked whether he understood aright that the helmet was in future to be universally worn during manœuvres.—Mr. WYNDHAM replied that the Commander-in-Chief had issued instructions that in summer, whatever the weather, the helmet was to be worn, and that troops unprovided with helmets were not to take part in exhausting operations.

MONDAY, JUNE 18TH.

The Deaths from Heat at Aldershot.

On this subject Mr. WYNDHAM read the following report from the general officer commanding at Aldershot—viz., "With reference to your telegram of June 16th, 1900, I have the honour to report as follows: (1) Reports received from commanding officers state that all men had breakfasts before starting for the field day on the 11th inst.;

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TUESDAY, JUNE 19TH.

Disease and Famine in India.

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THE PROPOSED EXEMPTION OF HOSPITALS FROM LOCAL RATES.

ouse of Commons appointed to inquire
hospitals from local rates held its first
witnesses on June 19th. Mr. T. W.
Russell, Parliamentary Secretary to the Local Government Board, presided.

Mr. A. D. Adrian, legal adviser to the Local Government Board, was the first witness examined. He furnished the Committee with a long statement of the history of the question and the development of the law
decisions. The earliest record he
decided in the first year of the reign
were held to be liable for rates like other classes of property. In 1760 what was known as the St. Luke's Hospital case was decided by the King's Bench on appeal from Quarter Sessions, the effect of it being that the trustees of the hospital could not be rated as occupiers. On this occasion, however, Lord Mansfield said the judgment carried no general consequences, and each case must be decided upon its merits. Mr. Adrian cited the facts and judgments in relation to the St. Bartholomew's Hospital case nine years later, the York Lunatic
ethlehem Hospital case in 1847,
had derived advantage by exemption
ever, that the principles upon
direction by which property use
was held to be liable to rating.
that given in the House of Lords
Mersey Docks case, the
Ilkley Hospital case in the

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ospital Board, who supported the

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ABBOTT, T. E., L.S.A. Lond., has been appointed Vaccinator for the Registration District of Lyell, Tasmania.

ANDERSON, G.M., M.B., Ch.M. Aberd., has been appointed Vaccinator for the Health Districts of Franklin, South Franklin, and Port Cygnet, Tasmania.

ANDERSON, J. F., L.R.C.P., L.R.C.S. Edin., has been appointed Vaccinator for the Municipal District of Longford, Tasmania.

L., M.R.C.S., has been appointed
Peckham Sanitary District of the
vice S. C. Phillips, deceased.

BUTCHART, J. D., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Vaccinator for the Municipal District of Oatlands, Tasmania.

CLARKE, A. H., L.R.C.P. Lond., M.R.C.S., has been appointed Vaccinator for the Registration District of Hobart, and the towns of Bellerive and Beltana, Tasmania.

CLARKE, H. W., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Capel Sanitary District of the Dorking Union, vice J. L. Jardine, resigned.

COLLIER, JAMES, M.D., B.C. Lond., M.R.C.P., has been appointed Pathologist to the National Hospital for the Paralysed and Epileptic, Queen-square, London, vice F. E. Batten.

COLTS, P. C., L.R.C.P. Lond., M.R.C.S., has been appointed Senior House Physician to King's College Hospital, Lincoln's Inn fields, London.

CROWTHER, E. L., M.D. Aberd., M.R.C.S., has been appointed Vaccinator for the Registration District of Hobart, Tasmania.

DAMMAN, G. W., M.B., Ch.B. Melb., has been appointed Vaccinator for the Municipal District of Deloraine, Tasmania.

DAVIS, R. H. D., M.R.C.S. Irel., has been appointed Vaccinator for the Registration District of Sheffield, Tasmania.

DEPREE, SIDNEY S., M.B., Ch.B., has been appointed Senior House Surgeon to the Bootle Borough Hospital, Liverpool.

DE RENZI, HENRY CARTER CASHIOT, M.R.C.S., L.R.C.P. Lond.; has been appointed Honorary Surgeon to the Wellington Hospital, New Zealand.

EDWARDS, C. W., F.R.C.S. Edin., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Temple Coombe Sanitary District of the Wincanton Union, vice E. O. Scallon, resigned.

., M.R.C.S., has been appointed
yal Hospital for Children and
on, S.D.

FAULKNER, W. C., M.B., Ch.M. Edin., has been appointed Vaccinator for the Registration District of Waratah, Tasmania.

FENN, C. B., M.B. Durh., L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon at King's College Hospital, Lincoln's Inn-fields, London.

GIBLIN, W. W., L.R.C.P. Lond., M.R.C.S., has been appointed Vaccinator for the Registration District of Hobart, Tasmania.

GOULDEN, H. E., L.R.C.P. Lond., M.R.C.S., D.P.H. Camb., has been appointed Medical Officer for the Fifth Sanitary District of the Honiton Union, vice H. Steven, resigned.

GRAHAM, A. W., M.B. Lond., M.R.C.S., has been appointed Vaccinator for the Health Districts of Beaconsfield and Dalrymple, Tasmania.

GUTTERIDGE, M. W., M.B., Ch.M. Edin., M.R.C.S., has been appointed Vaccinator for the City of Launceston, Tasmania.

HAINES, H. G., F.R.C.S. Edin., has been appointed Vaccinator for the Municipal District of Longford, Tasmania.

HAINES, WHELLER, B.Sc. Lond., M.R.C.S., L.R.C.P. Lond., L.S.A., has been appointed Senior Assistant Medical Officer to the North Riding Asylum, Clifton, York.

HAMILTON, A. J., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Vaccinator for the town of Queenstown, Tasmania.

HARDY, J. A., L.R.C.P. Edin., M.R.C.S., has been appointed Vaccinator for the Registration District of Hobart, Tasmania.

HEAN, WILLIAM, M.R.C.S., L.D.S., has been appointed Dental Surgeon to the Middlesex Hospital, vice Storer Bennett.

HOLMES, L. S., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Vaccinator for the Registration District of Launceston, Tasmania.

HOSKINS, T., L.R.C.P. Edin., L.R.C.S. Irel., has been appointed Vaccinator for the Municipal District of Fingal, Tasmania.

HUNTER, DAVID, M.A., M.B., B.C. Cantab., L.S.A. Lond., has been appointed Medical Superintendent of the New West Ham Borough Asylum at Chadwell Heath.

IRELAND, E. W. J., M.B., Ch.M. Edin., has been appointed Vaccinator for the City of Hobart, Tasmania.

JACKSON, A. G., M.D. Brux., L.R.C.P., L.R.C.S. Edin., has been appointed Vaccinator for the Municipal District of Russell, Tasmania.

JEFFRIES, F. B., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant House Physician to King's College Hospital, Lincoln's Inn-fields, London.

JOYCE, C., M.B. Melb. has been appointed Vaccinator for the Municipal Districts of George Town and Westbury, Tasmania.

KENNEDY, JOHN, M.D. Irel., has been appointed Vaccinator for the Registration District of Zeehan, Tasmania.

LUKE, THOMAS D., M.B., B.Ch., has been appointed Anæsthetist to the Edinburgh Deaconess Hospital.

MACKENZIE, J. H., L.R.C.S. Edin., has been appointed Vaccinator for the Registration District of Strahan, Tasmania.

MASON, JOHN B., L.R.C.P. Edin., M.R.C.S., has been appointed Vaccinator for the Municipal District of Longford, Tasmania.

MUIR, JAMES M. M., M.B., Ch.M. Glasg., has been appointed Vaccinator for the Registration District of Wynyard, Tasmania.

NOONAN, PATRICK, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Vaccinator for the Municipal Districts of Hamilton and Bothwell, Tasmania.

OWENS, EDWARD M., L.R.C.P. Edin., M.R.C.S., has been appointed Vaccinator for the Registration District of Emu Bay, Tasmania.

PARDEY, J. McI., M.B., Ch.B. Irel., has been appointed Vaccinator for the Registration District of Launceston, Tasmania.

PARSONS, A. R. C., L.R.C.P. Lond., M.R.C.S., has been appointed Junior House Physician to King's College Hospital, Lincoln's Inn-fields, London.

PEDLEY, G. ASTON, L.S.A., L.R.C.P. Lond., M.R.C.S., L.D.S. Eng., has been appointed Dental Surgeon to the Tonbridge Grammar School.

PENNY, HENRY J., L.K.Q.C.P. Irel., L.R.C.S., has been appointed Vaccinator for the Municipal Districts of New Norfolk, Tasmania.

ROBERTS, C. HUBERT, M.D. Lond., F.R.C.S. Eng., M.R.C.P., has been appointed Physician to In-patients at the Samaritan Hospital for Women, London, N.W.

ROBERTS, G. A., L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon at King's College Hospital, Lincoln's Inn-fields, London.

ROBINSON, DOUGLAS A., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Vaccinator for the Municipal District of Deloraine, Tasmania.

ROCKETT, P. J. A., M.B., Ch.B. Melb., has been appointed Vaccinator for the Health Districts of Gormanston and Mount Lyell, Tasmania.

SAUNDERS, E. M., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant House Accoucheur to King's College Hospital, Lincoln's Inn-fields, London.

SCOTT, R. G., M.B., Ch.M. Edin., has been appointed Vaccinator for the Registration District of Hobart, Tasmania.

SHARP, H. C., M.B., B.C. Camb., has been appointed Medical Officer of Health for the City of Truro, vice E. Sharp, resigned.

SMITH, R., F.R.C.S. Edin., has been appointed Vaccinator for the Registration District of Tasman's Peninsula, Tasmania.

SPARKES, W. M., L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon at King's College Hospital, Lincoln's Inn-fields, London.

SPROTT, GREGORY, M.B., Ch.M. Glasg., has been appointed Vaccinator for the Registration District of Hobart, Tasmania.

TOFFT, W. H., M.B., Ch.M. Edin., has been appointed Vaccinator for the Municipal Districts of Campbell Town and Ross, Tasmania.

TARTYMAN, T. M., L.S.A., has been appointed House Accoucheur to King's College Hospital, Lincoln's Inn-fields, London.

UNSWORTH, J. W., M.B., Ch.B. Vict., has been appointed Medical Officer of Health for the Blackrod Urban Sanitary District.

WALCH, C. N. C., M.B. Durh., L.R.C.P. Lond., M.R.C.S., has been appointed Vaccinator for the Registration District of Hobart, Tasmania.

WATSON, G. G., M.B., Ch.M. Edin., has been appointed Vaccinator for the Registration District of Emu Bay, Tasmania.

WILSON, J. M., M.D. Glasg., D.P.H. Camb., has been appointed Medical Officer of Health for the Wheatley Urban Sanitary District.

WOLFHAGEN, JOHN E., M.B., Ch.M. Edin., has been appointed Vaccinator for the Registration District of Hobart, Tasmania.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BRIDGWATER INFIRMARY.—House Surgeon. Salary £80 per annum with board and residence.

BRISTOL EYE HOSPITAL.—Locum Tenens for the House Surgeon for two months. Salary 2½ guineas a week, without residence.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House Surgeon. Salary £120 per annum, with rooms and attendance (not board), or £80 with board.

BRIXTON DISPENSARY, Water-lane, S.W.—Locum Tenens for three weeks. Terms £3 3s. per week.

[illegible] HEALTH LABORATORY.—Assistant to the [illegible] 0 a year. Applications to the Clerk of [illegible] Morgan County Offices, Cardiff.

CARDIFF INFIRMARY.—Assistant House Physician for six months. Salary at the rate of £50 per annum, with board, washing, and apartments.

CARLISLE DISPENSARY.—House Surgeon. Salary £150 per annum, with apartments (not board).

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Resident Medical Officer for twelve months. S[illegible] annum.

CITY OF LIVERPOOL [illegible] DI[illegible]ALS.—Assistant Resident Medical [illegible]ied. Salary £100 per annum, [illegible] the hospital. Applications to [illegible] and Hospitals C[illegible]t Sanitary [illegible] Municipal Offices, Liv[illegible]

CITY ORTHOPAEDIC [illegible]

CORNWALL COUNTY [illegible] unmarried. S[illegible] furnished apart[illegible]

DENBIGHSHIRE INFIRMARY, Denbigh.—House Surgeon for 12 months. Salary £80, with board, residence, and washing.

DEVONSHIRE HOSPITAL, Buxton, Derbyshire.—House Surgeon and Assistant House Surgeon for twelve months. Salary of House Surgeon £100 per annum. Assistant House Surgeon £50, with furnished apartments, board, and washing in both cases.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY, Dumfries.—House Surgeon. Salary £50 per annum, with board and washing.

EAST SUFFOLK AND IPSWICH HOSPITAL, Thorofare, Ipswich.—Second House Surgeon for one year, unmarried. Salary £60, with board, lodging, and washing.

ESSEX AND COLCHESTER HOSPITAL, Colchester.—Resident House Surgeon. Salary £100 per annum, with board and washing.

HAMPSTEAD HOSPITAL, Parliament-hill, N.W.—Resident Medical Officer for six months. Salary at the rate of £120 per annum, with rooms, coals, and gas.

HEIGHAM HALL ASYLUM, Norwich.—Assistant Medical Officer.

HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE, Virginia Water, Surrey.—Junior Assistant Medical Officer. Salary £100 per annum, rising £20 annually to £200, with board, lodging, washing, and attendance.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians for six months, with an honorarium of £25. Also Surgeon.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London.—Two House Surgeons to Out-patients, non-resident, for six months. Salary 25 guineas each and lunch at the hospital.

HUDDERSFIELD INFIRMARY.—Junior House Surgeon. Salary £60 per annum, with board, residence, and washing.

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY, South Shields.—Junior House Surgeon. Salary £75 per annum, with residence, board, and washing.

LIVERPOOL STANLEY HOSPITAL.—Honorary Physician.

METROPOLITAN ASYLUMS BOARD.—A Fourth Assistant Medical Officer at the Asylum, at Darenth, near Dartford, Kent, unmarried. Salary £150 per annum, rising to £170, with board, lodging, attendance, and washing, subject to the provisions of the Poor Law Officers' Superannuation Act, 1896.

MIDDLESEX HOSPITAL, W.—Assistant Dental Surgeon.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Junior Medical Officer for six months. Salary at the rate of £60 per annum, with board, attendance, and washing.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Albany Memorial), Queen-square, Bloomsbury, London.—Registrar. Annual honorarium 50 guineas.

NORTH RIDING ASYLUM, Clifton, York.—Junior Assistant Medical Officer, unmarried. Salary £125, rising £10 annually to £175, with board, furnished apartments, washing, and attendance.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £140 per annum, all found except board.

OLDHAM INFIRMARY.—A Senior and a Junior House Surgeon for one year. Salary £85 and £70 per annum respectively, with board, residence, and washing. Also Locum Tenens, for at least one month. Terms 4 guineas per week, with board and residence.

PARISH OF BIRMINGHAM WORKHOUSE INFIRMARY.—Assistant Resident Medical Officer for the Workhouse Infirmary, for one year. Salary £100 per annum, with furnished [illegible] coholic liquors), coals, gas, laundry, and [illegible] to the Clerk to the Guardians, Parish Off[illegible] [illegible]ngham.

PLYMOUTH BOROUGH ASYLUM.—Assistant Medical Officer, unmarried. Salary £125 per annum, rising by five equal annual additions to £150 per annum, with furnished apartments in the Asylum, with board and washing.

PONTEFRACT GENERAL DISPENSARY AND INFIRMARY.—Resident Medical Officer, unmarried. Salary £150 per annum, with furnished rooms, fire, lights, and attendance.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House Surgeon. Salary £80 a year, with board, lodging, and washing.

ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, Dyke-road, Brighton.—House Surgeon for twelve months. Salary £80, and board, lodging, and washing. No stimulants.

ROYAL HALIFAX INFIRMARY.—Third House Surgeon, unmarried. Salary £50 per annum, with residence, board, and washing.

ROYAL DEVON AND EXETER HOSPITAL, Exeter.—Junior Assistant House Surgeon for six months. Salary at the rate of £80 per annum, with board, lodging, and washing.

ST. MARY'S CHILDREN'S HOSPITAL, Plaistow, E.—Assistant Resident Medical Officer for six months. Salary at the rate of £60 per annum, with board, residence, laundry, &c.

ST. MUNGO'S COLLEGE, GLASGOW, FACULTY OF MEDICINE.—Bellahouston Chair of Anatomy. Emoluments £300 per annum.

SALISBURY GENERAL INFIRMARY.—Assistant House Surgeon, unmarried. Salary £50 per annum, with apartments, board, and washing.

SALOP INFIRMARY, Shrewsbury.—Assistant House Surgeon for six months. Salary at the rate of £60 per annum, with board and washing.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon for six months. Honorarium at the rate of £50 per annum, with residence, board, and washing provided.

STAMFORD-HILL AND STOKE NEWINGTON DISPENSARY, 189, High street, Stoke Newington.—Assistant Resident Medical Officer. Salary £100 per annum, with board.

STAMFORD, RUTLAND, AND GENERAL INFIRMARY, Stamford.—House Surgeon for two years, unmarried. Salary £100 per annum, with board, lodging, and washing.

SUSSEX COUNTY HOSPITAL, Brighton.—House Surgeon, unmarried. Salary £140 per annum, with board and residence in the hospital and washing.

SWANSEA GENERAL AND EYE HOSPITAL.—House Physician for twelve months. Salary £50 per annum, with board, apartments, washing, and attendance.

TEIGNMOUTH HOSPITAL, South Devon.—House Surgeon.

TIVERTON INFIRMARY AND DISPENSARY.—House Surgeon, unmarried. Salary £80, with board, lodging, and washing.

[illegible] Queen's road, Chelsea, S.W.—[illegible] months. Honorarium £25, with [illegible]

WEST [illegible] (unmarried) at [illegible] r one year. Sa[illegible] o statutory de[illegible], Brougham-terrace, Liverpool.

[illegible] washing.

WEST HAM HOSPITAL, Stratford, E.—Junior House Surgeon for one year. Salary £75 per annum, with board, residence, &c.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Surgeon. Salary £100 a year, with board, lodging, and washing. Also Assistant House Surgeon, for six months. Honorarium at the rate of £75 per annum, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

[illegible]

RUBEL [illegible] over, the wife of [illegible], the wife of [illegible] wife of W. B. Warrington, M.D., M.R.C.P. Lond., of a daughter.

MARRIAGES.

BOND—IMRIE.—On J[illegible] daughter of the l[illegible] and widow of the [illegible] Dunfermline, Fife. [illegible] Westminster Hospital.

CORY—REEVE.—On June 12th, at the Parish Church, Tenterden, Charles George Cory, M.R.C.S., L.R.C.P., of Solham, Cambs, to Mabel Emily Hartridge Reeve, only child of the late Walter Reeve, Esq., of Peasmarsh, Sussex.

M'DONNELL—THOMPSON.—On June 15 b, W. Campbell M'Donnell, M.R.C.S., L.R.C.P. Lond., 10, Park lane, Stoke Newington, N., to Grace Thompson, L.O.S., lately of 23, Stoke Newington road.

ROWLAND—TRUELL.—On June 14th, at the parish church, Wall, Lichfield, Frank Mortimer Rowland, M.D., B.A., of Lichfield, to Cornelia Isabel, second daughter of the Rev. W. H. A. Truell, Vicar of Wall.

STUART—DUTTON.—On [illegible] 's Sydenham, Walter Lea Stuart, [illegible] surviving son of the late J. E. S[illegible], to Katharine Eleanor, younger daughter of the late Rev. A. Dutton, formerly Vicar of West Hyde, Rickmansworth, Herts.

WOODHOUSE—NELSON.—On June 13th, at Esher Parish Church, Cecil Woodhouse, M.B., B.C. Cantab., of Homeside, Esher, to Norah Nelson, widow of the late Edward A. Nelson, and only daughter of Grinham Keen, Chadworth Cottage, Esher.

DEATHS.

ARGLES.—On June 14th, at Oxford terrace, Hyde-park, W., suddenly, Robert Argles, L.R.C.P., aged 60.

[illegible] Davies, Carus Lodge, near Lancaster.

EMBLETON.—On June 13th, at Swanage, of apoplexy, Dennis Cawood Embleton, M.D., M.R.C.S., L.R.C.P., of St. Wilfrids, Bournemouth, aged 46.

[illegible] llison, L.R.C.P. Lond., in his 82nd year.

[illegible] Africa, Professor Thomas Jones, F.R.C.S.

JOHNSON.—On June 17th, at Beaconsfield, Bucks, Francis Johnson, M.R.C.S., L.R.C.P.I., aged 50 years.

NEWTON.—On June 20th, at Trevor Dene, Penarth, Georgina, the wife of Charles John Newton, Surgeon, age 43 years.

WHEATLEY.—On the 14th inst. at the Grange, Loughton, William Henry Wheatley, L.D.S. (Lond. and Glasgow), aged 46 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

A SEVENTEENTH CENTURY PHYSICIAN ON THE CONTAGIOUSNESS OF PHTHISIS.

To the Editors of THE LANCET.

SIRS,—I have been surprised to find among the many authors quoted on the subject of the question of the contagiousness of phthisis and its treatment by the open air method almost no mention of an English physician, Richard Morton, M.D., sometime Fellow of the College of Physicians, who flourished in London at the end of the seventeenth century and a copy of the second English (posthumous) edition, dated 1720, of whose book entitled "Phthisiologia or a Treatise of Consumptions, wherein the Difference, Nature, Causes, Signs, and Cure of all sorts of Consumptions are explained," has been long in my possession. In the preface the Latin edition (1689 quoted in the *British Medical Journal* of June 16th by Dr. Osler) is said to be already scarce and an apology is made for issuing it in the vulgar tongue. In the second book wherein the author treats "of an original consumption of the Lungs, he says that is original "which from the very beginning depends on an ill Disposition and an Exulceration of the Lungs." Among the causes he gives "Sixthly, Also a foggy and thick Air, and that which is filled with the Smoak of Coals, does extremely promote a Consumption . . . by stuffing and weakning the Lungs, that serve for Respiration, which are the Seat and Theatre of this Distemper." "Ninthly. This Disease is also propagated by *Infection*. For this Distemper (as I have observed by frequent Experience) *like a Contagious Fever does infect those that lie with the sick Person with a certain Taint.*" With regard to prevention he remarks "Let the patient enjoy an open, fresh, kindly Air, and such as is free from the Smoak of Coals which may not only cherish the animal Spirits and comfort the Nervous Parts, and consequently restore the weak appetite, but likewise procure Quiet (at least in some measure) to the Lungs But" (and I commend this to the *extreme* advocates of the "open air" system of cure) "there must be great Care taken that he does not get new Cold. For the Body being in such a manner filled with a Load of Humours, every new Catarrh or Cold tends to a Consumption, and from hence come all our Sorrows." In respect of prognosis again Dr Morton states "a consumption that is *got by Infection* but especially whenever that *Infection* is derived from one that has an acute and malignant consumption is, when all other circumstances are alike, more difficult to cure and for the most part more acute and fatal than other Consumptions." And again: "A Consumption in the Autumn, or Winter, though it may be relieved by a careful Management and the convenient Use of Medicines, yet it can never be perfectly cured without the benefit of the Spring and of the approaching Sun For as the vesiculous Substance of the Lungs is almost continually penetrated by the Air, and by the Decree of Nature is blown up in the furthest corners of it by the continual succession of new Air, that is driven in and out by Respiration, so the present State of the Air must necessarily be of very great Moment, seeing it may either hinder or promote the cure of this Distemper, as it is found to be wholesomely dry and warm, or unwholesome, by being cold and cloudy So that the due Constitution of the Air contributes not only to the Preservation of the Lungs when they are out of order, but also to their cure, more than the most pompous Heap of Medicines, which cannot be conveyed into the Blood and the Part affected so continually or in the same quantity as the Air is. And therefore tis usually in vain to expect the Cure of a Consumption in the winter time, and in autumn, to wit, while the State of the Air being cold, thick, and moist, and consequently unwholesome, does continually promote the Distemper more than a Store even of the most proper Medicines can stop and check it, when the Edge of the most powerful Remedies is taken off and their Efficacy weakened in this manner by the extremely incommodious State of the Air."

[illegible] history 3. Mr Luff, the son of that Reverend Divine which I have [illegible]ly mentioned, living in Milk street, after he had married [illegible] n that was consumptive (and, as I remember, dyed within a [illegible] after She was married, with an universal Colliquation and the [illegible] symptoms of a fatal [illegible] after her Death fell into a [illegible] To which fatal Disease an [illegible] was suddenly taken at Exeter, and that in the Winter time, and he lost a great deal of Blood. But as soon as his spitting of blood was stopt by Phlebotomy, a Milk Diet, and Increasating Medicines and he had recovered his strength in some measure, being dismist by his Country Physician, within a fortnight (which was much sooner than was fit), he came to London on Horseback, and presently sent for me. But alas! how much was he changed from what he was before! I found the poor Patient very Feverish, and always coughing, and extremely wasted with a Colliquation that was now begun, and troubled with a Straightness and Pains in his Breast. I found it to be a mixt Fever, partly Peripneumonick, from a new Inflammation of some of the Tubercles, partly putrid, from the purulency of other Glandules, which had begun so soon to be ulcerated. I judged the Distemper to be a very acute Consumption of the Lungs from a spitting of blood which as it was so tainted by Infection, as it was received

more hasty and violent by his ill Government in his Journey and his return into our Air that is filled with the Smoak of Coals. The violence of the Pain and Fever requiring it, I presently ordered a Vein to be opened, but I took away but a little Blood, because of the Consumption and Colliquation that was upon him. Then I endeavoured at least to stave off this hasty Ruin for some time with temperate Juleps and Opiates and all sorts of convenient Pectoral Medicines, Blisters, and a due management in all things. But all these things were to no purpose; for within three or four weeks he departed this Life, with all the Symptoms of a very acute Consumption of the Lungs."

There can be no more definite statements as to the contagiousness of consumption and the advisability of its open-air treatment than those contained in the above extracts, and I trust, Sirs, that you will, for the credit of English medicine, assist me to restore to his well-deserved niche in the Temple of Fame this ancient worthy. His whole work, although, of course, including much that is archaic, and sometimes even to our ideas offensive, in the way of treatment, teems with useful suggestions and is full of learned observations, the fruit of his close study of older writers, particularly *Hippocrates*, and of careful clinical and pathological work on his own part.

I am, Sirs, yours faithfully,

WM. J. TOWNSEND BARKER, M.R.C.S. Eng., L.R.C.P. Lond., D.P.H. Cantab., L.S.A.,

Formerly Physicians' Assistant, Bristol General Hospital.

Fulham, S.W., June 18th, 1900.

A MEDICAL TRIBUTE TO GENERAL BADEN-POWELL.

A LEAMINGTON paper publishes some verses written by Mr. Montagu Lomax and headed "To B.-P." We quote a few stanzas.

Oom Paul he spake in council, all his bravest in a ring,
"We have laid our plans of conquest—who will capture Mafeking?"
And the wily Cronje answered, as he stroked his grizzled cheek,
"Just a clump of wooden shanties; I can take it in a week."

* * * * *

And day by day their guns belched forth a storm of shot and shell,
And night by night the peaceful sky was lit with fires of hell;
But you didn't seem to mind it, though *your* guns were only toys,
And you signall'd, "Arn't you coming? You can't frighten us with noise!"

Then they called a solemn conclave, bearded cheek and sullen brow,
And they said, "These *verdomm'd rooineks* should have given in by now";
And they penned a wrathful missive: "We concede an hour's grace
Surrender at discretion, or we blow you into space!"

But they little knew the spirit of the man to whom they spoke,
With his air of gay *bonhomie*, and his heart of British oak;
"I have mined the chief approaches," so you wrote politely back,
"Towns don't fall by being looked at—won't you try a front attack?"

* * * * *

And week by week, and month by month, the weary siege went on,
And pestilence and famine thinn'd your numbers one by one;
But you only sat the tighter, took a hole up in your belt,
And looked for help, so slow to come, across the burning veldt.

But you never failed in courage, never lost your cheery tone,
And when the days were darkest you ran the show alone,
For you plann'd bazaars and concerts, wrote them comic songs to sing,
Then sent out fresh despatches. "All well—at Mafeking."

* * * * *

And when the help, so long delayed, so longed for, came at last,
And the pulses of an Empire's heart were beating loud and fast,
Amid all the songs and tumult that made each bosom swell,
Was the note of deep thanksgiving, "*All's well, thank God, all's well!*"

* * * * *

There are leagues and leagues of banners, from every roof they wave,
The grand old flag of England you fought so well to save;
And from Sydney to Vancouver the rocking belfries ring
The fame of Baden-Powell and glorious Mafeking.

Leamington Spa, May 21st. MONTAGU LOMAX.

ACCIDENTAL VACCINATION OF A WOMAN BY HER CHILD.

To the Editors of THE LANCET.

SIRS,—The following case is, I think, worthy of notice. Four weeks ago I was sent for to see a woman supposed to be suffering from erysipelas. When I arrived there I found the submaxillary lymphatic glands enlarged and a slight swelling of the left cheek. The lower lip was also swollen and had a large and a small vesicle near the junction of skin and mucous membrane about its centre. About 10 days previously I had vaccinated her child, and I extracted from her the information that the baby had scratched her lip and that she had accidentally rubbed the vaccination pad with some discharge on it on her mouth whilst dressing it. Under the treatment of a mild antiseptic mouth wash, painting the enlarged glands with tincture of iodine, and the administration of an aperient mixture the symptoms subsided, leaving two small cicatrices.

I am, Sirs, yours faithfully,

A. R. HENCHLEY, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg.

Blagdon, near Bristol.

"DEATHS UNDER CHLOROFORM."

To the Editors of THE LANCET.

SIRS,—The report in THE LANCET of June 9th at page 1656 shows that chloroform administered by the towel or Simpson's method to the same patient and by the same administrator on two occasions, varies absolutely in the result produced—one administration all but kills the patient by respiratory paralysis, the other answers perfectly and everything goes well. *Here we have actually demonstrated the* uncertainty of the towel or rule-of-thumb method. The cause is evidently the utter uncertainty of the dosage afforded.

I venture to submit that this report of these two administrations justifies another protest against this mode of administration and, indeed, against any mode which does not register the amount of chloroform used and also enable the administrator to know how much chloroform vapour is passing into each inspiration. These essential requisites cannot be claimed for any rule-of-thumb method. This has been clearly shown lately by letters which have appeared, and especially by those of Dr. James Edmunds, in recent numbers of THE LANCET.

I should not presume to engage in the discussion of this question of the administration of chloroform did I not do so from personal experience, and I confess that I have learnt much from this practical method of gaining knowledge and thus putting myself in the place of my patient. In fact, Sirs, I venture to think that all those who administer anæsthetics should have personal knowledge of its effect on themselves, and I have been not a little surprised to hear how learnedly some discourse on the subject without ever having experienced its effects. I have therefore administered it to myself and have had it administered to me by Dr. Edmunds with the Krohne inhaler on the method described by him in THE LANCET.

On each occasion full surgical anæsthesia was gradually and comfortably induced—without an iota of coughing, discomfort, or resistance, and without any after discomfort. On one of these occasions we were honoured by the presence of Dr. Alexander Haig and Dr. Stretch Dowse, and "pipe-smoking anæsthesia" was, I am informed, fully induced, yet the chloroform used from the graduated bottle was only 35 minims and the time of induction was seven minutes.

It would give me great pleasure at any meeting of medical men to submit myself to chloroform again in the same way for the purpose of a demonstration. I think, Sirs, you will agree with me that it is as desirable as it is imperative in the face of so many deaths occurring under chloroform that the important question of the safest mode of administration be at once calmly and quietly considered and discussed, and the best system be recognised and adopted by all anæsthetists. I should consider the sacrifice of my life a small matter to attain this object.

I am, Sirs, yours faithfully,

C. J. HARRIS, M.R.C.S. Eng., &c.

Kilburn Priory, N.W., June 14th, 1900.

Income Tax.—Our correspondent might make a return based on his own estimated income for the ensuing year; but no doubt the surveyor for the district, if the return were lower than that of his predecessor, would assess him on the average of the returns made for the past three years. We should try the first course.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 21st, 1900.

Date	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rainfall.	Solar Radia in Vacuo.	Maximum Temp Shade.	Min Temp	Wet Bulb	Dry Bulb.	Remarks at 8 30 A.M.
June 15	29 97	S.W.	0 09	114	70	57	60	63	Cloudy
" 16	30 05	S.W.	...	110	71	57	60	64	Cloudy
" 17	30 05	S.W.	...	109	75	61	61	66	Cloudy
" 18	30 08	S.W.	...	120	78	56	57	63	Fine
" 19	29·94	S.W.	...	120	77	60	60	66	Fine
" 20	29·74	S.W.	0·07	121	74	57	58	62	Cloudy
" 21	29·77	S.W.	0 05	79	61	55	56	61	Raining

During the week marked copies of the following newspapers have been received: *East Daily Press (Norwich), Leicester Daily Post, Daily News, Norfolk Weekly Standard, Bradford Observer, Leeds Mercury, Dundee Advertiser, East Anglian Daily Times, Blackburn Daily Telegraph, Ealing Gazette, Midland Free Press, Bexhill Chronicle, Scotsman, Birmingham Daily Post, Western Mail, Gazette (Middlesbrough), Folkestone Herald, Eastern Morning News (Hull), York Daily Herald, Times of India, Pioneer Mail, Citizen, Montrose Standard, Sun (London), South Wales Daily News, Manchester Guardian, Builder, Architect, Yorkshire Post, Bristo Mercury, Hertfordshire Mercury, Liverpool Daily Post, Mining Journal, Brighton Gazette, Reading Mercury, Bromley Chronicle, South-Eastern Gazette, West Sussex Gazette, Local Government Chronicle, Surrey Advertiser, Local Government Journal, Western Morning News, Londonderry Sentinel, Carpenter and Builder, Notes and Queries, Tewkesbury Record, West Bromwich News, Cambrian News, Chicago Daily Tribune, South Durham Mercury Weston-super-Mare Gazette, Ayrshire Post, &c., &c.*

Medical Diary for the ensuing Week.

OPERATIONS.

MONDAY (25th).— (1 30 P M), St. Thomas's (3.30 y's (2 30 P.M.), Middlesex (1.3 elsea (2 P.M), Samaritan (Gy), Soho-square (2 P.M.), Royal Orthopædic (2 P M), City Orthopædic (4 P.M), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

(2 30 P.M.), Cancer (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WE

TH

(1.30 P.M), London (2 logical, 2.30 St. Mark's (2 P.M.).

FI

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A M), the Royal Westminster Ophthalmic (1.30 P M), and the Central London Ophthalmic Hospitals operations are performed daily.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (25th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C).—4 P.M. Mr. M. Morris: Consultation. (Skin.)

LONDON THROAT HOSPITAL (204, Gt. Portland street, W.) —4 30 P M Diagnosis and Prognosis in Chronic Deafness. (Post-graduate Course)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.) —5 P M. Mr S. Edwards: Urinary Cases.

TU

W.C) —4 P.M. Dr. Sharkey Consultation. (Medical)

WEDNESDAY (27th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—5 P.M. Mr. W. A. Jacobson Consulta-

0 P.M. Mr rgical Cases.

THE CHEST

ture Theatre Commoner ... (Ingleby Lecture.)

THI

40 Cases.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C).—4 P M. Mr. J. Hutchinson: Consultation. (Surgical.)

LONDON-SKIN HOSPITAL (40, Fitzroy square, W.) —4 P M. Mr. J. Startin: Interesting Clinical Cases (illustrations by lantern slides).

WEST LONDON POST-GRADUATE COURSE (West London Hospital, ... W Hunter: Pathological

F ... COLLEGE AND POLYCLINIC ... D. Grant: Consultation. (Ear.)

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It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE, OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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The Croonian Lectures

ON

THE DEGENERATION OF THE NEURONE.

Delivered before the Royal College of Physicians of London on June 19th, 21st, 26th, and 28th, 1900.

BY FREDERICK W. MOTT, M.D. LOND., F.R.S.,

PATHOLOGIST TO THE LONDON COUNTY ASYLUMS; PHYSICIAN IN-CHARGE OF OUT-PATIENTS, CHARING-CROSS HOSPITAL.

LECTURE II.[1]

Delivered on June 21st, 1900.

MR. PRESIDENT AND GENTLEMEN,—In my last lecture I briefly referred to the present position of the neurone theory I gave some examples of its practical application and I dwelt at some length upon a method which has been used for studying the bio-chemical changes which occur in the protoplasm of the nerve-cell. Moreover, I pointed out the important evidence afforded by the development of the myelin sheath in proving correlation of structure and function, and that the formation of myelin depends upon three fundamental biological principles: 1. An acquired inherent tendency the result of evolutional differentiation of structure and function, for certain systems, groups, and communities of neurones at successive periods of time to ensheathe their axis-cylinders with an insulating and protecting structure—the myelin sheath which in the case of the peripheral nerves is contained within and partially formed by a chain of tubular mesoblastic cells. 2 Phylogenetically and ontogenetically stimulus from without is the determining factor in the bio-chemical change associated with the deposition of myelin 3. Absence of stimulus as occurs from long disuse occasions a regressive metamorphosis back to the embryonic type

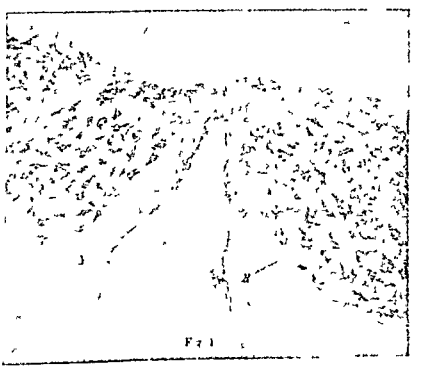
THE EFFECTS OF INJURY OF THE NEURONE

Section of the axis-cylinder or destruction of the nerve-cell (speaking collectively), whether produced by direct trauma or by morbid processes occurring in the vascular and supporting structures of the nervous system, causes a simultaneous death change of a characteristic chemical nature affecting the myelin sheath and axon extending from the point of injury to its terminal fibrils. This is Wallerian degeneration, or secondary degeneration of Waller and Türck. Ranvier showed that the sheath of Schwann consists of a series of tubular mesoblastic cells wrapped round the axon and that when a nerve is cut there is degeneration of the myelin and axon above the lesion as far as the next node. Each internode, therefore, represents a cell, and the fact that the degeneration does not extend upwards beyond the node allows the presumption that these tubular cells have some metabolic interaction with the contained axon and its surrounding myelin But whatever that reciprocal metabolic interaction of the axon and its ensheathing structures may be, secondary Wallerian [illegible] es that it is controlled and [illegible] and its contained nucleus; [illegible] that the metabolic activity of the nucleus is the mainspring of this trophic influence, by the production of some bio-chemical or bio-physical stimulus which pervades the whole complex neurone even to its far distant prolongations The Nissl method has shown that section of an axon causes changes in the nucleus and cell protoplasm. These may be temporary and recoverable or permanent and irrecoverable, The result apparently depends very much upon the degree and extent of the injury When a peripheral nerve-fibre is cut through the trophic influence of the cell is removed from the axon and myelin sheath which it generated These die; not so, however, the independent tubular cells of the sheath of Schwann, for these, soon after the death-change has commenced in the myelin, show signs of active proliferation. Whether, as some authorities would have us believe, they can lead to regeneration of the nerve, or whether, as seems much more probable, they prepare the way for the down growing axon, I shall not here enter into, but that they have an important function in regeneration is undoubted, seeing that regeneration in the central nervous system, where the sheath of Schwann is absent, does not occur. Tuckett has shown that when a non-medullated sympathetic nerve is cut the nuclei and sheath-like structures remain unaltered, while the axon alone degenerates; it could thus appear that the degenerating myelin may act as a formative stimulus causing nuclear mitosis and cellular proliferation.

THE EFFECTS OF INJURY OF A NERVE UPON THE CELLS OF ORIGIN.

Only since the introduction of the Nissl method of staining has it become known that changes occur in the ganglion cells almost immediately after section of the nerve. Nissl, who first studied this, called it "*primäre Reizung*"; and Marinesco, who has made a special study of this subject, has shown that section of the hypoglossal nerve on one side is followed by three stages of change in the corresponding nucleus of origin. The hypoglossal nucleus is especially favourable for the study of this question, the nerve being purely motor From the close proximity of the two nuclei comparative observations of the nuclei of the two sides make very evident changes, which occur as the result of section of the nerve on one side

Marinesco divides these changes which occur in the nucleus into three phases The *reaction* phase occurs during the first month and is characterised by a dissolution of the chromatophil elements and a displacement of the nucleus towards the periphery of the cell This change has also been recognised by many other observers—namely, Nissl, Ballet et Dutil, Lugaro, Flatau, van Gehuchten, Sano, Erlanger, and others The condition is not necessarily one of degeneration, as I shall show later It is important to bear this in mind, for a similar condition may be found affecting the anterior horn cells in peripheral neuritis, where disease has led to a destruction of the axis-cylinder process. In the *reparation* phase the cell body increases in volume, the nucleus resumes its original position, and the cell shows a distinct pyknomorphic condition (abundance of stainable substance) About 90 days after the injury the process of reparation has proceeded so far that the nuclear group of the injured side is only distinguished from the uninjured side by the increase in size of the cells and their processes. A little later the cells return to their normal appearance, in point of time corresponding to the regeneration of the nerve We may consider this cell hypertrophy as



Hypo[illegible]al nuclei of two [illegible] indicates the [illegible] cells of the nucleus [illegible] section during the phase of reparation [illegible] the normal side. (After Marinesco.)

evidence of the [illegible] physiological activity necessary [illegible] lossal nerve be torn out den, or if a large piece ther condition arise so the [illegible] is prevented, [illegible] then the reaction phase proceeds rapidly, and instead of a reparation phase of hypertrophy the cells undergo atrophy and a *degenerat* [illegible] ensues The accompanying diagram shows the changes in the cells of the hypoglossal

[1] Lecture I. was published in THE LANCET of June 23rd, 1900, p 1759

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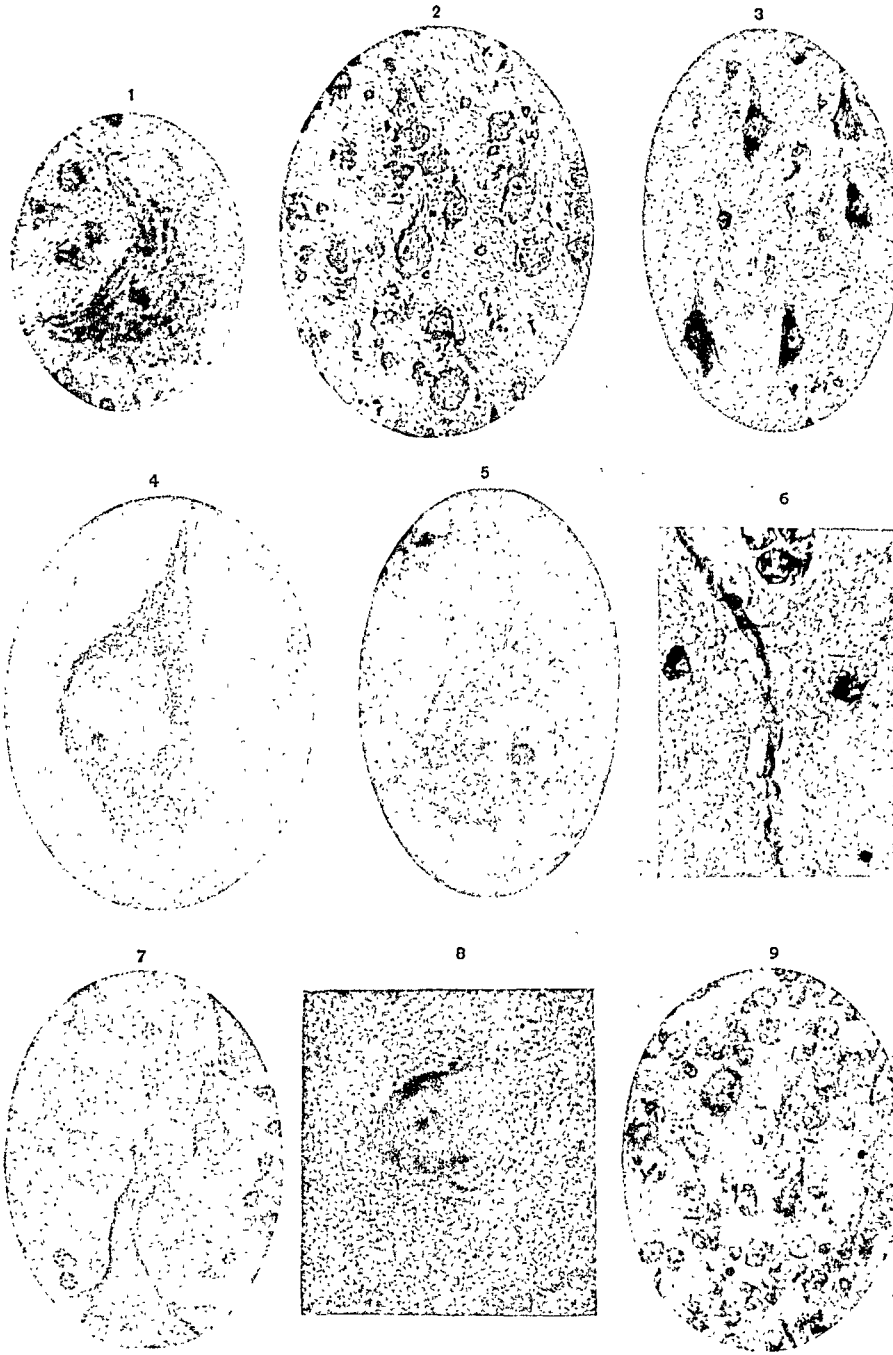

TO ILLUSTRATE DR. MOTT'S CROONIAN LECTURES ON THE DEGENERATION OF THE NEURONE.

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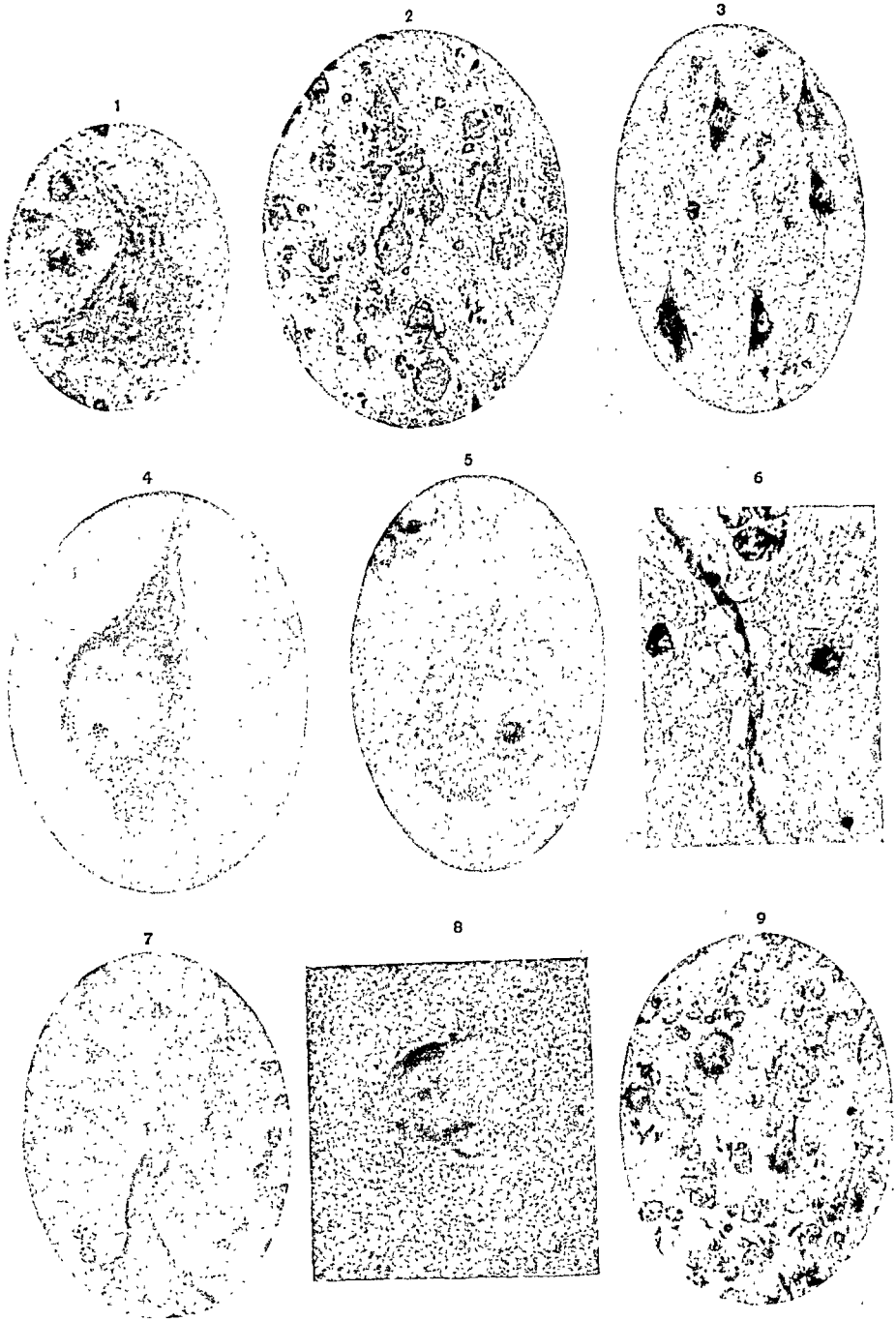

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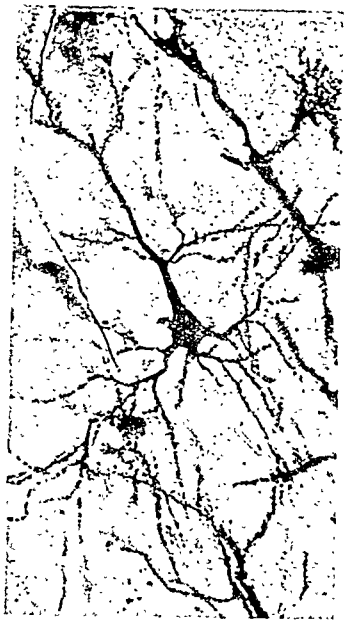

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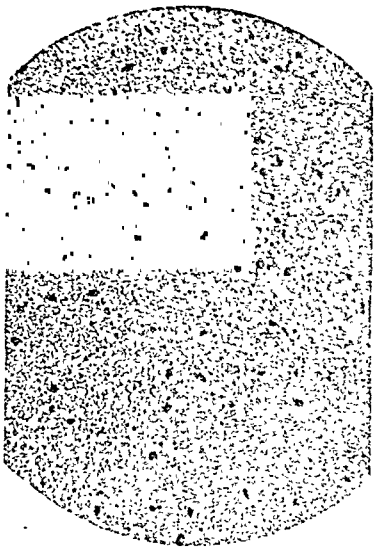

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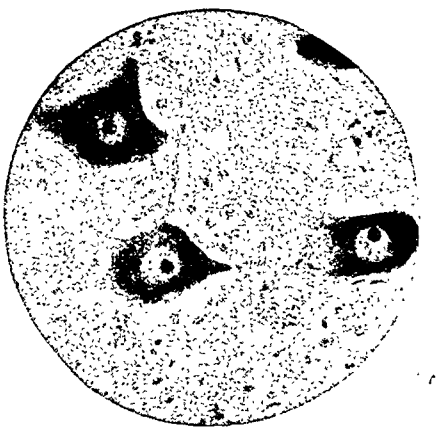

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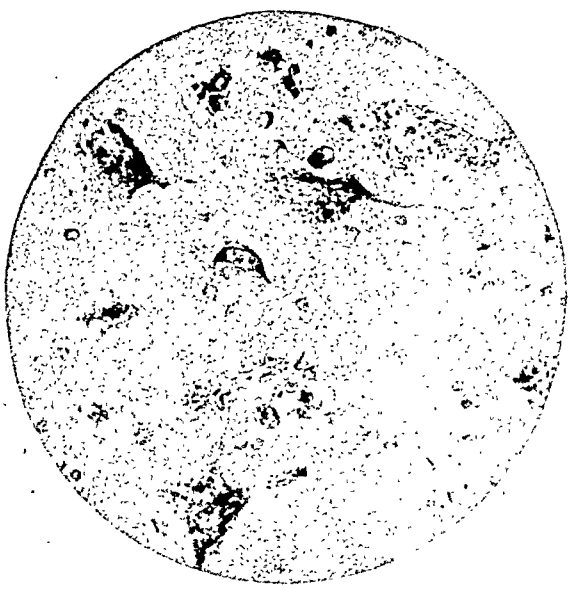

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definite figures which have received the name of Nissl bodies. Sometimes it appears as a fine dust, sometimes arranged in long threads separated from one another. One of the earliest changes to be observed is the absence or diminution of the chromophilous substance of the dendrons; moreover, the edges of the cells and the processes present a ragged instead of a clear-cut outline. Generally speaking, the changes in the chromophilous substance only do not denote destruction, but should the swelling be so great as to produce an extrusion of the nucleus the cell must necessarily die; and we can, if the animal be kept alive over 10 days, determine how many psycho-motor cells have been destroyed by the temporary anæmia occasioned by the ligation of the arteries. We can do this by examining sections of the pons, medulla, and spinal cord by the Marchi method. The number of black degenerated fibres will indicate the number of pyramidal motor neurones which have perished as a result of the anæmia. These are [illegible] W[illegible] say that n[illegible] lytic chan[illegible] More hyd[illegible] [illegible] even, though the [illegible] not mean death of [illegible] view of the asso- [illegible] changes in the [illegible] ate for the most [illegible] Figs. 2, 4, 5, and [illegible] 3 series of experi- [illegible] ments that had [illegible] found in most cases intact in animals that had completely recovered. We must suppose, therefore, that collateral circulation in dogs is restored very shortly after ligation of four arteries. The experiments of Ehrlich and Brieger in 1884 proved that anæmia of the lower portion of the spinal cord could be produced by ligature of the abdominal aorta, and that if the cir- [illegible] longer than from a quarter of an hour only a temporary paralysis [illegible] resulted, but if for one hour per- manent paralysis and destruction of the nervous elements [illegible] numbers of other experimenters [illegible] e lumbar spinal cord by this [illegible] e changes [illegible] e anæmia [illegible] after liga- [illegible] describes as occurring in the motor cells of the spinal cord as the result of complete occlusion of the circulation coincide very closely with the changes which I shall describe in other animals, especially monkeys and cats, also in dogs. [illegible] aorta for one hour in the [illegible] which was manifested by a granular destruction of the stainable substance of the cell [illegible] process [illegible] was the cell destruction. He found no vascular changes indicating inflammations and no hæmorrhages.

The subject of cerebral anæmia is of clinical importance, as it is well known that in man ligature of a carotid for aneurysm has been followed by hemiplegia, and I have examined the brain in one such case. Dr. Hill sent me a piece of the cortex from similar situations in both hemispheres and asked me to decide, by microscopical examination upon which side the patient was paralysed. This I correctly determined by the difference in the appearance of the cells of the two sides. We can understand, also, how *temporary* loss of motor or psychical function—e.g., transitory aphasia, monoplegia, hemiparesis, stupor, and dementia, [illegible] in syphilitic disease of the [illegible] ation be restored within an [illegible] of the artery, providing a [illegible] o the small branches the [illegible] the part and function may [illegible] urs or days. [illegible] mental anæmia of the spinal [illegible] abdominal arteries it is of [illegible] The exogenous fibres of the [illegible] ith the pyramidal tracts—tracts the fibres of which have their trophic and genetic centres respectively in the spinal ganglia and the cerebral cortex—do not undergo degeneration, whereas tracts which have for their trophic and genetic centres cells in the grey matter of the spinal cord undergo degeneration. Munzer and Wiener's experiments showed this, and recently I had the opportunity of examining a case of acute anterior poliomyelitis in an infant 14 days after the onset of the disease. In this case also the degeneration was limited entirely to those tracts the fibres of which arise from cells in the spinal cord, and I cannot help thinking that this case was of vascular origin—possibly spasm of the large artery which comes in to supply the lower end of the spinal cord. Ballet and Dutil found from their experiments that complete anæmia of the lower end of the spinal cord for a few minutes (by clamping the aorta) produced chromolytic changes in the anterior horn-cells. I have also found that swelling of the cells previously described, with chromolytic appearances, may come on within less than 10 minutes after ligation of the four cerebral arteries, for occasionally one of Dr. Hill's dogs or cats has died from the effect of the anæsthetic very shortly after the four arteries have been ligatured. It may be said that this was due to the anæsthetic. It was not, however, so, for occasionally I have had the opportunity of examining the brain tissues of animals which have died from the anæsthetic before any of the arteries were tied, and these showed no changes. (*Vide* Fig 3, Supplement.) We may therefore consider that the changes noted are due to the cessation of the circulation. Dr. Hill has shown that the cortex of these animals is readily excitable, and in some cases even hyper-excitable to electrical stimulations, epilepsy being produced. Consequently, this change in the appearance of the cells can be associated with increased electrical excitability, or, perhaps more likely increased tendency of stimulus to spread—a fact of considerable importance when put beside another fact—viz., that I have found in status epilepticus the cells presenting in many instances this swollen dropsical appearance, with marked changes in the chromo-philous substance (*Vide* Fig. 13.) In general paralysis of the insane epileptiform seizures are of frequent occurrence, and when they do occur in the progress of the disease I have found invariably that in proportion to their frequency and severity there is a large number of recent degenerated fibres in the pyramidal systems. Consequently, we may assume that epileptiform seizures in this disease are associated with death of the cortical pyramidal motor neurones, due in some instances (I believe in great measure) to vascular disturbance of the cortex. (*Vide* Fig. 9.) The disease itself is, I consider, primarily a progressive decay of the nervous elements, but owing to the establishment of a vicious circle numbers of neurones are destroyed by circulatory disturbances.

I will now pass on to the effects of *experimental anæmia*, produced by ligature of arteries in which collateral circulation was not restored soon enough to prevent destructive changes in the nerve cells. If cats or monkeys have all four arteries ligatured, or if, instead of ligaturing both vertebrals and both carotids in dogs, a subclavian be tied instead of one of the vertebrals, a sufficient collateral circulation cannot be restored soon enough and the animal dies in a period varying from a quarter of an hour to 24 hours. The time variation no doubt depends upon the effect produced upon the medulla by the anæmia. The [illegible] of animals which have thus li[illegible] entirely to those which have [illegible] There is not merely a physical [illegible] this may or may not be present, [illegible] not swollen, but are even shrunken. The staining reaction is also different, showing a bio-chemical as well as a bio-physical change; sometimes the whole cell stains uniformly but not with a brilliant colouration. (*Vide* Fig. 7.) If a double stain has been used, for example, methyl-blue and saffranine, the whole cell may be stained a uniform dull purple, the processes, as well as the body of the cell, having a homogeneous instead of a differentiated reaction to the dyes—a condition which is similar to that met with in hyperpyrexia and to the appearances described by Sarbo in the motor-spinal neurones of the lumbar-sacral region after clamping the abdominal aorta. These animals prior to death, according to Dr. Hill's notes, generally had epileptiform convulsions. One animal, a monkey, presented the most instructive changes, because after ligature of both carotids and one vertebral it was partic and demented, took no notice of anything, and behaved exactly like an

animal with its higher cortical centres destroyed, which indeed they were. It was killed on the fifth day and examination of the brain of this animal exhibited the following changes, which are shown in the accompanying photo-micrographs. The nerve-cells and all their processes were uniformly stained a diffuse dull purple and were readily discerned on account of the dilatation of the lymph space in which the neurone lies; scattered through the protoplasm of the cells was a fine dust of coloured particles; the apical processes of the cells were either destroyed or twisted like corkscrews; in many the dendrites had disappeared, but in some of the cells the axis-cylinder could be traced with unusual distinctness, probably due to some swelling; and one cell was observed which is of interest because the axis-cylinder process could be traced some distance, giving off lateral twigs that seemed to merge into a general network, supporting, therefore, the diffuse nerve network theory of Golgi. (*Vide* Fig. 6.) Many of the cells were swollen up, as Fig. 8 shows, and others were shrunken. Some could be seen with phagocytes sticking to them and devouring the dead cells. Although one observed these very marked changes in the cells by the Nissl and Weigert iron methods, yet by the chrome-silver method the cells appeared normal, showing the gemmules on their processes with unusual distinctness (*vide* photo-micrographs 10 and 11). The brains of other animals, dogs and cats, were examined by similar methods with the same results. It may be that the chrome silver only stained those cells which had not undergone disorganisation; but none of the cells when examined by the methods I have alluded to exhibited normal appearances as regards their bio-chemical condition nor was the animal physiologically normal. I have therefore come to the conclusion that the rapid silver method of Golgi which stains only a few cells, although undoubtedly of the greatest value for anatomical purposes, yet for acute pathological findings is unreliable. Many of the statements which are made with regard to the effects of drugs, anæsthetics, and acute disease, as represented by the appearances of the gemmules on the processes of the cells, as made evident by the chrome-silver method, are therefore open to serious objections It is very probable that the method of Cox might be found of value in determining changes in the cells of the cortex in chronic disease and possibly also in acute disease. I have not mentioned that in most of these brains experimented on a striking naked-eye feature was the distension of the veins of the cortex with blood, and frequently there was sub-pial hæmorrhage; also the peri-vascular lymphatics were usually distended with fluid. No doubt, both the increase of blood in the superficial veins, the increase of fluid in the peri-vascular lymphatics, and the general œdema of the brain itself were proportional and compensatory to the diminution of the arterial blood. The arteries were generally empty, likewise the capillaries. In some cases the peri-vascular lymphatics and membranes were the seat of a marked cellular infiltration resembling the condition found in general paralysis. Collateral circulation to the medulla, by which the respiratory centre is kept going, is essential to life. Such collateral circulation when established—and if the animal lives it must have been established—would be accompanied by blood-supply to the choroid plexus, and the cerebro-spinal fluid, which functions as the lymph of the brain, would consequently be secreted in abundance and soon compensate for the diminution caused by the failure of the arterial circulation. Thus the increase of cerebro-spinal fluid would account for the œdema of the brain, the dropsical condition of the cells, and the dilatation of the peri-vascular lymphatics.

Some experiments which I made five years ago with Professor C. S. Sherrington, and which we have never found opportunity to continue and develop, are, I think, of sufficient importance to mention with this subject of anæmia. We found that compression of the spinal cord in the dorsal region, even enough to produce indentation, would not stop the passage of impulses generated by faradaic excitation of the cerebral cortex to the lower spinal motor neurones. In two animals—monkeys—upon compression with an eye removed from a rat immediately after death, fixed at the end of a glass tube attached to a horizontal lever in such a way that compression of the cord could be made by this living tissue and the pressure measured by means of a sliding weight, we found that *extremely light pressure* upon the lumbar spinal cord was sufficient to abolish conduction in from one minute to one and a half minutes after the pressure was applied, and upon removing the pressure conduction in a minute or two returned because faradaic excitation of the cortex was responded to by an appropriate muscular contraction. The experiment was repeated a considerable number of times and I have no doubt that in these two animals we managed to produce an anæmia of the grey matter of the lumbo-sacral spinal cord by compression of the large artery that comes in about the third lumbar root, causing a physiological block in the synapsis formed by the terminal arborisations of the axons of the cortical pyramidal neurones with the dendrons of the spinal motor neurones.

EFFECTS OF HÆMORRHAGE.

Large quantities of blood may be lost to the body from hæmorrhage without producing any appreciable changes in the nervous elements. Voss has performed a number of experiments on animals, endeavouring to produce degeneration of the spinal cord by injections of pyridine sufficient to produce a severe anæmia, but without result. Likewise, numbers of cases of pernicious anæmia, leucocythæmia, and exhausting blood disease are not found associated with any noticeable change in the neurones. I have examined the nervous system in several cases of pernicious anæmia (in one of which the corpuscles had sunk to 500,000 per cubic millimetre), in cases of very severe anæmia from hæmorrhage and exhausting disease, and leucocythæmia (in which the red corpuscles were reduced to one-fourth and in which the whole of the brain and vessels showed congestive stasis and hæmorrhages), and yet the nerve-cells of these cases of extreme anæmia showed little or no bio-chemical change, the Nissl granules appearing quite normal (*vide* Fig. 1). Nor did sections of the nervous system in these cases show any degenerative changes by the Marchi method. It is, therefore, more than probable that those cases of combined sclerosis of the spinal cord, sometimes met with in pernicious anæmia but more often accompanied by grave anæmia, are due to some other cause than the deficiency of red corpuscles. Probably in the blood there is some neuro-toxin which produces this primary systemic degeneration of neurones with long axis-cylinder projections, forming the long tracts in the spinal cord; or it possibly may be that those individuals who suffer from this nervous affection have an inherent defective vitality or lowered durability of the nervous system which, in combination with the defect of the blood-supply in quantity and quality, leads to degeneration. The fact that inanition, even extreme inanition, produces little or no loss of weight in the nervous system and hardly any changes of importance in the microscopical appearances of the nervous elements is of considerable importance, for it seems to show that the metabolic exchange which goes on in the nervous system is either especially protected by the metabolism of the whole body being subservient to it, or that however important the metabolic exchange in the nervous system may be, in amount it is not considerable. Those primary wasting diseases affecting systems, communities, and groups of neurones, associated one with another by functional relationship rather than by anatomical or vascular supply, insidious in origin and progressive in course, cannot be essentially due to anything else than a metabolic failure on the part of the neurones themselves (which, after all, are but complex differentiated cells) to assimilate from the blood the necessary materials to maintain their specific vital energy. They die in a manner the reverse of their evolution, the most distant parts of the tree—namely, the terminal twigs (collaterals)—being the first to go, then the branches, and last of all the trophic and genetic centre itself, the cell body and its nucleus.

Dr. Watson in my laboratory has carefully compared the sections of these experimental anæmic brains with a large number of sections of general paralysis. He has made drawings of cells which he considered presented similar appearances in the two conditions and the result of his observations appears to show that whilst a large number of the cells exhibit changes indicating chronic atrophy, a considerable number of cells in general paralysis present acute destructive changes similar to those met with in cases of experimental anæmia from arterial occlusion, but they are scattered about in small foci. Arteries in this disease are seldom occluded, whereas congestive stasis in the arterioles, capillaries, and veins, even thrombosis in the latter, is common; and we may consider that the destruction of the nervous tissue of the cortex may be accelerated by inflammatory stasis. It is curious how general it is to find the brain atrophy in this disease limited particularly to the

frontal and central convolutions, whereas the occipital and temporal lobes escape in great measure. Over the atrophied regions the pia-arachnoid membrane is thickened and adherent. Many observers, including Flechsig and Mickle, consider that the region of atrophy corresponds particularly with the area of distribution of the internal carotid arteries. I think, however, the area of atrophy and pia-arachnoid thickening more closely corresponds with the distribution of [illegible] nus, and from a [illegible] myself and my [illegible] that venous con- [illegible] ays an important [illegible] of general para- [illegible] refer to this more fully later.

Mendel and many authorities believe that general paralysis is a primary inflammatory condition of the vessels and meninges with secondary destruction of the nervous elements. In 1884 Mendel, who believed that the necessary factors were (1) diseased walls of vessels allowing transudation of plasma and leucocytes, and (2) hyperæmia of the brain, claimed to have produced this condition artificially by rotating dogs upon a table with the heads outwards. Fürstner repeated these experiments over a considerable period of time, causing degenerative changes in the cortex, with secondary descending changes in the cord. There are many reasons, however, which will be alluded to later, for considering general paralysis to be a primary progressive decay of the nervous elements with secondary changes in the vessels and membranes.

ALTERED STATES OF THE BLOOD; HYPERPYREXIA.

The study of the lesions of nervous centres due to hyperpyrexia is of great interest from a theoretical as well as from [illegible] w—from the former because the [illegible] ture of the lesion might be able to [illegible] nature of the pathological process [illegible] which accompany hyperpyrexia; from the latter because it would indicate the direction of treatment. Goldscheider and Flatau, who for the first time described lesions of the nerve cells in the rabbit caused by experimental hyperthermia, came to the following conclusions:—1. If the temperature remained about 108 7° F. the cells of the spinal cord examined by Nissl's method presented no appreciable modifications. 2. If the temperature exceeded 109 5° F. the lesions of the nerve-cells of the spinal cord were very definite, extending throughout the whole of the grey matter. 3. The duration of the experimental hyperthermia they showed to be a very important factor in the production of the lesions, for if the animal be kept for some hours between 107° and 108° F. the same effect on the nerve-cells is produced as occurs in a much more rapid manner when the temperature is raised to 109 5° F.—viz., swelling of the cell and its processes; diffuse staining of the whole neurone with disintegration of the chromophilous substance; and around the nucleus the chromophilous elements still persisting to some extent as if the outer portions of the cell were more affected than the central. The nucleus has an irregular and often an angular appearance.

Marinesco has also done some valuable work on this subject; he found that if artificial hyperthermia in animals be produced, so that the temperature is raised to 116 6° F in the rectum, the animal died in 30 minutes with characteristic changes in the nerve-cells. He also remarked that these changes occur at a lower temperature when the duration is increased. In five cases of hyperpyrexia occurring in the human subject which I have examined, and in which the temperature reached 109° F. or more, I have found the same bio-chemical change revealed by the Nissl method in all the cells of the central nervous system I have, however, met with cases of status epilepticus in which the temperature was from 107° to 107 5° F. for a short time without showing this change Again, I have seen in one case a moderate degree of chromolysis and diffuse staining in prolonged pyrexia varying from 103° to 106 5° F. This was in a case of typhoid fever, and it might very well be that the change was due to the influence of the toxin. In fact, in most of the human cases the changes could be ascribed to the conditions which produced the fever and not to the influence of the increased temperature of the blood. Some of the cases which I have examined, however, were sudden—e.g., one was probable sunstroke, another was a case of hæmorrhage into the spinal canal and the base of the brain in general paralysis, and another was a case of Congo sickness. The photo micrograph (Fig 14) shows three anterior horn cells from the last case. You will observe the diffuse staining of the processes and of the body of the cell. Another case of Congo sickness in which the temperature never went above 103° F. showed no change in the Nissl granules and the cells presented a fairly normal appearance. I have examined the nerve-cells in many cases of septic poisoning and other diseases, but I have never seen this change unless there was either hyperpyrexia or prolonged high fever (*vide* Fig. 1, Supplement) The fact that experimental hyperthermia in animals produces this bio-chemical change in the protoplasm of the cell indicates that it is the altered temperature of the blood which is the cause in the human subject of these changes. Another point is that if the sections are stained with methylene blue and saffranine the protoplasm is stained a uniform dull purple instead of being differentiated. Now we have seen that the healthy cell shows a differentiation of staining; the Nissl granules which have been shown to be a nucleo-albumin are no longer visible in hyperpyrexia; and there is no longer the differentiation of a stainable and an unstainable substance with basic dyes There must, therefore, have been produced by the fever a profound modification of the protoplasm of the cell. There are two points to be considered in this—viz., (1) the fact that a temperature of 109 5° F. can bring about rapidly this coagulation process and death of the protoplasm, also that it affects first and most markedly the periphery of the cell; and (2) that prolonged high temperature of from 107° to 108° F. will produce this same [illegible] here are three proteids in [illegible] oglobulin which is coagu- [illegible] a nucleo-proteid which is [illegible] ; and (3) a neuroglobulin [illegible] 5° C.)—and that these three bodies can be separated out by fractional coagulation. We see, then, how it is that Marinesco found that animals in which the temperature is raised to 116 6° F. (47° C.) died almost immediately with changes in the cells indicating coagulation in the protoplasm. No doubt this neuroglobulin is precipitated at once, and it occurred to me that if a solution of neuroglobulin were subjected to long heating it would coagulate at a much lower temperature. I mentioned the matter to Dr W. D. Halliburton who was of the same opinion, and we have therefore made experiments on this subject, and we find that prolonged heating for four hours, for example, will cause coagulation of the neuroglobulin at a temperature of between 107 6° and 109 4° F. (42° to 43° C.). Moreover, Dr. T. G. Brodie and Dr. Richardson have shown that in frog's muscle the tissue loses its irritability at that temperature at which coagulation is induced first in one of its constituent proteids. We have thus a chemical explanation of the cause of death of the protoplasm, also of the changes manifested by it as regards staining

Goldscheider and Marinesco have shown experimentally that a certain degree of this coagulation change may take place without death of the cells; for if they produce artificially hyperthermia in animals for only a short time and then kill them they find a commencement of this coagulation process to have taken place But these animals would have lived had they not been killed for the purpose of examination, consequently we may suppose that a certain degree of bio chemical change, associated with coagulation of neuroglobulin, may take place without destroying the protoplasm to such a degree as to render it incapable of recovery. I think this entirely coincides with and explains the remission of symptoms, the return of consciousness, and the recovery which often takes place in some forms of hyperpyrexia when the cold bath method is resorted to without delay.

It is a matter of speculation whether structures later developed and functionally more highly differentiated, as the cells of the cerebral cortex, are more highly susceptible to fever and succumb more readily under it. Possibly high temperature of the surrounding blood and lymph is more readily felt by the small cells of the superficial layers of the cortex on account of the increased surface exposed and delirium followed by coma may be the result of this, although the vital centres in the medulla may still be able to perform their functions.

The diffuse staining of the cells indicates a diffusion of the nucleo-proteid through the substance of the cell body and its processes. We may suppose, therefore, that the

essential achromatic fibrillary substance is killed and that the nucleo-proteid which is normally contained in the reticulum of the cell in solution has soaked into the achromatic substance and given the protoplasm the uniform staining which, when once general, is quite characteristic of hyperpyrexial death, as I have been able to verify in several instances. These facts, pointing to an actual bio-chemical change involving the death of the protoplasm when the temperature remains for some hours above 109° F., support Dr. Osler's view that cases of paradoxical temperature occurring in women and termed "hysterical hyperpyrexia" are frauds as a rule, although he states that other cases have to be accepted, the explanation of which is impossible under known rules—in [illegible] that temperature above 114° F. is [illegible] for a short time.

TOXIC CONDITIONS OF THE BLOOD AND LYMPH.

The primary degenerative changes occurring in the neurone are usually the result of poisonous conditions of the blood and lymph The poisons may be produced: (1) within the body, by perverted functions of the organs or tissues (auto-intoxication); (2) by the action of micro-organisms upon the living fluids and tissues of the body whereby various toxic substances are produced, either locally or generally, and by their escape into the blood cause degenerative changes; and (3) the poisonous substance may be introduced into the body from without. Just as we know that various alkaloids used in medicine have a specific affinity for particular portions of the nervous and muscular systems, so we find that certain poisons which produce degeneration and disease have a special selective influence We know that strychnine, for example, has a special selective influence upon the spinal cord, increasing reflex excitability. Goldscheider and Flatau have shown that strychnine poisoning produces changes in the motor anterior horn cells closely corresponding to those observed in tetanus poisoning; these changes may be observed as commencing three minutes after injection of the poison if a sufficient dose be given. As in tetanus poisoning there is no close relationship between the morphological change and the degree of functional disturbance. These observers have also shown that acute cell changes occur as a result of malonitril poisoning ($NC—CH_2—CN$) Injection of hyposulphite of soda neutralises the toxic effects of this poison and prevents the changes in the nerve-cells. Experiment has shown that curare poisons the motor end plates, and recently, in an interesting communication, Dr. Augustus Waller showed how a very slight difference—a molecule of water—will alter the action of an alkaloid Thus he has shown that veratrin has a special selective toxic action upon muscle, while proto-veratrin acts upon nerve. These facts, together with others which I will cite in connexion with degenerative changes produced by the selective action of poisons in the production of disease, indicate a special chemical affinity of certain protoplasmic structures for certain particular poisons; and the corollary is that probably the protoplasm of every nerve structure having a different function varies to some slight degree. There is a difference which is not to be detected by chemical methods, but the varieties of which are clearly shown by the difference in their physiological reaction to an altered environment. Perhaps one of the most striking demonstrations of this selective affinity of protoplasm for particular chemical compounds is shown by the intra-vitam methylene blue method introduced by Professor Ehrlich, and which in the hands of many investigators has produced such marvellous revelations into the minute structure of the nervous system Ehrlich found that only those aniline dyes which contained sulphur in their composition were suitable for yielding the reaction. Examples of the special selective influence of the various poisons which produce disease are very numerous. There is a whole class of poisons which affect especially the peripheral nerves; and it is a debateable point whether in peripheral neuritis the whole neurone suffers, or whether the changes which have been found in the cells of origin of the peripheral nerves and in the spinal cord and ganglia are due primarily to the action of poison or whether they are secondary to the destructive effects of the poison upon the outgrowths of the cells—viz, the axis-cylinder processes of the peripheral nerves. Again, there are a number of poisons—diphtheria, botulismus, &c.—in which the fatty degeneration of the muscle is far in excess of what could be reasonably attributed to the changes found in the nerves Probably the vulnerable point of the neuro-muscular mechanism is at the junction of the nerve with the muscle. Comparative studies, however, which would show degenerative changes in the motor end plates are extremely difficult, and it is rather by inference than direct observation that we must believe the poison to act upon this structure.

The effects of a poison in producing degenerative changes may be immediate or remote, even distantly remote. Thus some poisons on entering the system may produce sudden, or almost sudden, effects—viz., strychnine or absinthe. Others produce more or less remote effects—viz., rabies, tetanus, or diphtheria; others produce distantly remote effects, as syphilis.

Again, many poisons in order to be effective must accumulate in the system—viz., the mineral poisons, lead, and arsenic. Dixon Mann states that it has been shown that lead exists in the brain in appreciable quantities in encephalitis saturnina.

SELECTIVE INFLUENCE OF POISONS.

The most remarkable example of selective influence which I can cite is tetanus. The bacilli are found only in the wound—they must, therefore, be comparatively few in number, yet they elaborate a virulent poison which affects particular groups of neurones. The fact that lockjaw in man nearly always occurs first shows that the poison selects the motor nucleus of the fifth nerve. This, however, is not the case in animals when poisoned by the tetanus toxin. We do not know whether this selection is due to some anatomical condition which favours the absorption of the poison or whether it is the result of a bio-chemical affinity of that particular group of neurones for the poison. It is remarkable that experiment has shown that the tetanus toxin if mixed with an emulsion of nervous matter before injection into an animal loses its toxicity, showing thereby its affinity for nervous matter. Goldscheider and Flatau, who have studied the changes in the nerve-cells of animals that have been injected with the tetanus toxin, describe conditions which they consider characteristic of the action of this particular poison. Examination of the cells of the anterior horns of the spinal cord shows enlargement and pallor of the nucleus, swelling and crumbling of the Nissl bodies, and fine granular disintegration of the Nissl bodies associated with swelling of the whole cell.

Marinesco maintains that in [illegible] he action of the tetanus toxin two [illegible] an be distinguished, one the result [illegible] combination of the poison with the cellular protoplasm and the other the wearing out of the cell from excessive functional activity. He agrees with the conclusion of Goldscheider that there is a chemical [illegible] excitability of the motor neuro[illegible] nsensus of opinion among auth[illegible] worked at this subject, including those named, that the injection of tetanus antitoxin retarded these cell changes and caused a more rapid return to normal. It is only right to say that Courmon, Doyen, and Pairot, from experimental results of their own, deny that tetanus toxin produces any alteration in the cells of the anterior horns, and certainly specimens of the medulla and pons from two cases of tetanus in the human subject which I have had the opportunity of examining showed no certain noteworthy change.

Another poison, probably of microbial origin, rabies, has a special selective influence upon the medulla, although the whole nervous system is charged with the poison, pointing, therefore, to the fact that there is some special affinity of the neurones in the medulla for the poison. I have had the opportunity (through the kindness of Dr Herbert Durham) of examining the medulla of a child who died from hydrophobia in Guy's Hospital six weeks after having been bitten by a mad dog. The greater number of the cells of the motor nuclei of the medulla showed marked degenerative changes, indicating a slow process of coagulation necrosis—viz., uniform diffuse staining with absence of Nissl granules; there was also a great deal of nuclear proliferation in the glia substance, denoting an irritative as well as a degenerative process. Dr. Herbert Durham was also kind enough to give me the nervous systems of three animals which had been poisoned with the toxin of "bacillus botulinus"—first described by Ermenghen who discovered the organism in unsound meat and fish eaten by people who had died with a characteristic [illegible] Such a condition in this country wo[illegible] called "ptomaine poisoning." The [illegible] which I have

found in the nerve-cells are similar to those described by Marinesco who has specially studied this subject. There is a marked chromolytic change, some cells being much more affected than others (*vide* photo-micrograph, Fig. 16). The poison is extremely virulent and if a minute dose is given so that the animal does not die before the end of a week or so the changes in the nerve-cells are not more marked than in an animal which dies within 24 hours. The most noteworthy change, however, which I have found in an animal which survived eight days was the extreme fatty degeneration of the heart and striped muscles of the body (*vide* photo-micrograph, Fig. 17). The liver also had undergone extreme fatty degeneration. Seeing that the peripheral nerves showed no degenerative changes one may conclude that the poison acted more particularly upon the muscle or the nerve endings in muscle. As I have already had occasion to point out chromolytic changes of themselves do not indicate death of the nerve-cell but rather functional depression. Seeing that [illegible] neral nerves or in the [illegible] it is probable that the [illegible] ally related to functional depression rather than actual destruction, and might have arisen from circulatory failure in the central nervous system due to paralysis of the heart. Marinesco noticed that the chromatolysis generally occurred first at the periphery of the cells; as the morbid process advanced there was destruction of the achromatic fibrils and formation of vacuoles. I have not observed vacuolisation, only extreme chromatolysis. Kempner and Pollak have found similar changes in the nerve-cells, and have further observed the slow restoration of the cells to normal under the action of specific antitoxin. Somewhat similar changes have been described by several authorities in the anterior horn-cells of the spinal cord and medulla of animals injected with diphtheria toxin. Dr. Sidney Martin separated the chemical toxin of diphtheria and produced by its injection into animals marked fatty degeneration of the muscles which he attributed to an associated change in the nerves. In four cases of diphtheritic paralysis in man which I have examined I was able to find fatty degeneration of the heart muscle in all; in only one case could I find Wallerian degeneration of the peripheral nerves, and in only this one case could I find any chromolytic changes in the motor-cells of the medulla.

Abrin and ricin-toxic proteid bodies.—Dr. Sidney Martin long ago showed that the seeds of jequirity contained a proteid body which if injected into an animal profoundly clodified the blood and caused its death. This body, abrin, together with a similar body, ricin, obtained from castor-oil seeds, were made the subject of a most valuable research by Ehrlich. Very small quantities of these poisons injected into animals cause profound modifications in the appearance of the nerve-cells. The Nissl bodies disappear, the cells are stained uniformly, and show a fine-coloured dust all through the protoplasm of the cell and processes. All the nerve-cells are affected, and the cause of these altered appearances would indicate a changed condition of the blood and lymph rather than a selective influence of the cells for the poison. I have examined the nervous systems of two guinea-pigs which Dr. Durham kindly sent me. One animal died 45 hours after the injection of 0·2 milligramme of abrin globulin and all the cells showed the appearances described (*vide* photo-micrograph, Fig. 15). The other animal had been immunised and then in the course of a week received an amount equal to 60 fatal doses without succumbing; the nervous structures in this animal showed far less change—most of the [illegible] although many showed more [illegible] Berkeley has studied the change[illegible] by ricin.

Absinthe.—Dr. Leonard Hill, while making his experiments upon the cerebral circulation, had occasion to inject animals with absinthe. He sent me the nervous tissues of these animals and I was greatly surprised to find that changes were discoverable in the cortical pyramidal cells of animals which had died in fits within 10 minutes of the injection of five minims of the poison. The cells were, however, not all equally affected, some groups of cells showed marked chromolytic change, while others showed no change. Animals that had lived two hours after the injection of a smaller dose (two minims) likewise showed unequal effects. The cortical pyramidal cells were, however, always more affected than the motor cells of the anterior horns of the medulla and spinal cord; and one therefore naturally asks, Can we account for this by supposing that the cells have each a specific vital resistance? That this may be so is perfectly clear from the fact that such poisons as abrin, botulin, ricin, &c., produce when injected *much more* marked effects on some cells of the same function than on others. In the case of absinthe it must be remembered that we have to do with an oily fluid, and it is possible that really the fits may have been due to irritation caused by minute capillary emboli of an acrid and poisonous nature becoming lodged in the minute vessels of the cerebral cortex. The capillaries in the cortex are extremely small and would favour such lodgment. Such an explanation seems possible, for if absinthe be injected subcutaneously, even in large quantities, fits are not produced (Hill). I am also indebted to Mr. Victor Horsley for the nervous system of a cat which had received two minims of absinthe intravenously injected. The animal had three fits and survived two hours. The changes in the motor cells of the brain and cord corresponded to those above described.

[illegible]

and 34. Erlanger: reference, Barker's Nervous System, p. 257. Ferrier and Turner. A Record of Experiments illustrative of the Symptomatology and Degenerations following Lesions of the Cerebel [illegible] and related Structures in Monke[illegible] vol. clxxxv., 1894. Flatau: Neue [illegible] die Pathologie der Nerven-zelle; [illegible] No. 8. Pitchsig: Gehirn und Sec[illegible] du Système Nerveux. Gold-[illegible] Anatomie der [illegible] Circulation, [illegible] ociety, June, 1893, p. 90. [illegible] chrift, 1891. [illegible] igaro, [illegible] Marine [illegible]

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DESCRIPTION OF PHOTO-MICROGRAPHS OF SUPPLEMENT.

1. Normal pyramidal Bett's cell, cortex cerebri, stained by the Nissl method. The preparation was made from the brain of a man who died from an obscure septic affection after eight weeks' illness. Towards [illegible] It is interesting that this combination of factors was insufficient to produce bio-chemical changes in the nerve cells. Magnification 700 diameters.

2. Section of the cortex cerebri of a dog after ligation of both carotids and both vertebrals. Magnification 250 diameters.

3. Section of the cortex of a cat that died under the influence of an anæsthetic prior to ligation of arteries. Normal appearance of the cortical pyramidal cells stained by the Nissl method. Magnification 300 diameters.

4. Pyramidal cell of a dog after ligation of two carotids, one vertebral and one subclavian. Great swelling of the nucleus, advanced chromatolysis most marked at the periphery of the cell. Magnification 700 diameters.

[illegible] of arteries, showing extreme [illegible] of the nucleus. Magnifica-[illegible]

[illegible] pyramidal cell, the lymph [illegible] showing the collateral sli[illegible] ive network. Magnificati[illegible]

7. Pyramidal cell with diffuse staining from a cat after ligation of four cerebral arteries. Magnification 600 diameters.

8. Pyramidal cell from a monkey five days after ligature of two carotids and one vertebral, showing swelling in the pyramidal cell with diffuse homogeneous staining owing to the diffusible substance being scattered through the protoplasm of the cell as a fine dust.

9. Section of the cortex of a case of general paralysis, showing acute cell changes. Magnification 250 diameters.

10. Cell of Purkinje from the cerebellum of a dog 12 days after [illegible]

ligation of four arteries, showing absolutely normal appearances. Magnification 150 diameters.

11. Pyramidal cell from the cortex of a monkey, five days after ligation of two carotid arteries and one vertebral artery. Stained by the rapid Golgi method, showing gemmules on the dendrons and all the external appearances of a normal cell. Magnification 150 diameters.

12. Section of the pyramidal tract of the spinal cord of a monkey 10 days after ligation of two carotids and one vertebral. A few scattered degenerated fibres are revealed by the Marchi method. These were more numerous on the side opposite to the hemisphere on which the vertebral was ligatured, but altogether they were not more than 60 in number, so that only an inconsiderable number of the psycho-motor cells had perished as a result of the anæmia. This quite conforms with the fact that the animal had returned to the normal physiological condition when it was killed with chloroform. Dogs with four arteries ligatured and kept alive over 10 days frequently showed that a certain number of the psycho-motor neurones had perished, but the numbers were inconsiderable.

13. Swollen œdematous cell from the top of the ascending frontal convolution with diffuse staining and absence of Nissl granules from a case of status epilepticus. Magnification 700 diameters.

14. Section of the spinal cord of a case of Congo sickness with hyperpyrexia in which the temperature reached 109° F. prior to death. The whole of the cells throughout the central nervous system showed a diffuse homogeneous dull staining. The Nissl granules had entirely disappeared from the processes and the body of the cell and the stainable substance had a fine dust-like appearance. The processes are unusually distinct on account of the diffuse staining, the nucleus is clear and swollen, faintly stained, and the nucleolus is deeply stained. Magnification 400 diameters.

15. Anterior horn cell of the spinal cord from a guinea-pig which died 45 hours after injection of 0·2 milligramme of abrus globulin. Magnification 400 diameters.

16. A section of the anterior horn of the spinal cord of a rabbit 21 hours after injection of 0·01 cubic centimetre of botulismus toxin, which killed the animal. The whole of the cells throughout the central nervous system showed more or less a marked chromolytic change, as indicated in the photo-micrograph. Magnification 250 diameters.

17. Section of the diaphragm of a guinea-pig which died on the eighth day after injection of 0·0005 cubic centimetre of botulismus toxin containing 2 per cent of solids. The muscle was stained by the Marchi method and shows that quite one half of the fibres have undergone acute fatty degeneration. The dense black masses are fat cells; the degenerated muscle fibres are indicated by the diffuse black staining. The musculi papillaries of the heart showed even more marked fatty degeneration.

Figs. 1, 2, 3, 4, 5, 7, 8, 9, 13, 14, 15, 16 are photo-micrographs of preparations stained by the Nissl method. Fig. 6 was stained by the Weigert iron method. Figs. 10 and 11 were stained by the rapid Golgi method. Figs. 12 and 17 were stained by the Marchi method.

The Cavendish Lecture

ON

THE APPLICATION OF PATHOLOGY TO SURGERY.

Delivered before the West London Medico-Chirurgical Society on June 22nd, 1900,

BY HENRY T. BUTLIN, F.R.C.S. ENG., D.C.L DURH.,

SURGEON TO ST. BARTHOLOMEW'S HOSPITAL.

[MR. BUTLIN commenced by saying that the subject of his present lecture had been in his thoughts for many years but had had to be put aside owing to the pressure of other work. He described how he had searched the records of ancient surgery in a vain endeavour to ascertain whether any of the early and firmly established operations had been initiated from a study of the pathology of the disease. First of all there was the science of pathology and what surgical inventions did come about were the result of combined observations of many men or at least of more than one. Down to the end of the eighteenth century there was but one surgical operation founded on pathology and invented and put to the test by the surgeon who had studied the pathology. This was the Hunterian operation for the cure of aneurysm. Mr Butlin continued :—]

In spite of Hunter's example there are very few surgical inventions during the first half of the nineteenth century which can be shown to be founded on the principles of pathology. One of the best examples is the introduction of subcutaneous surgery by Stromeyer, on the foundation of experiments and observations made by Hunter half a century previously. The idea had occurred to Delpech, but he does not appear to have carried it out, and Astley Cooper had divided the palmar fascia for the relief of Dupuytren's contraction. So that here we have once more an illustration of the i[illegible] method suggests [illegible] Stromeyer [illegible] the limit[illegible] admirable [illegible] appointme[illegible] was I mo[illegible] relations [illegible] easily und[illegible] inclined to [illegible] case in de[illegible] surgery.

In the e[illegible] century ther[illegible] to surgery. [illegible] would then h[illegible] of surgery w[illegible] elsewhere sk[illegible] about the ye[illegible] shown how s[illegible] teachers or st[illegible] approaching c[illegible] teachers were b[illegible] and surgery on [illegible] that this was [illegible] of scientific tra[illegible] early sixties, wh[illegible] methods of gene[illegible] replaced either in [illegible] and which h[illegible] and science [illegible] ships and pri[illegible] fail to feel t[illegible] the new leaven [illegible] infused into t[illegible] an event occ[illegible] surgery and di[illegible] of surgery on [illegible] previous centuries. In [illegible] appeared in THE LANCE[illegible] first papers by Pr[illegible] and his is th[illegible] discovery of a [illegible] one and the [illegible] early application in Lon[illegible] 1868 I was house surgeon [illegible] James Paget). We happen [illegible] man, about 40 years of age, [illegible] a large abscess in the back. T[illegible] such cases were in those days [illegible] left for some days in bed untrea[illegible] Paget came down and said he [illegible] opening and treating the abscess [illegible] by a surgeon in Edinburgh called [illegible] we opened the abscess under the [illegible] through a piece of lint soaked in s[illegible] applied a little mass of antiseptic p[illegible] of my fist over the opening and a p[illegible] the putty. That day and the follow[illegible] frequently slipped down and were fou[illegible] below the wound. And in the cours[illegible] cavity of the abscess became septic and [illegible] many of those who were suffering fro[illegible] did in those days.

I need not describe in detail the discove[illegible] sepsis or the invention of the earlier antise[illegible] failures and successes, the opponents and [illegible] long series of years before the principl[illegible] surgery were generally accepted. All th[illegible] been described again and again and are co[illegible] I have to do with the effect of the genera[illegible] Lister's discoveries on the application of [illegible] surgery. The relation of micro-organisms to [illegible] led to the suspicion that micro-organisms migh[illegible] with diseases other than sepsis, and this suspi[illegible] justified, for it was soon amply proved by [illegible] some of the diseases of animals. From the [illegible] which were undertaken in connexion with [illegible] the vast branch of bacteriology grew up, and [illegible] sometimes derive new lustre from the achie[illegible] their offspring so did the parent-science of pathol[illegible]

[1] [illegible]ddress on the Jubilee of the Pathological Society [illegible] Oct 20th, 1896, Transactions of the Pathological Society, vo[illegible]

it is [illegible] There [illegible] where researches in pathology are [illegible] some of these laboratories are quite separate from, and independent of, the hospitals. There is an institution of preventive medicine where pure and applied pathology are studied; but this is also separate from the hospitals. During the last few years several of the hospitals have founded professorships of pathology and have appointed to them men who devote to the science of pathology, not merely the time they can spare from some other pursuit, but their whole time. These men are constantly in touch [illegible] the wards and furnish the greatest assistan[illegible] examinations [illegible] rendered to the work of the wards by [illegible] predecessor Dr. Kanthack has been of inestimable value. Indeed, it is difficult to understand how we could have performed our work efficiently before the institution of the pathological laboratory. [illegible] ough much had [illegible] ompa[illegible] of mo[illegible] with [illegible] ect in [illegible] A similar kind of thing is, he said, wanted for the furtherance of medicine and surgery—in fine, a [illegible] organised scheme for research and the a[illegible] pathology to our art."]

The Ingleby Lectures

ON

THE COMMONER NEUROSES OF CHILDHOOD, THEIR PATHOLOGY AND TREATMENT.

Delivered at the Mason University College, Birmingham,

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LECTURE I.[1]

Delivered on June 27th.

[illegible]—I desire to draw your [illegible] erers whose ailments inflict [illegible] and mu[illegible] ases w[illegible] to deal are the so-called functional [illegible] nguished f[illegible] distinct [illegible] mortem to account for the [illegible] ave thought it more interesting to treat in these lectures of a group of maladies of common occurrence, one or other of which must almost daily come under the observation of each of us, than to deal with rare and exceptional ailments, and I have been confirmed in my choice by the conviction that much is still to be learnt regarding the nature and causation of these neuroses, and much in regard to their correct and complete diagnosis, and that something still remains to be done in the way of treat[illegible] end a true appreciation of [illegible] step.

The disorders with which I propose to deal are the following: (1) chorea; (2) saltatory or salaam spasm; (3) tetany; (4) night terrors and dreaming; (5) nocturnal enuresis; (6) migraine and allied conditions; and (7) epilepsy. Dissimilar though these diseases may at first sight appear yet they have several points in common. Thus they occur with greatest frequency in childhood, some, as chorea and nocturnal enuresis, being almost limited to that period of life as regards their onset. Further, they are more frequent in the female sex, and where this appears not to hold true entirely, as in migraine and epilepsy, it is nevertheless the fact that females are more disposed to be the [illegible] astly, I think [illegible] have still mo[illegible] ter of causation. [illegible]

1. *Chorea.*—This is so common a disorder that I will not waste your time with a description of its characters But I would like to draw attention to the different kinds of chorea which we encounter in practice. The following list [illegible] under the term [illegible] horea of middle [illegible] chorea of preg[illegible] (5) fright chorea; (6) hysterical and imitation chorea; (7) electrical chorea of Dubini; and (8) rheumatic chorea and those choreas arising from scarlet fever, malaria, and possibly from other infective conditions. With the exception of post-hemiplegic and senile chorea all these are genuine functional nervous disorders. It is of course true that minute changes have been discovered in the brain in cases [illegible] constancy to warrant the inference that they are the [illegible] It will be noticed in [illegible] consideration for the [illegible] deal with two broad classes of chorea. The first of these is psychical in its causation, at least as far as the exciting cause is concerned; [illegible] quite different origin—namely, [illegible] and No. 8 are comprised; in the [illegible] No. 4 may belong to either the [illegible] ss.

A good deal of doubt has been expressed by different observers upon the alleged production of chorea by fright, chiefly on the ground that fright is very often asserted to have set up the disease in a child when closer investigation shows the cause of the fright to have been very slight. It must, however, be borne in mind that what may seem to a healthy adult to be a small or negligible cause for shock or fear may to the child have been a very great cause; or, to express it otherwise [illegible] adult may produce [illegible] imagine, few medical men [illegible] admit that fright is capable of producing genuine chorea, in the same way as we all know that it may, in certain conditions, set up paralysis agitans, dementia, genuine epilepsy, profound shock, and even death. However we may try to explain the manner in which fright acts, we are constrained to allow that it may result in these severe nervous disturbances, and more, that it may lead to disease which has a distinct anatomical lesion. Thus, for instance, Dr. Allbutt has described a case of chlorosis in which the anæmic [illegible] C[illegible] the patient [illegible] impression can create chorea in [illegible] any predisposition produced eit[illegible] and unresisting nervous system [illegible] which, though not obtrusive up [illegible] damaging the nervous centres [illegible] exciting cause. The evidence on this point is not sufficiently conclusive to warrant a categorical answer to the question, but I think that every now and again we meet with clear evidence that sharp mental impressions may set up chorea in children in whom nothing has before existed to make us suspect a disordered or hereditarily weak nervous system. In the majority of fright choreas, however, the evidence is very strong that an inherited or acquired predisposition is present. Apart from the agency of mental shock we have, however, the agency of toxæmia, and this cause furnishes a greater number of instances of chorea than does mental disturbance. A majority of the cases of chorea which are met with in this country show a history of some rheumatic affection, either pronounced, sharp, and severe, or insidious and lingering, and at other times so slightly pronounced as to answer to the name of "growing pains." A small number of the sufferers give strong evidence that scarlet fever was the source of the blood intoxication. In a certain proportion of the cases we can trace neither of these maladies nor any

[1] Lecture II. will be delivered on July 4th, 1900.

also undoubtedly such men and if we are to use them we must discover and develop them.

In the second place, when once the inventor has been awakened to the knowledge of his talent for inventing he seems not only to like to employ it, but to be possessed by a resistless impulse to invent. This has been shown in the lives of many inventors. And in the curious account I have of Cartwright the book[5] says: "It would seem that the faculty of invention once aroused, its appetite for exercise is constant and insatiable. ..... An inventor he was, and an inventor he must continue till his eye was glazed and his brain numbed in death. ..... Wool-combing machines, bread and biscuit-baking machines, rope-making machines, ploughs and wheel carriages, fire preventatives, were in turn invented or improved by him."

In the third place, your inventor may invent better and with greater success if his mind has been trained in scientific pursuits. I think one of the best illustrations of this is to be found in the history of the invention of the miners' lamp. By a curious chance the safety lamp was invented during the year 1815 by two men, working apart, neither of them knowing that the other was engaged on the invention, and each working out his invention from a wholly different point of view. Both Humphry Davy and George Stephenson were highly endowed by nature. Both possessed the inventive faculty—Stephenson in a very high degree. But while Stephenson was what may be termed a natural mechanical and inventive genius, his education had, owing to his circumstances, been wholly neglected and he had only such knowledge as he had been able to gather together in a long struggle against adversity. Humphry Davy, on the other hand, was a highly educated man of science, but his inventive ability was decidedly lower than that of Stephenson. The safety lamps produced by these two men resembled each other in many respects, and a comparison of them in our Museum of Inventions at South Kensington shows how little difference there is between them. Yet one of them was invented on chemical and the other on mechanical principles. Davy,[6] at the request of certain gentlemen, undertook to try to invent a lamp for the safety of the men employed in the coal-pits. He commenced his labour by an exhaustive study of the chemical properties of fire-damp (light carburetted hydrogen), the circumstances under which it exploded, and the proportions of air mixed with it which rendered it peculiarly dangerous. By a series of admirably devised experiments, he discovered that the surfaces of small tubes prevented the explosion of the fire-damp and that this depended on the cooling power of the tubes, and he finally found that the greatest hindrance to the inflammation of the gas was afforded by a large number of small tubes or apertures, such as is represented by the numerous tiny openings through a fine wire gauze. Such a covering rendered unnecessary the use of glass or any other fusible or brittle substance, in itself no small recommendation. Stephenson tells his own story[7] of the manner in which he came to his invention. He says he knew nothing of chemistry at the time he was engaged in setting up some machinery in a coalpit. In the intervals of work he amused himself with lighting one of the "blowers" in the pit. Holding his candle to the windward of the flame he observed that it changed its colour. Two candles, drawing the flame towards them at a greater velocity, changed its colour still more and caused it to grow duller, and when a number of candles were employed the "blower" ceased to burn. Stephenson rightly attributed this effect to the velocity of the current caused by the heat of the candles to the windward of the "blower,"[8] and came to the conclusion that if he could produce a current through tubes in a lamp equal in velocity to the current he saw passing along the roof of the pit-gallery he would be able to make a lamp which might be carried into an explosive mixture without exploding externally. Repeated observation and experiment finally taught him that numerous tiny apertures afforded better protection than a small number of long and deep tubes, and his third lamp was made by surrounding the flame with a metal plate, perforated by a vast number of tiny holes, so that it differed little from a wire gauze of the same material. Stephenson was so confident of the efficiency of his lamp that he tested it, at the risk of his own life, by entering a coal-pit which had been first rendered as foul as possible by preventing the escape of the fire-damp. Davy's lamp was much more generally used than Stephenson's, but Stephenson's lamp was used for very many years in the Killingworth Pit where he had been colliery-engineer-wright at the time of its invention.

[illegible] seem that [illegible]
[illegible] proof that [illegible]
[illegible] man without [illegible] knowledge,
[illegible] education, who invents a lamp
[illegible] scientist, Sir Humphry Davy.

But, in truth, Davy's proved to be the better lamp. Not only was it lighter and more portable than Stephenson's, but it possessed the great advantage that it was not extinguished in thick fire-damp. Further, the experiments and observations of Davy in the course of his research served to render the world richer in t[illegible] orded of the nature and [illegible] If Davy's invention ha[illegible] discoverer of the nature [illegible] have far more than repaid the time and labour expended on the attempt to invent.

Again, Davy's invention proves that it is possible to invent "to order," for [illegible] lamp at the reque[illegible] in the coal-mines [illegible] attain to that wit[illegible] a similar instance [illegible] invention of a me[illegible] at the request of persons interested, may be found in the history of the discovery and prevention of silkworm disease by Pasteur.

Here, then, are found four important indications for the making and perfecting [illegible] ere are certainly many more inventors in [illegible] world suspects, but their peculiar talent [illegible], that when it is discovered they can scarcely help inventing; that scientific training, so far from impairing their inventive powers, will almost certainly improve them; and that men with the proper talent and opportunity may invent "to order." Further, it may be assumed that no man would be likely to make a specific invention unless he were acquainted with the need for such an invention. From these indications it would seem that if we are to make surgical inventors we must look for inventive minds among our students and young qualified men; that these men must be well versed in surgical methods at present in use; that they must be thoroughly educated in science and in the methods of science, especially in experimental methods. They must also be well instructed in pathology and acquainted with new discoveries in pathology which may be of use in surgery, and they must either have [illegible] sting their inventions or of observing [illegible] of them. They must therefore have [illegible] pital wards and be in frequent or con[illegible] with them; they must have laboratory accommodation and must be in touch with those men who are engaged in pathological research.

If these conditions are to be fulfilled in such a town as London we shall require two species of [illegible] tory for research. The one, for researcl [illegible] without any reference to its application, may be of vast size and thoroughly equipped for workers, and need not be attached, so far as its site is concerned, to any hospital. The other, for research in applied pathology, the laboratory for inventors, must needs be attached to the hospital; and those who work in it should have the freest access to the wards, even if they are not in charge of special wards, and should have every opportunity of observing what is done there and in the operating-rooms. In order that they may be thoroughly instructed in the science of pathology they should be taken from among the workers in the laboratory of pure pathology and should be selected on account of their special aptitude for the work of research and for the originality which they have exhibited. They leave the school of discoverers and the science of pure pathology for the school of inventors and the science of applied pathology. At the time when the idea of a school of applied pathology first presented itself to my mind the sketch I have made would have appeared to be the dream of an enthusiast. But now so far from being a dream

[5] Triumphs of Invention and Discovery in Art and Science, London, 1831.

[6] The Collected Works of Sir Humphry Davy, Bart., LL.D., F.R.S., vol. vi., London, 1840.

[7] Evidence before the Committee of the House of Commons in 1833. Smiles's Life of George Stephenson, fourth edition, 1857.

[8] The rushing of the fire-damp from fissures in the strata of coal is called a "blower."

had previously to her present illness always enjoyed good health. The family history showed no special neurotic tendency. In hospital, kept quiet behind a screen, she soon recovered complete health, and though I have not seen her since I have every reason to believe that she had no recurrence for at least a considerable time. A point of great interest in this spasm is the affection of the arms associated with that of the legs. It will be noticed that the form which it took was that of folding the upper limbs across the chest very much as the motion of humility, which is associated with the bowing of the trunk on the thighs in the performance of an oriental salaam. In fact, but for the rapidity and jerkiness of the contractions, they completely justified the appellation of "salaam spasm." Again, it is interesting to note the complete escape of the more highly specialised limb muscles as well as of the facial muscles; in fact, the muscular groups affected were those most elementary in development and least specialised in action. It would be easy to call the condition which I have described one of "hysterical spasm" in view of its mode of origin, and I have no doubt that by some it would be so named. But, on the other hand, we know that typical choreas are often set up in precisely the same way and I do not feel inclined to describe this case as "hysterical spasm" any more than I would describe a chorea due to fright as "hysterical chorea."

CASE 2.—The other instance of this affection, as I have mentioned, occurred in a woman, aged 36 years, unmarried, and small, badly nourished, and wizened in appearance. In her the muscles of the lower limbs alone were spasmodically affected, the arms and face escaping completely. The effect when the patient was standing was exactly the same as I have described in the case of the little girl. When the patient lay in bed, the psoas contraction tended more to arch the lumbar part of the spine into a position of momentary opisthotonos, the thighs becoming the fixed points from which the muscles acted, and the same was noticed when she [illegible] When I saw her the spasm [illegible] he could give no clear history [illegible] to have been gradual. The case came to my notice long before disturbance of the digestive functions in connexion with these disorders had aroused my interest and I am therefore unable to say whether any of the former were present. The malady proved very intractable and after two months of treatment the spasm was practically undiminished.

These two cases are typical of saltatory spasm. It is plain that the mode of causation, in the first at least, was the same as in so many cases of chorea. In fact, it seems to me merely an accident that this little girl was attacked with the peculiar spasm described and not with ordinary choreic movements, and one would not be surprised, were the saltatory form commoner, to see it produced by precisely the same causes which give rise to chorea.

CASE 3.—In order to show the close clinical connexion existing between chorea and salaam spasm I will mention a case which was recently under my care at the Queen's Hospital, Birmingham. A single woman, aged 21 years, was admitted suffering from choreic movements affecting all the four limbs, the muscles of the neck, and, to a smaller extent, those of the face. The movements had the character of sudden sharp contractions followed by momentary relaxation—In fact, they resembled nothing so much as the contractions produced by the sudden application and withdrawal of a faradaic current at frequent but slightly irregular intervals. The contractions of the neck closely resembled those of spasmodic torticollis. All these movements continued during sleep. The patient was fairly developed, well nourished, and in good condition. The complexion was good with the exception of a few venous stigmata on the cheeks. Her digestion was, according to her own statement, in good order, but her bowels during her sojourn in hospital required constant attention. There was no endocarditis and no history of rheumatism or of former chorea could be obtained. The onset of her illness was as follows. Six months before her appearance at the hospital, while she was in good health, she had been bitten by a dog. She was not much hurt but greatly frightened and she ran away. For some hours after the fright she continued to tremble, and for a few days continued in a very nervous state. Three or four days after the injury her back suddenly began to arch spasmodically and intermittently, especially when she lay in bed, and for a fortnight these spasms continued to spread so as to involve the limbs; but they were at the time of admission to hospital slightly subsiding. With the patient standing up no arching of the back could be seen, but there was distinctly every now and then a flexion of the trunk on the thighs of the same kind, but of much smaller degree than in the two cases of saltatory spasm just mentioned, and the muscles producing this movement could be both seen and felt to contract. The patient also had retention of urine during her stay in the hospital. From this symptom she had suffered once before during an attack of influenza long antecedent to the present illness. She was but little benefited by a stay of seven weeks during which everything I could devise was tried, and now she is still suffering in exactly the same manner and also has attacks of retention of urine from time to time. The urinary difficulty of this patient is well worth noting; it varied between retention, which would trouble her for days together, and true suppression. Thus, after she had been an in-patient for about three weeks the quantity of urine, which up to that time had ranged within normal limits, suddenly fell to four ounces in the day, and she suffered from severe headache. Only a few drachms of urine could be evacuated by the catheter and there was no palpable enlargement of either kidney. The condition passed off with diuresis. More often than this, however, there was mere retention of urine easily relieved by the catheter. Now this case, on the face of it, is one of hysterical chorea with hysterical anuria, and the character of the movements, their rhythm, and the history of the onset all support the diagnosis of hysteria. Moreover, the family history showed a predisposition to nervous disorder. The refractory character of this illness is likewise in keeping with what is remarked by Charcot on the intractability of certain hysterical affections. Yet the spasmodic movements continued undiminished while the patient was asleep, which proves that they were independent of any active encouragement on the part of the sufferer and that the disease was as genuine a chorea as is any chorea the onset of which is determined by mental shock. I have quoted the case at length in order to show how close is the connexion between ordinary chorea and so-called hysterical chorea, and to demonstrate the clinical and etiological relationship between chorea and saltatory spasm, which latter was very closely approached in the present instance. This patient showed no indicanuria, but the venous stigmata on the cheeks, coupled with the stubborn condition of the bowels, gave good ground for suspecting a chronic auto-intoxication, and in the absence of the same it is quite possible that the original fright might have produced nothing more than a temporary shock.

3. *Tetany*.—This disease should rather be considered as a *symptom*, for although we do meet with patients in whom the spasm of tetany so predominates that all other signs of illness are overshadowed by it, yet such cases are rare. On the other hand, tetany is not so rare as one symptom forming part of a clinical picture in which the other symptoms and signs are of equal prominence. It is unnecessary here to describe the character of the contractures. The trunk muscles and those of the face generally escape, and it is only in very rare cases that the muscles of respiration are affected. The disease is most often met with in children, but it occurs also in women and is, among adults, limited, so far as I have seen, to the female sex. The causes commonly assigned are [illegible] (1) catching cold; (2) rickets; (3) acute in- [illegible] fe [illegible] in [illegible] over-lactation; (6) pregnancy; and (7) [illegible] has pointed out a peculiarly frequent sequence of tetany after extirpation of the thyroid gland. Sometimes tetany has been reported as occurring epidemically, but it is doubtful whether in these cases the spasm was not due to imitation.

CASE 4.—With a view to show the connexion of tetany with another class of disease only indirectly referred to in the above list of causes I would quote the case of a nurse who came under my observation some time ago. She was a strong and healthy woman, but had caught cold and became hoarse a few days before I first saw her for violent suffocative spasm with much cyanosis. After the spasm she looked quite well and her healthy colour returned, but she was completely aphonic. A subsequent laryngeal spasm which saw was accompanied by typical tetany-contractions of the hands and of the right foot, the left remaining free. The limbs affected were blue and cold, but recovered their natural colour and temperature when the dyspnœa ceased.

other infective disease, and the cause of the toxæmia remains undiscovered.

I would now like to bring to your notice a fact which has often arrested my attention in the out-patient room, when watching children suffering from chorea. This is the evidence of disordered digestion which we may observe in a considerable proportion of these patients. That sufferers from this disease are usually small, ill-clad, and ill-fed is generally admitted. Over and above this we may, however, see that they often have furred tongues and, what is very unusual in healthy children, distinct vascular stigmata on the cheeks. Inquiry will in the cases presenting these two signs nearly always elicit a story of indigestion and often of constipation. A considerable number of choreas have come under my notice presenting these appearances and giving a history of digestive disturbances. These facts naturally suggest the question whether disorder of digestion may not stand in some causal relation with chorea, and impossible as it is to prove such a causal nexus, there are nevertheless some points which, I believe, support the suggestion. Thus many of these patients showed in a marked degree the presence of indican in the urine, proving that a good deal of putrefactive material was absorbed from the bowel and passed through the liver into the general blood-stream, to be finally removed by the kidneys, but only after it had circulated through the tissues. It is true that in some cases presenting the same signs of indigestion no indicanuria can be found, but this is not surprising when we remember that profound digestive disturbances may exist without indican being discoverable in the urine. The positive evidence afforded by this body is valuable as an index of absorption; the negative evidence furnished by its absence proves nothing. I shall return later, in dealing with the general pathological aspect of these disorders, to the questions of indican and of absorption by the intestine of anomalous by-products of digestion; meanwhile there certainly is no improbability that chorea should be caused by a toxæmia due to putrefactive changes in the alimentary canal. The modern and most widely accepted explanation of the chorea which follows on acute rheumatism is that the phenomena of the disease are due to a toxic body contained in the blood and that this harmful material is a product of bacterial life. Now the putrefactive processes which occur in the intestine are likewise the work of bacteria, and there is every *à priori* reason to believe that the metabolic products of these microbes will act harmfully on the nerve centres if they be brought into intimate contact with them by the circulating blood.

Another consideration which has some interest is suggested by this—namely, the possible connexion between rheumatic fever and self-infection from the gastro-intestinal tract. It is true that we can generally trace the occurrence of a sore-throat at the commencement of an attack of rheumatic fever, but not always. When we can trace the inflammation of the tonsils or faucial regions we assume that the germs or their toxic products have gained access to the blood by way of these inflamed areas. But, as I have just remarked, this channel of infection not infrequently fails us. May it not be that in some instances rheumatic fever is set up by bacteria from the intestine effecting an entrance into the blood? The suggestion has a good deal of likelihood on its side, especially when we consider that there are several different clinical types of rheumatic fever and that in the endocarditic and articular lesions of this disease several distinct kinds of bacteria have been discovered. However this may be, I have seen so much clinically of chorea combined with evidences of digestive disorder, as to make me believe that it is, in a considerable proportion of the total cases, set up by auto-intoxication from the intestine, and therefore further investigation in this direction seems to me to be desirable; and I feel convinced that any observer who will watch cases of chorea, bearing this point in mind, will soon be struck by the frequency with which confirmatory evidence will meet him. Accordingly I would wish to insert in the list of cases of chorea another heading—namely, "gastro-intestinal self-intoxications." I am not able to give statistics from any considerable number of choreas to show what proportion of them may with probability be assigned to gastro-intestinal self-intoxication. Some years ago, however, before my attention was directed to the importance of this cause, I found that out of 24 successive cases of chorea six gave a clear and undeniable history of the first attack being set up by fright or other mental shock; one was due to scarlet fever, one to typhoid fever, and one resulted from injury—namely, a sprained ankle. (This last case may perhaps be classified with the choreas produced by shock.) Eight cases showed evidence of endocarditis or rheumatic fever, or gave a history of the latter, and in seven cases no cause whatever could be elicited by inquiry or by auscultation of the heart. I now think it highly probable, in the light of more recent experience and further inquiry, that this group of patients owed their disease to toxæmia from disordered digestion.

2. *Saltatory spasm.*—Closely allied with chorea is the curious nervous disorder which has been termed "saltatory spasm," or "jumping spasm," or "salaam spasm," from the jumping or curtseying movements which characterise it. The movements vary a little in different cases, justifying now the one name and now the other. The gap between the common clinical picture of chorea and the rare one of saltatory spasm is bridged over by certain cases of so-called "hysterical chorea," as I will endeavour to show by citing an instance in point. Saltatory spasm is so rare in England that it hardly comes under the designation of a common neurosis and it is introduced here mainly on account of its relationship with chorea. The only cases which have come under my personal notice are two, one in a woman, aged 33 years, and the other in a girl, aged 14 years, and since the disorder is so scarce I may shortly describe them.

CASE 1.—A girl, aged 14 years, who had not begun to menstruate and who presented no appearance of sexual maturity, had suffered for four days from the spasms now to be described. At irregular intervals, which, however, rarely exceeded 30 seconds, there was a sudden contraction of the flexors of the hips and of the knees. The contractions were of only momentary duration and instantly relaxed, but were often repeated so frequently as three times in five seconds. After such rapidly following movements there would be an interval of quiet, lasting perhaps half a minute, and this went on all day long and only ceased during sleep when the muscles were completely at rest. The spasms were equally marked whether she stood or lay down; but their intensity varied, so that the effect on the body was not always quite the same. Generally the effect would be a bending of the trunk on the thighs like a sudden and rapid bow; but on more forcible contraction of the muscles concerned the heels would be raised off the ground and brought down again sharply with a stamp; and on occasions the feet would both leave the ground completely for an instant and a distinct jump was the result. At much longer intervals a spasm would affect the arms, the elbows being bent and the arms being folded across the chest by the action of the larger pectoral muscles. The more highly specialised limb muscles were free and so was the face. The glutei and extensors of the hips contracted, but apparently only in re-establishing the balance of the body after the disturbing effect of the flexor spasm. There were no sensory symptoms and the patient controlled the sphincters perfectly. Her mental state was curious. She answered rationally and even cleverly, spoke clearly and without any hesitation, and sang nicely with a good voice and particularly correct intonation when asked to do so. Occasionally, however, that is, several times in the day, she would suddenly and without any apparent reason—for instance, while she was being examined in the out-patient room—burst forth into song, a thing which, her mother said, had occurred only since the onset of the present illness. At intervals, too, she would break into a fit of loud laughter without rhyme or reason, but she did not have attacks of crying. She ate and slept well and had a rosy, healthy, clean complexion, and was well built and well nourished. The history of the onset of this illness is interesting and ran as follows. The girl was in good health until three weeks before her admission to the hospital. At that time she had a sudden fright and instantly screamed loudly, but then walked home and appeared to her mother to be in her usual health. On the day following the fright it was noticed that she was nervous and quiet, but her quietness was interrupted by loud fits of laughter, the reason for which could not be ascertained, and when anyone approached her she was liable to scream loudly. In this nervous and depressed condition, with the occasional outbursts just described, she continued until four days before admission, when the spasms made their first appearance. The little girl was naturally very intelligent, industrious, and quiet, and was her mother's right hand in the housework. She

Although, as I have insisted, improper feeding is the most

cases we shall usually find
catarrh, shown by a coated
it is often the remnant of an attack of measles, whooping-cough, or
passed. I
symptom
from some previous disease, or arising
marked symptoms, or, though much more rar
ing the gradual on
rheumatism of the
advisable to take
evening; in patients in whom dietary or digestive faults fail to account for the disturbed sleep In adults dreaming is frequently set up by a toxæmic condition which arises, not from self-in
inefficiency
or of the sta
Clark; and
found both
renal defects reveal structural disease of the kidneys, and in others where these glands are merely enfeebled by the demands to which a previous infective condition has subjected them.

The number of instances in which I have found distressing dreams combined with the signs of digestive toxæmia, to which reference has been made under chorea, is considerable. Yet in laying stress on what I believe to be the most frequent and important cause of nightmare—viz., gastro-intestinal disorder—I would
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5 *Noct*
regarded
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really the view whic
annoying symptom
to regard enuresis as a bad habit—and such undoubtedly it may become—but it is never a habit contracted from either mere wilfulness, or from imitation, or for the sake of producing a pleas
be considered
bility of the
bladder Punishment is clearly out of place in the treatment of a habit of this kind For the first factor of nocturnal enuresis we must, however, look elsewhere, and
ted
ary
the
e;
in
the
and
fifth causes, and although, in fact, each of them may be singly operative in causing nocturnal enuresis, yet those *two factors* will, as a rule, be found acting conjointly Excessive irritability of the spinal centres there always must be, to lead to the untimely discharge of urine during sleep, but this probably never occurs (except in gross disease of the spinal cord with which we are not here concerned) without a condition of urine which must be considered as abnormal If we exclude those cases in which there is an excessive formation of urine and those in which there is actual organic

Such urines are scanty and concentrated rather than copious, and they indicate an error of the metabolic processes which may depend upon *disease or diathesis*, or upon faulty diet In conformity with these points we generally observe that enuresis first comes on either after an illness or after a change of diet, or when, in the absence of definite illness, the child has been in depressed health The state of the urine is, in fact, the index of a disordered metabolism

How the disorder comes about is shown to us by the forerunners of the enuresis, though it must be admitted that the
We may safely assert
tive and disassimilative
at it is invariably the
l, which in turn has its
cause in the presence of toxic substances, the proceeds of
on or the derivatives of a faulty diet In a
nocturnal enuresis results from the direct
pathogenic bacteria by way of the urine,
of living bacteria and
has an action upon the
d the normal, and the
en voluntary control is
smallest the spinal centres are apt to respond vigorously to the extraordinary irritation. I have lately seen a case in which this occurred.

CASE 6.—After a prolonged pneumonia the urine of a
arge quantities of bacteria, and simulta-
frequency of micturition with loss of
der
d to
t it
nocturnal enuresis

The same tendency to frequent micturition may be discerned in a minor degree in a good many adults after the termination of pneumonia or other bacterial disease such as enteric fever. There can, however, be no doubt that the majority of instances of nocturnal enuresis are associated with no very noticeable disturbance of the general health and hence the enuresis is made the chief complaint, and, I repeat, where no recent illness can be traced there we shall
of the digestive
a rôle that to
as recently come
before me

CASE 7.—A little girl, aged three years, suffered from
al enuresis together with frequent micturition during
The urine was said to be not excessive in quantity,
a high colour and density and a strong smell, somewhat
ling that of meat extract There was a little inflam-
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however, from itching and showed *isolated spots of urticarial erythema* All these symptoms had come on from the time when she was first given meat; up to nearly her third year she had never tasted *this article of food* and had enjoyed excellent health. Withdrawal of meat from her dietary was immediately followed by moderation, though not by complete cessation, *of the symptoms*, but a fortnight after the beginning of this treatment a single meat-meal, which by the way consisted of rabbit, was followed by enuresis in the same night.

DIFFERENTIATION IN DIABETES.

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(*Continued from p. 1807*)

IN the "*alimentary*" form of diabetes we have only the ill effects of the sugar in the system to deal with. There is not the liability to the supervention of the fatal coma that there is in the other form where toxic products are developed from the process of tissue breaking down going on In proportion to the amount of sugar in the system, which is indicated by the quantity appearing in the urine, so do we find the intensity of the symptoms. With only a little sugar reaching the system and passing into the urine there is but little deviation from the natural state, and nothing wrong as regards the state of health may be perceptible When the circumstances are such, however, that more sugar finds its way into the circulation the deviation from the natural state becomes, proportionately to the quantity, increased and there is a corresponding manifestation of disordered health That it is the passage of sugar

The suffocation was apparently caused by an adductor spasm in the larynx exactly similar to that which is so familiar in children as laryngismus stridulus. For five or six days these attacks recurred both by day and night. During the whole of this time she had a moderate continued fever which ended gradually by lysis. The spasm in the hands, which occasionally came on in slight degree without the dyspnœic attacks, was invariably preceded by a sensation of numbness and tingling which gave her warning of its approach. After leaving her sick room this patient was weak, pale, and tottery, as though she had undergone a long and severe illness. Throughout, the lungs had presented no physical signs of disease. Here, then, was a typical case of tetany associated with laryngitis from cold and adductor spasm of the larynx, a symptom-complex which brings this instance of the disease very near indeed to those tetanies which occur in rickety children in whom both laryngismus stridulus and catarrhal laryngitis with stridulous spasm are exceedingly common.

CASE 5.—Another case of this malady which was recently under my care is also worth noticing. An infant, aged one year, was admitted for well-marked, though not very severe, tetany. He was well nourished but showed distinct marks of rickets. In three days, the sp[illegible] he was sent home. Ten days later [illegible] a recurrence of tetany. The stools were now loose and contained some orange-peel and other undigested food; they were greenish, mixed with mucus, and very offensive. The tetany now persisted for 11 days, being nearly always present in some degree, but generally appearing to cause no pain; the exacerbations, however, were painful. On the eighth day he developed a laryngeal cough but had no laryngismus. [illegible] absence of fever and gradually [illegible] ormal health. In this case we ha[illegible] ymptom of tetany with several of its recognised causes—namely, gastro-intestinal disturbances, clearly provoked by unsuitable and indigestible food, as shown by the stools, rickets, and most likely considerable laryngeal inflammation. I have never seen tetany occurring even in a rickety child without distinct catarrh of either the respiratory or the digestive mucosa, and it seems to me that not the rickety nutritional trouble but these catarrhs are the cause of the spasm, by inducing a toxæmia or a reflex irritation. We have seen that such inflammations can lead to tetany in the absence of rickets, and the truth is probably that both the latter disease and the tetany are common results of the catarrhal conditions. It appears more usual for such results to follow disease of the intestinal than of the respiratory mucous membrane.

Tetany is one of the diseases in which Albu has succeeded in isolating from the urine a toxic substance. In the light of other researches this result is not so important as might at first sight appear; I shall return to this subject when reviewing the general pathology of these neuroses. Meanwhile we find in the occurrence of tetany in conjunction with extirpation of the thyroid and with laryngeal inflammation a suggestion that reflex irritation may have a share in leading to the spasmodic symptom. So also it might be thought that in the case of the little patient last quoted the spasms were set up reflexly by irritation of the intestinal nerves, and apart from any absorption of toxic material from the lumen of the intestine. It must be admitted that it is very difficult to distinguish between nervous symptoms set up by a toxæmia and those caused by the peripheral irritation of correlated nerve fibres. There appears to me to be only one point which may help one at the bedside to determine whether the nervous symptoms in any particular case are toxæmic or reflex. It is this: when we produce a reflex act by mildly stimulating the skin, as, for instance, in eliciting the plantar or cremasteric or epigastric reflexes, the first response is always in muscles which lie near to the stimulated cutaneous area. Thus in the case of the plantar reflex, in health, flexion of the toes is the first muscular action, and only as the stimulus is increasing do other muscles respond. On the other hand, when a toxæmic state is the cause of the muscular symptoms the poisonous material will be equally distributed in the blood-stream, and it will act with greatest effect on that part of the nervous system which is most susceptible to the toxic influence, or, what is probably the same thing, that part, for the structural elements of which the poison has the strongest affinity. Hence the seat of the muscular contraction will in this case be determined by the tenderest part of the central nervous system and we may, [illegible] I shall have occasion to show later, have such a phenomenon as unilateral epileptic convulsions arising from gastro-intestinal self-intoxication. From the phenomenon of tetany, as well as from the evidence that the disease is always preceded by conditions liable to produce toxic or infective states of the blood, we should be inclined to say that the spasms [illegible] rather than by reflex mechanism. A [illegible] two agencies is not, however, entirely excluded. [illegible]

4. *Night-t*[illegible] to discuss is [illegible] ns generally. [illegible] or advice for th[illegible] ry great in co[illegible] th disturbances [illegible] a good deal [illegible] an the child can express, for it is only when the fifth or sixth year has been reached that a child will complain of its dreams. In younger infants the evidence of suffering must be derived from screaming, or, in lesser degrees, from restlessness, muttering, and broken sleep. One may say that dreams and nightmare arise from the following causes: (1) primary mental or emotional excitement which prevents the occurrence of that necessary anæmia of the brain in which alone sound sleep is possible; (2) pain, palpitation, visceral uneasiness, &c., producing a consciousness of the physical sensation and thus preventing sound sleep; and (3) blood-states which irritate the nervous centres. In the first class of cases the patient, generally an adolescent or adult, will recognise what is troubling him. It rarely happens that the sensation is one of mere restlessness without a definable cause for the same. The second group of causes requires no comment; it is, of course, equally liable to operate in children and in adults. The third group of causes prevents sleep by producing a sense of restlessness without pain, and an excited state of the consciousness, in which deep sleep is impossible, and in which confused thought goes on, and any impression made on the half-slumbering senses will render the sufferer partly conscious of the same. Most of us engaged in the practice of medicine are familiar with the phenomenon which may be called "red dreaming." In this condition the sufferer sees the object of his dream coloured a vivid red and bloodshed forms a common subject of these sleep-hallucinations. It is not infrequently a salient complaint in the tangled complex of symptoms which a so-called "hysterical" woman lays before us. All the instances of this kind with which I have become acquainted have occurred in people whose digestive processes were out of order. It is safe to say that a large number of dreams, more particularly those of an acutely [illegible] or [illegible] character, and especially the dreams of children, are due to a toxæmic state; and it is to be noted that, apart from the delirium of fever, these dreams occur frequently in children who are to all appearances fairly healthy or who are, at all events, not suffering from pronounced disease and who can usually follow [illegible] ool-life. If we inquire what kind of [illegible] are the most fertile in producing dreams we shall often find that a faulty diet is to blame. Referring, again, for an example to the red dreams just mentioned my [illegible] quently due to a si[illegible] by a simultaneous [illegible] therefore, that such [illegible] the brain-centres or of the nervous apparatus which governs the supply of blood to these centres. On the other hand, it is also possible that the importation of an excessive amount of the digestive products of a meat meal acts as an irritant to the brain-cells directly and [illegible] n of the vaso-motor mechanism. However [illegible] explain the connexion we must admit it [illegible] servation, for it is proved not only by the frequency of the joint occurrence but also by the effect of treatment which removes the gastro-intestinal cause. It is true that success does not always follow immediately upon correction of the dietary error, and two reasons are accountable for this failure. The first is that, though unsuitable feeding is often the primary cause and is easily put right, yet the faulty diet may have produced a state of intestinal [illegible] and this may in itself be sufficient to perpetuate the nervous symptoms, and will therefore require appropriate treatment. The second reason is that frequent recurrence of the nervous effect may establish a morbid habit in the nerve-cells which is in itself a difficulty even after the primary cause of the disturbance has been successfully removed.

between Oct. 21st and Nov. 11th there was a gain of 3 lb., between Nov. 11th and Dec. 9th 8 lb., from this to Jan. 6th, 1898, 5 lb., then to Feb. 3rd 3½ lb., March 10th 3½ lb., May 3rd 7 lb., and June 14th another 7 lb. The patient was now taking starchy food in the form of potatoes in addition to his bread, and in December, when he had put on 8 lb. more weight, it was considered advisable to draw [illegible] He is a [illegible] do every- [illegible] in December, 1899, when he was in a good firm condition and passing urine free from sugar.

From time to time cases of this kind present themselves but more frequently the restoration of assimilative power [illegible] then remains [illegible] exists, and in [illegible] ood within the [illegible] t throw sugar [illegible] Such a state [illegible] alteration for [illegible] stituting a tell-tale of when the food taken has exceeded the tolerating power.

Extending our survey, cases are come across in which in the course of time the tendency for the assimilative power to grow weaker shows itself, but in these cases the rate of progress is not to be compared with that *typically belonging to the disease in young subjects.* It is observed that food which at one time failed to give rise to the passage of sugar at a later period does so, and that after the lapse, it may be of many years, the complaint passes from the "*alimentary*" into the "*composite*" form. The following is a case in point.

A patient whom I first saw in 1865, and who was then 48 years of age, had no difficulty by moderate attention to diet in keeping his urine free from sugar. In the early "nineties" considerably stricter attention, which was not steadily given, was needed for the purpose. So the case has run on, the urine being sometimes for a while kept free from sugar, and at other times not. According to the latest evidence recorded the sugar has ceased to be removable from the urine by diet. In April last the urine upon a strict *diabetic diet contained upwards of 30 per 1000 of sugar and* gave an indication of the presence of both diacetic and oxybutyric acids. The case, therefore, has now passed from the "*alimentary*" into the "*composite*" type of the disease.

In concluding what I have to say upon this part of my subject I consider that I cannot lay too much stress upon the importance as a measure of treatment of exerting our endeavours in the first place to put, and afterwards steadily to maintain, the urine in a sugar-free state, but whilst accomplishing this object no further curtailment of carbohydrate food should be made than is found to be necessary for the purpose. My experience decidedly leads me to say that without a removal of the sugar, whereby the aid of a natural state of system is supplied, no restoration of *assimilative power is likely to occur.* Freedom from mental strain and friction is a great adjuvant in treatment.

THE "COMPOSITE" FORM OF DIABETES.

In this form of diabetes we have a twofold source for the sugar—the carbohydrate of the food and a morbid breaking down of tissue. Through this latter process being attended with the formation of supplementary products which pass with the sugar into the urine means are afforded for recognising the condition. We are placed, also, in a position to check the account given by a patient. If there is no indication of the [illegible] the results supplied [illegible] reduction and by the [illegible] by the ferric chloride test, it may be concluded that the *sugar existing in the urine has been derived from ingested* carbohydrate of some kind or other. If it be asserted that none has been taken, error, wherever it may lie, must exist in the statement. If it should happen that deception is attempted to be practised it is the patient who will have to bear the self-inflicted harm, but it must not be lost sight of that carbohydrate may easily in an accidental way be unconsciously taken, and sometimes the source of delusion is the diabetic food consumed in the place of ordinary bread which wrongfully fails to represent what is professed.

Oxybutyric acid requires careful manipulation and an experienced worker for its reliable employment as a source of information, but much advantage is gained from the knowledge which it *supplies. In the first place its presence* means a more or less advanced stage of the tissue breaking-down process, and thereby a nearer approximation to the liability to the supervention of diabetic coma, than does that of diacetic acid; and in the next its amount can be definitely read off, through which again information is supplied bearing on the prospect in relation to coma. As has been mentioned it is through its left-handed rotatory power that its determination is effected. When present with dextrose the neutralising effect which it produces on the dextro-rotatory reading that would be given by this body reduces the figures obtained and thus throws them below those given by cupric oxide reduction. Further, when the dextrose is fermented away with yeast the urine is left with the levo-rotatory activity belonging to the oxybutyric acid present.

I have in an earlier part of this communication spoken of the Gerhardt, or ferric chloride, test, which is the test employed for diacetic acid. The amount of the principle present is judged of by the intensity of the colour produced and it is convenient in recording it to represent it by one, two, or three + signs. From the record before me of about 250 observations I can personally testify to the value of the information that is afforded by the method of examination to which allusion has been made. Naunyn and some other [illegible] yet without apparent reason, in the difference between cupric oxide reduction and optical activity compared with the optical activity after fermentation. It has been suggested (Kulz and others) that a *certain amount of levulose is* sometimes present with the dextrose, and other conjectures have been put forward. Upon this point of detail there is room for further inquiry, but taking the series of results as they stand linked together in a given case they speak in a manner that cannot be mistaken. For the purpose of illustration I will take some representative examples from my collection and give them in a tabulated form.

"ALIMENTARY"

Dextrose per 1000. By CuO reduction	Dextrose per 1000. By polariscope.	Optical activity after fermentation.	Ferric chloride reaction.
54·7	55·7	Nil.	Nil.
26·0	25·5	Nil.	Nil.
50·0	50·8	Nil.	Nil.
77·7	77·3	Nil.	Nil.
76·4	76·0	Nil.	Nil.
20·8	21·6	Nil.	Nil.
19·2	19·6	Nil.	Nil.
14·0	13·1	Nil.	Nil.

"COMPOSITE"

Dextrose per 1000. By CuO reduction.	Dextrose per 1000. By polariscope.	Levo-rotation after fermentation Dextrose value per 1000	Ferric chloride reaction.
35·7	30·1	5·4	+ +
52·0	44·9	3·9	+ + +
22·6	14·5	8·8	+ + +
54·7	49·1	5·1	+ + +
72·0	62·2	4·7	+ +
30·6	23·7	7·5	+ + +
17·2	13·7	3·6	+ +
31·5	27·8	3·6	+ +
27·0	1·3	5·5	+ +
56·2	48·0	7·2	+ + +
33·7	27·8	3·9	+ +
35·0	30·2	4·9	+ + +
12·1	5·0	5·0	+ +
16·3	10·8	4·7	+ +
19·2	13·6	7·2	+ + +

through the system that is the source of the troubles met with in connexion with the disease is shown by the immediate amelioration that takes place on causing the passage of sugar to cease simply by recourse to an appropriate diet. Let a case be taken in which from some circumstance or other the complaint has been allowed to run on uncontrolled till an urgent state has been produced. The patient is now placed upon a diet preventing, by the exclusion of carbohydrate matter, sugar reaching the system as before. A change of a most marked kind immediately sets in. All the symptoms subside and the health becomes restored and may afterwards be indefinitely maintained so long as the condition does not advance beyond the "*alimentary*" form. Thus in these cases as long as there is only the "*alimentary*" type of condition to deal with the state of the patient depends upon the management adopted. With a diet properly adjusted to meet the precise extent of impaired assimilative power existing there is virtually nothing in operation to produce abnormality. It is true, looked at in its entirety, that we have not a perfectly normal state before us. The power of properly disposing of carbohydrate matter is lacking, but if the demand is not made for the exercise of the absent power nothing abnormal is observable. It is only when the demand is made and not responded to that evil consequences arise; and it is to the presence of sugar *per se* in the system that the result is due.

To set things really right the restoration of the defective assimilative power is wanted This, whilst often in a certain class of case to a considerable extent attainable, is not so much at our command as could be desired. The prevention, however, of the baneful effects of the sugar arising from unassimilated carbohydrate matter stands upon a different footing and in the "*alimentary*" case can be reckoned upon as attainable. But everything depends upon the concurrent compliance of the patient with the required attention to the necessary management. If this is not loyally rendered serious consequences are sure to follow. Sooner or later the toxic influence of sugar in pronounced quantity reaching the system will assert itself and produce characteristic troubles of various kinds attended with a general decline of power, all of which might have been averted—I am speaking of a case controllable by diet—by keeping the sugar under. The contrast in the progress of patients where the sugar is kept under and where it is not is very marked. In the one there is nothing to interfere with the maintenance of health whilst in the other health and strength fail till by some concurrent ailment the patient is carried off.

Any number of cases might be brought forward in illustration of what I have stated. I will content myself with citing the following case, in which one of the most common of the baneful effects of sugar in the system—viz., peripheral neuritis—was encountered in a very severe form. The patient first consulted me in the autumn of 1895. He was then 51 years of age and had been the subject of diabetes for a year and a half. He was on a partially restricted diet and his urine contained 55 54 per 1000 of sugar. In four days, under the altered treatment adopted, including the restricted diet, the sugar had fallen to 16 66 per 1000 in the urine passed at night and 12 50 in that passed in the morning. Three weeks later the sugar had disappeared. A month after this three ounces of ordinary wheaten bread per diem were allowed without bringing back the sugar About six weeks later he was taking six ounces per diem and passing no sugar. Six months elapsed, the patient had dropped his treatment and the urine had returned to the state it was in when I originally saw him The date now reached was July, 1897. Restriction of diet immediately altered the condition and throughout 1898 a fairly satisfactory state was maintained. On Nov 15th, 1899, the patient was brought to me in a deplorable plight. His urine contained 68·40 per 1000 of sugar, and he was suffering from urgent thirst and the other ordinary accompaniments of diabetes. His legs were affected with peripheral neuritis. The pain in them prevented his obtaining sleep at night, and there was such hyperæsthesia that he could not allow one to rest upon the other or find an easy position for them in bed. There was the usual loss of knee-jerk and from the ataxic state existing he could not walk alone The condition soon yielded to treatment, the sugar becoming at once reduced to only a small amount without being completely lost. On Feb. 1st he was free from trouble in his legs and the sugar then stood at 9·30 per 1000 in the night specimen and traces in that of the morning. On Feb. 21st the report was a trace of sugar in both night and morning specimens of urine.

It is the passage of a case from the "*alimentary*" into the "*composite*" form which gives a serious aspect to the outlook. The liability to the occurrence of this transit varies with the associated circumstances. Age, as is well known, constitutes an important factor in connexion with the matter. Our prognosis has to be founded upon the knowledge supplied by experience of the progress observed in association with the particular collateral circumstances existing. We may have to deal with the disease, at the time being in the alimentary form, in an elderly and in a young subject. Experience tells us that the issues to be looked for are respectively very different.

In the young subject marked progressiveness constitutes the great feature noticeable, and it is this which gives the formidable character to the complaint that it possesses at this period of life. Treatment which at an early stage of the case proved readily efficacious in subduing the symptoms in the course of time loses its effect, and advance having been made to sugar being drawn from the tissues the urine can no longer be brought into a sugar-free state. The rate of progress varies in individual cases: the younger and more sensitive the subject the more likely is the advance to be rapid. The worst subjects for the complaint are those of a highly-strung nerve organisation, those who are disposed to worry over or meet with friction the ordinary events of life, and those who without such a nature are placed in a position to involve exposure to mental disquietude. A deviation from the ordinary progress sometimes presents itself in cases with a hereditary history. As a rule, these cases show no difference from those without such a history, but I can say from experience that now and then instances present themselves where even setting in at childhood the complaint may run on for several years without making any serious progress. It seems as if a flaw in the chemistry of life had been handed down which takes a long time in attaining full development. Amongst members of the Jewish race the complaint is not only particularly common but heredity is very conspicuous As a counterbalance I consider it may be said that the progressive tendency is not so pronounced as amongst other people. Above middle age a marked diminution of the progressive tendency is noticeable, and thus an opportunity is afforded for a success in treatment not attainable in young subjects. In many cases if taken early—and this I am under the impression is a point of considerable significance—the assimilative power may become so far restored as to permit of an ordinary diet being taken without being attended with the passage of sugar.

A patient whom I saw for the first time in September, 1896, stands as a striking example of this result. He was then 57 years of age, and about three months previously had been sharply attacked with thirst, polyuria, and wasting. Diabetes was recognised, and under an altered diet the urgency of his symptoms became subdued. When I saw him he was on a partially restricted diet, and his urine contained 35·71 per 1000 of sugar. Codeina was ordered in conjunction with the fully restricted diabetic diet. In two days the sugar had fallen to 10·2 per 1000 and three days later it had disappeared. He increased in weight and in every way improved till towards the middle of November, when somewhat suddenly a fall in weight set in with a feeling of prostration like that which he had experienced at the beginning. He was under the apprehension that a relapse had occurred. His urine was in a sugar-free state, and I have mentioned that under such circumstances the symptoms presented indicate returning assimilative power and want of carbohydrate. Three ounces of ordinary bread per diem were allowed and improvement immediately followed. At the end of November the amount of bread was raised to 4½ ounces. On Dec. 23rd the weight was again falling and weakness was complained of. The condition was satisfactorily met by increasing the bread to 6 ounces. In the early part of February, 1897, the bread was raised to 7½ ounces. At the end of July a satisfactory state existed. In the entry for Sept. 24th, just after my return from the vacation, it is stated that through passing more urine and losing weight the patient feared there might be a return of sugar and that he had on his own account reduced the bread with the effect of producing a marked loss of weight. The allowance was raised to 9 ounces and recovery of weight took place. In October the bread was increased to 10½ ounces, and in December to 12 ounces. A steady rise in weight had now set in and was afterwards continued. I see it noted that

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Having glanced at some of the less evident forms of primary growth disorders it will now be best to choose some one organ and pursue its disorders through their various forms. Perhaps one of the best that can be chosen for such a purpose is the skeleton.

THE PRIMARY GROWTH DISORDERS OF THE SKELETON.

A. *Hypoplasia of the skeleton.*[3]—This is a disease which has not hitherto been systematically described, though it sometimes shows itself in very marked forms. Its features are as conspicuous and as clearly defined as are those of rickets or cretinism. Two of the best known instances
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Associations.—It is probable that, like other primary growth disorders, hypoplasia of the skeleton is prone to be associated with defects or excesses of other parts. Very few cases of this disease are recorded, but among them is one in which such an association is mentioned. Mr.

was affected with another growth anomaly in the shape of hyperplasia of the gums. One case is reported in which the hypoplasia seems to have taken on degenerative characters. This case is described by Dr. Paltauf in his monograph on Dwarfism (p. 41). Together with marked delay of ossification there was osteomalacia which was the cause of death. There was also cirrhosis of the liver.

B. *Hypertrophy of the skeleton.*—While hypoplasia occurs as a form of dwarfism hypertrophy is only found among those who are tall or gigantic. It is not yet possible to say where giantism of this type ends and acromegaly begins, or what is the exact relation between the two. Some writers hold that giantism is always due to acromegaly, but this opinion has not as yet been substantiated. On the contrary, there seems good evidence for the view that there are cases of giantism which are quite unconnected with acromegaly. There are instances on record of giants who have differed from the acromegalic in having lived to the average duration of life, in the enjoyment of good health and in the possession of offspring. A good example of this form of giantism is furnished by the celebrated Mongolian giant Chang. Though it is not stated that he had children Frank Buckland[4] and others who saw him say that he showed no signs of disease and was of good intelligence, strong, and healthy. He himself
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was 7 feet 5½ inches (2·27 metres), were also good examples of the same condition. The Austrian Winkelmeyer who was described by Virchow[5] was another. (See Fig. 2.)

In hypertrophy of the skeleton adaptation of growth is, as a rule, obviously defective, the growth of bone being often

[4] Edinburgh Medical Journal, New Series, vol. 1, No. 2, p. 117.
[5] Curiosities of Natural History, 4th S., p. 10.
[6] Zeitschrift fur Ethnologie, 1 15, S. 461.

It is, as I [illegible], the passage of the case from the "[illegible]e "*composite*" type that supplies the [illegible] many cases run on for years without the transition occurring and if the sugar is properly kept down no harm arises. A patient consulted me in February, 1886. He was then 51 years of age and had been the subject of diabetes for one and a half years. His symptoms were severe and his urine contained 50 per 1000 of sugar. In a specimen of urine recently examined sugar was present but oxybutyric [illegible] were absent. Length of time, however, in [illegible] form affords no guarantee against the passage of the case into the "*composite*," but my experience would lead me to say that the more completely the elimination of sugar is kept under the less likely is the transit to occur. The case cited above of the patient whom I first saw in 1885 serves as an illustration applicable here. After running on for about 15 years in the "*alimentary*" form progress has recently been made into the "*composite*" form. In December last there was a slight amount of diacetic acid present without any oxybutyric acid. In April considerable quantities of both existed.

As an example of rapid development of the "*composite*" form (and I do not know that it may not in some cases set in with the onset of the disease) I may refer to the case of a female patient, aged 18 years, of a very sensitive organisation whose first symptoms of [illegible] vember and who was brought to me [illegible] containing much sugar associated with large quantities of oxybutyric and diacetic acids.

When the abnormal tissue breaking down, which is attended with the production of sugar and the associated products that have been referred to, sets in it is obvious that a serious aggravation of the previous condition becomes established. Under the morbid influence in operation the tissues melt down into unexhausted products which escape as waste with the urine. No wonder under these circumstances that the weight should cease to be maintained. A sensibly advancing fall is noticeable and when the patient survives for some time without being carried off by coma or otherwise, marasmus may progress till reduction almost to the semblance of a skeleton is attained.

The diabetic coma to which the patient in the "*composite*" form of diabetes so frequently succumbs is the result of a true autotoxicosis. The term "acetonæmia" has been applied to the condition from the idea formerly entertained that acetone was the toxic agent. If there is a pronouncement, however, that can with confidence be made it is that the term, as in the parallel instance of "uræmia," is an entire misnomer. From the evidence in our possession neither acetone, diacetic acid, nor β oxybutyric acid can be looked to as possessing the toxicity needed to account for the coma. A proposition has recently been put forward which has the appearance of being entitled to our weighty consideration. Sternberg[1] has suggested that it is to β amido-butyric acid, a probable precursor of oxybutyric acid in the acetone series of products, that diabetic coma is attributable. The view is supported by the fact that after the experimental introduction of the β amido-butyric acid into the circulation exactly the same train of symptoms, even to the "air-hunger" kind of breathing, follows that is met with in diabetic coma. Grube[2] has repeated these experiments and obtained completely confirmatory results.

That a within developed toxic agent is the source of the coma is strikingly exemplified by the effect of a measure of treatment that has been upon occasions resorted to. By the intravenous injection of large quantities of various saline solutions patients have been restored from a comatose to a conscious state. Unfortunately the effect has only been temporary. The toxic agent, it may be assumed, has for the time been washed out of the system, but owing to the genetic action going on has soon reaccumulated.

The reaction with the ferric chloride is not necessarily to be taken as indicative of a bad foreboding. There are circumstances under which diacetic acid is only temporarily present and it is only when persistently in some quantity present that it is to be concluded that a grave condition has been reached. With starvation and an excessive amount of proteid food, apart from diabetes, ferric chloride may be found to give a reaction and the reaction may appear for a time when [illegible] ricted, die[illegible] adapted [illegible] its associates, and such is also [illegible] glycosuria when fasting is conjoined. Under these several circumstances a supply of carbohydrate matter contributes [illegible] reduction of the principles. Fat also [illegible] similar way. It seems as if the carbohydrate and fat groupings within the proteid molecule saved the nucleus of the molecule, and that when these are absent the molecule itself undergoes destruction. Placed in such an extremity, with the dangers of Scylla and Charybdis before us, we may consider it wise to steer a middle course in relation to food.

Grosvenor-street, W.

[1] Zeitschrift fur Klinische Medicin. 1899, vol. xxxviii., p. 65.
[2] THE LANCET, March 10th, 1900, p. 706.

[2] Geelmuyden. Zeitschrift fur Physiologische Chemie, 1899, vol. xxvi., p. 381.

THE PRIMARY DISORDERS OF GROWTH.

BY HASTINGS GILFORD, F.R.C.S. ENG.

(*Continued from p. 1648*)

THE method which has been adopted to show the class unity of the various diseases which have been mentioned may be termed the synthetical method, for it consists in the construction of the class from its elements. The propositions which are embodied may be "proved" by the converse or analytical method—i.e., by taking individual diseases and showing how each one answers to certain tests which are common to the class. Many of the diseases under con- [illegible] one another that it at first seems [illegible] they can have similar bases. This may be said, for example, of such divergent diseases as local giantism of the extremities, primary Bright's disease of the kidneys, pernicious anæmia, and Addison's disease. But there are other diseases of the group which connect these together and make it easier to grasp their essential identity. Thus, while it requires some effort of the imagination to see the connexion between, say, a giant extremity and a large white kidney, it is but a step between the giant hand and the giant breast. Further, the process which gives rise to the giant breast is evidently of the same nature as that which produces the giant thyroid of goitre. The latter, it is true, contains, as a rule, large numbers of cysts; but that is a detail which results, not from any difference in the nature of the disease, but from peculiarities in the structure of the gland itself. From the fibrous or cystic thyroid to the fibrous, large white, or cystic kidney is but another step, and so the connexion between the giant hand and the giant kidney is completed. After the same fashion it can be shown that there are all stages between the purely fibrous adrenal body and that which is composed almost solely of tubercle-like cells or is unquestionably tuberculous. Moreover, that the process which leads to destruction of the adrenal body in Addison's disease is essentially of the same nature as that which gives rise to cirrhosis of the liver or to primary Bright's disease of the kidney is also indicated by the occurrence of cases in which adjacent parts of the liver and kidney are implicated by contact with diseased adrenals. Under this circumstance a local change is set up in these organs which is exactly the same as that which takes place in cirrhosis and in Bright's disease respectively.[1] But the primary nature of the lesion of Addison's disease and its identity with the fibrous degenerations of the lungs, spinal cord, liver, and kidneys have been already dealt with by Sir Samuel Wilks.[2]

In the course of the study of these primary disorders of growth it soon becomes evident that there are certain rules or postulates which bind them together and which greatly help in their elucidation. Some of these are so important and so absolute that they almost deserve the more dignified name of laws. Of these, two of the most important are that "any organ or part which is capable of growth is

[1] Professor Burdon Sanderson, Transactions of the Pathological Society of London, vol. xx., p. 38.
[2] THE LANCET, June 13th, 1885, p. 1101.

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As an example of rapid development of the "*composite*" form (and I do not know that it may not in some cases set in with the onset of the disease) I may refer to the case of a female patient, aged 18 years, of a very sensitive organisation whose first symptoms of diabetes occurred in November and who was brought to me in February with urine containing much sugar associated with large quantities of oxybutyric and diacetic acids.

When the abnormal tissue breaking down, which is attended with the production of sugar, and the associated products that have been referred to, sets in it is obvious that a serious aggravation of the previous condition becomes established. Under the morbid influence in operation the tissues melt down into unexhausted products which escape as waste with the urine. No wonder under these circumstances that the weight should cease to be maintained. A sensibly advancing fall is noticeable and when the patient survives for some time without being carried off by coma or otherwise, marasmus may progress till reduction almost to the semblance of a skeleton is attained.

The diabetic coma to which the patient in the "*composite*" form of diabetes so frequently succumbs is the result of a true autotoxicosis. The term "acetonæmia" has been applied to the condition from the idea formerly entertained that acetone was the toxic agent. If there is a pronouncement, however, that can with confidence be made it is that the term, as in the parallel instance of "uræmia," is an entire misnomer. From the evidence in our possession neither acetone, diacetic acid, nor β oxybutyric acid can be looked to as possessing the toxicity needed to account for the coma. A proposition has recently been put forward which has the appearance of being entitled to our weighty consideration. Sternberg[1] has suggested that it is to β amido-butyric acid, a probable precursor of oxybutyric acid in the acetone series of products, that diabetic coma is attributable. The view is supported by the fact that after the experimental introduction of the β amido-butyric acid into the circulation exactly the same train of symptoms, even to the "air-hunger" kind of breathing, follows that is met with in diabetic coma. Grube[2] has repeated these experiments and obtained completely confirmatory results.

That a within developed toxic agent is the source of the coma is strikingly exemplified by the effect of a measure of treatment that has been upon occasions resorted to. By the intravenous injection of large quantities of various saline solutions patients have been restored from a comatose to a conscious state. Unfortunately the effect has only been temporary. The toxic agent, it may be assumed, has for the time been washed out of the system, but owing to the genetic action going on has soon reaccumulated.

The reaction with the ferric chloride is not necessarily to be taken as indicative of a bad foreboding. There are circumstances under which diacetic acid is only temporarily present and it is only when persistently in some quantity present that it is to be concluded that a grave condition has been reached. With starvation and an excessive amount of proteid food, apart from diabetes, ferric chloride may be found to give a reaction and the reaction may appear for a time when a dia [illegible] put upon the restricted diet to [illegible] when the system has adapted itself [illegible] have seen this sometimes occur. In [illegible] creatic diabetes the sugar is accompan[illegible] its associates, and such is also the case in phloridzin glyco- [illegible] Under these several [illegible] matter contributes [illegible] principles. Fat also appears[3] to act in a similar way. It seems as if the carbohydrate and fat groupings within the proteid molecule saved the nucleus of the molecule, and that when these are absent the molecule itself undergoes destruction. Placed in such an extremity, with the dangers of Scylla and Charybdis before us, we may consider it wise to steer a middle course in relation to food.

Grosvenor-street, W.

[1] Zeitschrift fur Klinische Medicin, 1899, vol. xxxviii., p. 65.
[2] THE LANCET, March 10th, 1900, p. 706.
[3] Geelmuyden, Zeitschrift für Physiologische Chemie, 1899, vol. xxvi., p. 381.

THE PRIMARY DISORDERS OF GROWTH.

BY HASTINGS GILFORD, F.R.C.S. ENG.

(*Continued from p. 1648.*)

THE method which has been adopted to show the class unity of the various diseases which have been mentioned may be termed the synthetical method, for it consists in the construction of the class from its elements. The propositions which are embodied may be "proved" by the converse or analytical method—i.e., by taking individual diseases and showing how each one answers to certain tests which are common to the class. Many of the diseases under consideration are so unlike one another that it at first seems almost impossible that they can have similar bases. This may be said, for example, of such divergent diseases as local giantism of the extremities, primary Bright's disease of the kidneys, pernicious anæmia, and Addison's disease. But there are other diseases of the group which connect these together and make it easier to grasp their essential identity. Thus, while it requires some effort of the imagination to see the connexion between, say, a giant extremity and a large white kidney, it is but a step between the giant hand and the giant breast. Further, the process which gives rise to the giant breast is evidently of the same nature as that which produces the giant thyroid of goitre. The latter, it is true, contains, as a rule, large numbers of cysts; but that is a detail which results, not from any difference in the nature of the disease, but from peculiarities in the structure of the gland itself. From the fibrous or cystic thyroid to the fibrous, large white, or cystic kidney is but another step, and so the connexion between the giant hand and the giant kidney is completed. After the same fashion it can be shown that there are all stages between the purely fibrous adrenal body and that which is composed almost solely of tubercle-like cells or is unquestionably tuberculous. Moreover, that the process which leads to destruction of the adrenal body in Addison's disease is essentially of the same nature as that which gives rise to cirrhosis of the liver or to primary Bright's disease of the kidney is also indicated by the occurrence of cases in which adjacent parts of the liver and kidney are implicated by contact with diseased adrenals. Under this circumstance a local change is set up in these organs which is exactly the same as that which takes place in cirrhosis and in Bright's disease respectively.[1] But the primary nature of the lesion of Addison's disease and its identity with the fibrous degenerations of the lungs, spinal cord, liver, and kidneys have been already dealt with by Sir Samuel Wilks.[2]

In the course of the study of these primary disorders of growth it soon becomes evident that there are certain rules or postulates which bind them together and which greatly help in their elucidation. Some of these are so important and so absolute that they almost deserve the more dignified name of laws. Of these, two of the most important are that "any organ or part which is capable of growth is

[1] Professor Burdon Sanderson, Transactions of the Pathological Society of London, vol. xx., p. 38.
[2] THE LANCET, June 13th, 1885, p. 1101.

subject to the primary disorders of
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[illegible] application of the first of the two [illegible] growth diseases of the blood. It is, I suppose, certain that the blood must be regarded as a fluid tissue, one of whose functions is to act as a medium; and being a tissue and capable of growth we know that, like all other tissues, it must also be liable to the disorders of growth. Only two of these need now be referred to. One is hypoplasia, or pernicious anæmia, the other is degenerative hyperplasia or leukæmia. In pernicious anæmia the cells of higher type (red discs) are alone diseased, the less differentiated white cells not being affected. The explanation of the course of events in pernicious anæmia may be put briefly as follows. In health there is provision both for the destruction of imperfect or used-up red discs and also for the making of new discs to take their place. Red bone marrow is the chief source of the new blood, while the blood itself, and after it the liver, kidneys, and spleen, are the organs which are most concerned in the scavenging process of blood destruction. In pernicious anæmia there is a perversion of the natural processes of blood growth which leads to the appearance of a number of badly formed or embryonic discs, instead of well-made, healthy discs. But the blood destroyers cannot distinguish between these defective discs and those which are used up in the normal wear and tear of the body; they therefore ruthlessly break up and destroy in the blood all the imperfect cells as rapidly as they can. But increased destruction of red discs leads to their increased formation and a spurious hypertrophy of the red marrow takes place in consequence. In this way the vicious circle of bad workmanship, increased waste, and increased output is completed. A similar process goes on in connexion with the white cells in leukæmia, though it is varied in accordance with the variation in the nature of the tissue which is affected. The leukæmias are obviously the degenerative hyperplasias of the blood. Their clinical history is in the main that of other forms of primary degenerative disease. They are sporadic, idiopathic, progressive but liable to periods of amendment, pernicious, and incurable. They are distinguished by increase of cells of low type (leucocytes) and decrease of cells of higher type (red discs). Running with this is spurious hypertrophy of one or other of those organs (the lymph glands, the spleen, &c.) which are concerned in the making of leucocytes, corresponding with the pseudo-hypertrophy of the red marrow in pernicious anæmia. This morbid process may be of mild degree, lasting for years, or it may run a fiercer course, cutting short the life of the individual within a few weeks, and being in all important respects indistinguishable from a sarcomatosis. But whether it lasts for a long or a short period it is equally a vice of growth, essential in nature, dependent upon no tangible cause, but due to a radical retroversion of tissue to a condition of savage independence.

Having glanced at some of the less evident forms of primary growth disorders it will now be best to choose some one organ and pursue its disorders through their various forms. Perhaps one of the best that can be chosen *for such a purpose is the skeleton.*

THE PRIMARY GROWTH DISORDERS OF THE SKELETON.

A. *Hypoplasia of the skeleton.*[3]—This is a disease which has not hitherto been systematically described, though it sometimes shows itself in very marked forms. Its features are as conspicuous and as clearly defined as are those of rickets or cretinism. Two of the best known instances are those of Charles Stratton (Tom Thumb) and his wife (see Fig. 1). There is a skeleton of another in the museum of the Royal College of Surgeons [illegible] ther in the museum of the Roy[illegible] England. The principal features [illegible] It is prone to occur in more than one member of the same family. It is a form of dwarfism, and its peculiarities will perhaps be best understood by comparing it with other kinds of dwarfism and

[3] It is impossible to do justice to this subject within the limits of this article. All that is intended is to show that there is such a condition as primary hypoplasia of the skeleton.

It is [illegible] ty in th [illegible] ones wh affected. Most other kinds defects [illegible] is more [illegible] of hypo [illegible] though [illegible] ceased. [illegible] affected [illegible] be term [illegible] from th [illegible] of growth, which has not quite the same meaning. A good example is afforded by rickety dwarfs, in whose case the growth of the muscles and other soft parts does not continue to any extent after the bones have ceased to grow, but becomes adapted to the requirements of the stunted and deformed skeleton. Adaptation of growth is still better shown in this hypoplasia of the bones, where it is even more perfect than it is in rickets, for the rickety dwarf has muscles which are often in excess of his needs, and is, therefore, too strong for his size and of a thick-set and clumsy appearance. Hypoplasia, moreover, differs from rickets in that while in rickets the adaptation is one of growth only, in hypoplasia of bone it affects development as well. Rickety dwarfs pass through the various stages of life like men and women of common stature, whereas in these other dwarfs the appearance of youth, manhood, and maturity are greatly delayed or do not appear at all. The growth and development of the bones are delayed, not arrested, and the growth and development of the soft parts follow suit. Immaturity of the bones is associated with immaturity of the rest of the body. This is shown especially in the face and in the general proportions of the figure. Adult dwarfs of this type may have the faces and proportions of young children. They have, as a rule, broad faces, snub noses, large broad heads, and short limbs. Puberty may not come on until after the age of 30 years, or it may not appear at all. At the same time this immaturity is one of appearance only, for these dwarfs, as a rule, die as soon as, or sooner than, ordinary individuals. There are, however, some notable exceptions.

Associations.—It is probable that, like other primary growth disorders, hypoplasia of the skeleton is prone to be associated with defects or excesses of other parts. Very few cases of this disease are recorded, but among them is one in which such an association is mentioned. Mr. Hutchinson[4] has described a case of dwarfism in which there was marked immaturity of appearance and which to all appearance was an example of this same disease. This man was affected with another growth anomaly in the shape of hyperplasia of the gums. One case is reported in which the hypoplasia seems to have taken on degenerative characters. This case is described by Dr. Paltauf in his monograph on Dwarfism (p. 41). Together with marked delay of ossification there was osteomalacia which was the cause of death. There was also cirrhosis of the liver.

B. *Hypertrophy of the skeleton.*—While hypoplasia occurs as a form [illegible] long those who are ta [illegible] say where giantism o [illegible] or what is the exact relation between [illegible] hold that giantism is always due to acromegaly, but this opinion has not as yet been substantiated. On the contrary, there seems good evidence for the view that there are cases of giantism which are quite unconnected with acromegaly. *There are instances* on record of giants who have differed from the acromegalic in having lived to the average duration of life, in the enjoyment of good health and in the possession of offspring. A good example of this form of giantism is furnished by the celebrated Mongolian giant Chang. Though it is not stated that he had children Frank Buckland[4] and others who saw him say that he showed no signs of disease and was of good intelligence, strong, and healthy. He himself stated that his brothers were giants. He is said to have died at the age of 47 years. Captain Bates, who was 7 feet 2½ inches (2·19 metres) in height, and Mrs. Bates, who was 7 feet 5½ inches (2·27 metres), were also good examples of the same condition. The Austrian Winkelmeyer who was described by Virchow[5] was another. (See Fig. 2.)

In hypertrophy of the skeleton adaptation of growth is, as a rule, obviously defective, the growth of bone being often

[4] Edinburgh Medical Journal, New Series, vol. i., No. 2, p. 117.
[5] Curiosities of Natural History, 4th S., p. 10.
[6] Zeitschrift fur Ethnologie, 1875, S. 69.

conspicuously in advance of that of the soft parts. Those affected with this disease are therefore inclined to be disproportionately tall, thin, weak, and shambling in gait. Doubtless the chief, if not the only, reason why adaptation is so imperfect in giants is because in their case the disease shows itself at a later age and so much more rapidly than is the case with hypoplasia. The latter commences in childhood and continues through the rest of life, whereas giantism begins, as a rule, at or near puberty and is completed at the ordinary period of cessation of bone growth. The one runs its course slowly and so gives time for the growth of the soft parts to be accommodated to the growth of the bones; the other is so rapid in its course that the growth of the soft tissues is soon left hopelessly in the rear. Hypertrophy of the skeleton, like hypertrophy of other organs, is often by no means well defined, but merges imperceptibly in different cases into normal growth. The bones of giants are often decidedly coarse in texture, but there seems to be no evidence that the process ever goes so far as to become degenerative and to lapse into osteitis deformans.

Heredity; associated disorders.—Perhaps the best instance of the hereditary transmission of giantism on record is that of Captain Bates and Mrs. Bates,[7] whose first child weighed no less than 22¾ lb. (10·77 kilogrammes) at birth. Instances of giantism occurring as a family disease are also recorded. Giantism is so rare that the association with it of other growth disorders has much significance. One of the earliest cases is mentioned in the Bible. It is there said that Goliath of Gath had a brother who was a giant and that he had a son of "great stature" who had on every hand six fingers and on every foot six toes.[8] An instance of the family association of giantism with superfluous digits is also recorded by Mr. R. C. Lucas[9] who, in giving a genealogical tree of a family liable to the latter disorder, put at the head a great-great-grandmother who possessed no deformity but whose son was said to have been exhibited as a giant and who had a daughter with six toes on each foot. The second child of the latter had six toes on each foot and grew to be a man of over six feet in height. Several other children and grandchildren had webbed supernumerary digits and two were

FIG. 1.

Hypoplasia of the skeleton. "General and Mrs. Tom Thumb." The faces and general proportions show stereotyped infantile characters. X marks 25 inches, showing that these dwarfs were 25 inches (0·635 m.) high.—(From a photograph by the London Stereoscopic and Photographic Company, Limited.)

[7] New York Medical Record, March 22nd, 1899.
[8] 2 Samuel, xxi. 20, and 1 Chronicles, xx. 6.
[9] Guy's Hospital Reports, S. 3, vol. xxv.

C. Degenerative hypoplasia of the skeleton.—Perhaps the most conspicuous feature of this complaint is unusual fragility of the bones. It is, in fact, one of those diseases which are grouped together under the loose name of fragilitas ossium. Many instances of undue brittleness of the bones are caused by the presence of new growths or are the result of long disuse or have some other known origin. But among them we also find some which are dependent upon no ascertainable cause but seem to arise spontaneously in bones which are affected with a special dyscrasia. It is these that are now referred to as instances of degenerative hypoplasia or metaplasia of bone. Some of them approach osteitis deformans in their symptoms and appearance, while others more closely resemble osteomalacia. It is probable that the itself by fracture of a bone at the age of four months. Bending of bones then took place, and at the age of 29 years, when the account was written, the case differed in no essential particular from one of osteomalacia. Numerous fractures had occurred, there was extreme softening of the bones, with characteristic deformity, and the only distinction from osteomalacia that was of any consequence consisted in the shafts being smaller instead of bigger than usual. The skiagram which illustrates the paper shows that while the epiphyseal ends of the long bones were very large, the diaphyses were even smaller than they are in health, thus reversing the relative proportions of these parts as they occur in *ordinary cases* of osteomalacia. But after all this is only to be expected in a condition of hypoplasia. In this

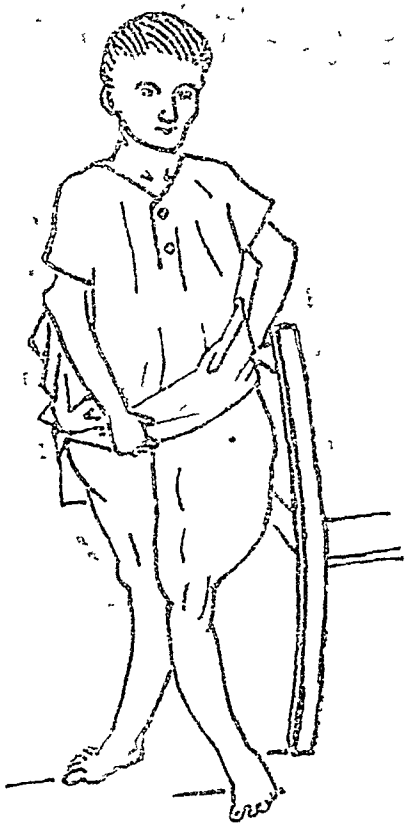
FIG. 2.

Hypertrophy of the skeleton (Winkelmeyer). Gigantism probably not as[illegible] is not well adapted to the increased growth of the bones. X marks [illegible] high, so that the figures of "General and Mrs. Tom Thumb" would [illegible] the same scale.—(From a photograph by the London Stereoscopic and [illegible]

[10] Gould and Pyle: Anomalies and Curiosities of Medicine, p. 330.
[11] La Semaine Médicale, 1899, No. 7, p. 53.
[12] Transactions of the Medical Society of London, vol. xx., 1897, p. 333.

connexion the following case is most instructive, for it not only serves to indicate that there is a relation between the idiopathic form of osteopsathyrosis, and osteomalacia and osteitis deformans, but it also helps to show the position of osteopsathyrosis as a growth disorder.

FIG. 3.



Degenerative hypoplasia (or metaplasia) of the skeleton. The chief features of this case are curvature, fragility, bending, tumour formation, and congenital dislocations of the radii.

The patient (see Fig. 3) was an unmarried woman, aged 38 years, who was 4 feet 7 inches (1·67 metres) in height, whose father was tall (6 feet 2 inches), and whose mother was of ordinary height. Neither she nor her parents had ever had syphilis or rickets. Her troubles began when she was just able to run alone, at which time she broke her right humerus. From this time onwards the story of her life is the story of a succession of fractures and tumours. At the age of six years she broke the left humerus and shortly afterwards both bones of the right forearm; when she was 16 years old both bones of the right leg were broken; and at the age of 33 years the left tibia. When she was 36 years old she broke two ribs while coughing, one of them snapping while I was in the act of binding up the other. At about the fifteenth year of her age the right leg became curved without apparent cause, and when she was 16 years old a tumour appeared on the left femur and grew so quickly that within three months it extended from the top of the bone to the bottom, and gradually hardened. While lying in bed because of this swelling the left leg became bent as the right had been. At the age of 34 years a small, hard tumour of the size of a hazel nut appeared above the right external malleolus, and in her thirty-seventh year another—of the same nature, but of larger size (as big as an orange)—sprang from the right humerus. Finally, a much smaller and more diffuse swelling appeared on the projecting part of the left tibia.

The general health of this patient is excellent and there are no evidences of either rickets or syphilis. There is a congenital forward dislocation of each elbow limiting pronation of the forearm, and, to a less degree, supination as well. There appears to be no cup to the head of the radius and the shaft of that bone is longer than usual. The shaft of the ulna is bent near its upper extremity. The tumours are apparently composed of bone and cartilage.

Mr. J. Hutchinson[13] has drawn my attention to a case under his care which bears a remarkable likeness to the one which I have just described. This patient, who was a girl aged 10½ years, showed the following lesions—viz.: (1) fractures of the right forearm (three times), the left forearm (twice), the right leg (three times), and the right thigh (all these fractures united without leaving any very evident traces); (2) absence of the external condyle of each humerus so that the finger could be placed on the upper end of each radius; (3) bending of each ulna in its upper third and of each humerus; and (4) formation of tumours of the lower half of the right femur and also of the middle of the left femur. The former subsequently disappeared but the latter had not gone when the account was written.

The various lesions which characterise these two cases may be summed up under four headings: (1) congenital malformations; (2) unusual fragility of bone; (3) bending of bones owing to abnormal softness; and (4) tumour formation. Now I think there can be no doubt that these two cases are examples of the same disease. It also seems certain that this common disease of which they are representatives is closely related to osteomalacia and osteitis deformans. All three are characterised by fragility of bones, by softening and bending, and by a tendency to be associated with the formation of tumours. They therefore show a resemblance in three out of the four main features of the above two cases.

It would be by no means difficult to bring forward a series of cases to show that there is an unbroken connexion between the various forms of primary (idiopathic) bone disease. Idiopathic osteopsathyrosis might in this way be shown to merge on the one hand into osteitis deformans and on the other into osteomalacia. The widespread, but slighter, cell insubordination of osteitis deformans might next be seen giving rise to those local cell riots which we call tumours, fibrous, cartilaginous, or bony. Finally, as the expression of the loss of every vestige of restraint, would come the periosteal sarcomata. Or, beginning again at osteopsathyrosis and tracing it on to osteomalacia, we should next arrive at the innocent myelomata and end at the malignant endosteal sarcomata. Some good instances of these two series of changes may be found in von Recklinghausen's contribution to Virchow's Festschrift.[14] In one of his cases (that of a patient, aged 66 years) there were: (1) bending of the bones, (2) irregular thickening, and (3) formation of tumours, cystic, bony, and fibrous, among them being a spindle-shaped swelling of the upper part of the diaphysis of each femur. Though the anamnesis was very defective von Recklinghausen considered the disease to be osteitis deformans of very long standing, commencing, indeed, in all probability within the first ten years of life. Hence the first onset of the osteitis deformans came within the age which is favoured by osteopsathyrosis. He alludes to a case recorded by Virchow of "diffuse deforming osteitis with tumours and cysts," and he himself gives other cases of a similar nature. Some of these were allied rather to osteomalacia than to osteitis deformans. Thus in one, which occurred in a woman, aged 55 years, there was pronounced bone softening together with cystic growths. Von Recklinghausen himself considered it to be a case of modified osteomalacia. In another were cysts, numerous fractures, and a very thick calvarium. In yet another there was "fibrous osteitis," together with multiple sarcomata, and many fractures. His opinion was that in this last case the bone softening was primary and the sarcomata secondary. He then mentions a case recorded by Hirschberg of a similar nature, which also was considered by that observer to be primarily one of osteomalacia, the disease favouring the formation of cyst [illegible] and giving rise to fractures. Mr. [illegible] has also recorded an instance of the [illegible] idiopathic fragility of bones with the formation of tumours. In this case the first fracture occurred [illegible] and was followed 17 years afterwards [illegible] of the union of this first fracture a[illegible] bone of a spindle-[illegible] and other cases [illegible] osteopsathyrosis, o[illegible] run one into the [illegible] basis, and

[14] Fibrous [illegible], vol. ix. [illegible] eomalacia, and Osteoplastic Carcinoma in [illegible], 1891.

[15] Transactions of the Clinical Society of London, vol. xxix., p. 36.

making allowances for differences of tissue or age, show similar anatomical changes.

We now have to ask ourselves—(1) What is the cause of the association of these diseases with tumours? and (2) why are the two cases of osteopsathyrosis first mentioned associated with congenital malformations? The answer to the first question is almost implied in what has already been said. There is every reason to suppose that all three diseases are degene[illegible] and that, like other [illegible] constitute favourable [illegible] this respect they resem[illegible]s of the epithelial layers of the tongue, and similar degenerative [illegible] he prostate, [illegible]estion arises on with con- [illegible] ground that [illegible] disorders of [illegible]ge. Primary [illegible]obability of similar nature at whatever age they occur, and however differently they may manifest themselves, whether they occur as clefts or atrophies in fœtal life, as defects or excesses at any age, or as those localised outbursts which we call tumours.

Anatomy.—In the account of the histological features of this disease which are given by Professor Hamilton[16] it is evident that up to a certain point the minute anatomy is the same as that of osteitis deformans and of osteomalacia. The structural resemblances of these two latter diseases will be dealt with later. Professor Hamilton, who quotes Langendorff and Mommsen, and gives two good plates, says that there is "dilatation of the Haversian canals which are in part transformed into medullary spaces. The cement lines (von Ebner) which intervene and map out the borders of the Haversian systems have almost vanished. The borders of the trabeculæ of bo[illegible] owing to their being [illegible] bone marrow is red [illegible] in fat. It resembles fœtal marrow (Virchow). Giant cells are present in the dilated Haversian canals. Cyst-like cavities are also found. Parts of the trabeculæ may be purely fibrous. All this might be said of either osteitis deformans or osteomalacia. The only real differences between them are that osteopsathyrosis is the more chronic and tends to affect both marrow and bone indiscriminately. Whereas in the other two diseases the process is more active; the changes are more pronounced and tend to affect one tissue (marrow or bone) much more than the other.

cton.—This is of the bone marrow s (osteitis deformans). The differences between them are not radical or [illegible]

Their relation one to the other and their true pathology may be demonstrated, therefore, by passing in review their main clinical and structural features.

1. Osteomalacia and osteitis deformans have the same clinical basis. Both are sporadic, though osteomalacia, like other primary growth disorders, is much more prevalent in some districts than in others. Both make their appearance without any evident cause and both destroy the functions of the part they affect. Both run a course which is progressive but at the same time not altogether even, for it is broken up, as a rule, by intervals of quiescence or of actual betterment. These interv[illegible] the hope tha[illegible] in use when [illegible] credit. But almost invariably a time comes, sooner or later, when the disease makes further headway, and though im- [illegible]d is nearly always [illegible]e. Both diseases [illegible]ious, progressive [illegible]y incurable. The [illegible] in minor details Thus both may begin in one bone and may be confined to that bone; both are, as a rule, imperfectly symmetrical; both are attended with similar aching pains, both affect the shafts of the bones more than the ends, and in both the disease has no direct influence on other organs. They are local disorders. Both are distinguished by bending of the bones, both by fragility, though this is more pronounced in osteomalacia than in osteitis deformans.

2. The two diseases are anatomically similar. The appearances which may be seen in the marrow of a bone affected with osteomalacia may be summed up in four words. They consist of atrophy, overgrowth, regeneration, and degeneration. The atrophy affects cells of higher type, especially the bone corpuscles, which may be seen to be decidedly shrunken in that part of the shaft which borders on the marrow. The overgrowth is chiefly of the marrow, which undergoes immense increase in volume, but is also, to some extent, of the lymphoid tissue which runs up the Haversian canals. Degeneration is well seen on the outskirts of the diseased area where the marrow touches the shaft of the bone. It first shows itself as decalcification. This is, as a rule, attributed to the action of some acid, such as lactic or carbonic; but there appears to be no evidence whatever that any such cause is at work. It is far more likely that it is a vital and not a mechanical or chemical process, and that it is brought about in the first place by the pressure of the increasing marrow on the bone. It resembles, in fact, the decalcification which is produced by aneurysms when they impinge on bones, but is perhaps more obvious in these cases of osteomalacia because of the inherent tendency of the bone to degenerate. There seems no reason to doubt that the overgrowth of the marrow is under this circumstance amply sufficient to account for this decalcification, for it is not at all unusual to find the marrow in a malacic bone taking up more room than the marrow and bone together of the healthy bone. It has been noticed that in some cases, if not in all, the decalcified layer is not immediately absorbed, but after the removal of the bone salts splits up into fibres, and so, roughly speaking, reverses the order of its development. It recedes step by step from a calcified, organised, connective tissue into a decalcified, unorganised mass, as primitive as the embryonic tissue from which it started. But along with this widespread overgrowth and degeneration there is an equally widespread attempt at repair. Most of the swelling of the marrow is, in fact, due to growth of embryonic material, consisting principally of round cells with little or no intervening fibres. But the fresh growth is itself stricken with the same blight as the tissue which it is apparently intended to repair. It is quite unable to mature so as to serve any useful purpose, and in course of time it also succumbs to degeneration. Granular and fatty changes take place in the cells until they disappear in a structureless débris. Or fatty degeneration may continue until there is ultimately nothing left in the marrow cavity but oil, which pours out when the bone is cut into.

In osteitis defor[illegible] similar changes take place, modified, however, by the d[illegible] we have atrophy, [illegible] There are atrophy [illegible] bone, overgrowth [illegible] tissue of the lam[illegible] deposits of badly formed material. There is overgrowth also of the lymphoid tissue of the Haversian canals, with degeneration into cells which resemble those met with in inflammation. This widening of the canals and their occupation by embryonic tissue correspond with the similar changes which take place in osteomalacia. While osteomalacia is distinguished by false hypertrophy of the marrow, in osteitis deformans there is false hypertrophy of the periosteum, leading to the deposit of new bone; but the new material which is so laid down is, as in similar hyperplasia of other organs, not only redundant, but of bad workmanship. It is imperfect bone, resembling that which is found in the fœtus, and corresponds again with the embryonic tissue of the marrow of osteomalacia.

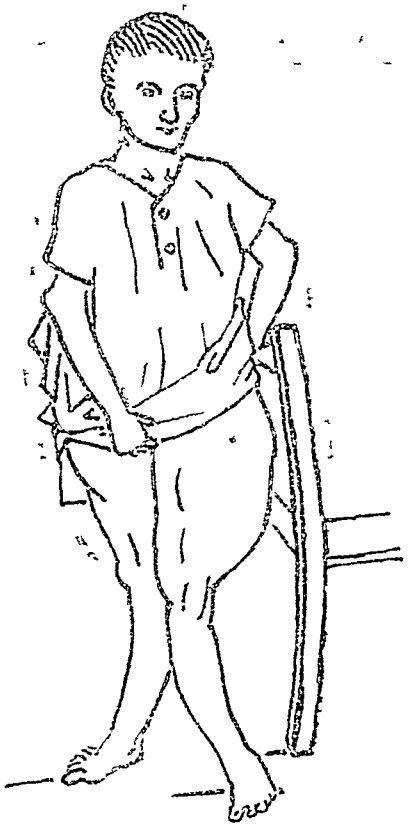
3 There is reason to believe that the two diseases may occur together. Some of the cases of osteitis deformans and osteomalacia which are reported in the medical journals present features which are characteristic of both diseases. This has already been alluded to when we were dealing with the subject of degenerative hypoplasia of the skeleton. One of these cases is described as an instance of arrested osteitis deformans and another as osteitis deformans affecting a single bone. One has been described by Mr. J. R. Lunn,[17] who says of it that "from the microscopical appearance it appears to be a case of osteomalacia occurring in a single bone of an

[16] Text-book of Pathology, vol. ii., part ii., p. 837.

[17] Transactions of the Pathological Society of London, vol. xxxviii., p. 246.

connexion the following case is most instructive, for it not only serves to indicate that there is a relation between the idiopathic form of osteopsathyrosis, and osteomalacia and osteitis deformans, but it also helps to show the position of osteopsathyrosis as a growth disorder.

FIG. 3.



Degenerative hypoplasia (or metaplasia) of the skeleton. The chief features of this case are curvature, fragility, bending, tumour formation, and congenital dislocations of the radii.

The patient (see Fig. 3) was an unmarried woman, aged 38 years, who was 4 feet 7 inches (1·67 metres) in height, whose father was tall (6 feet 2 inches), and whose mother was of ordinary height. Neither she nor her parents had ever had syphilis or rickets. Her troubles began when she was just able to run alone, at which time she broke her right humerus. From this time onwards the story of her life is the story of a succession of fractures and tumours. At the age of six years she broke the left humerus and shortly afterwards both bones of the right forearm; when she was 16 years old both bones of the right leg were broken; and at the age of 33 years the left tibia. When she was 36 years old she broke two ribs while coughing, one of them snapping while I was in the act of binding up the other. At about the fifteenth year of her age the right leg became curved without apparent cause, and when she was 16 years old a tumour appeared on the left femur and grew so quickly that within three months it extended from the top of the bone to the bottom, and gradually hardened. While lying in bed because of this swelling the left leg became bent as the right had been. At the age of 34 years a small, hard tumour of the size of a hazel nut appeared above the right external malleolus, and in her thirty-seventh year another—of the same nature, but of larger size (as big as an orange)—sprang from the right humerus. Finally, a much smaller and more diffuse swelling appeared on the projecting part o

The general health of this pat
are no evidences of either ricke
congenital forward dislocation of
tion of the forearm, and, to a less degree, supination as well. There appears to be no cup to the head of the radius and the shaft of that bone is longer than usual. The shaft of the ulna is bent near its upper extremity. The tumours are apparently composed of bone and cartilage.

Mr. J. Hutchinson[13] has drawn my attention to a case under his care which bears a remarkable likeness to the one which I have just described. This patient, who was a girl aged 10½ years, showed the following lesions—viz: (1) fractures of the right forearm (three times), the left forearm (twice), the right leg (three times), and the right thigh (all these fractures united without leaving any very evident traces); (2) absence of the external condyle of each humerus so that the finger could be placed on the upper end of each radius; (3) bending of each ulna in its upper third and of each humerus; and (4) formation of tumours of the lower half of the right femur and also of the middle of the left femur. The former subsequently disappeared but the latter had not gone when the account was written.

The various lesions which characterise these two cases may be summed up under four headings: (1) congenital malformations; (2) unusual fragility of bone; (3) bending of bones owing to abnormal softness; and (4) tumour formation. Now I think there can be no doubt that these two cases are examples of the same disease. It also seems certain that this common disease of which they are representatives is closely related to osteomalacia and osteitis deformans. All three are characterised by fragility of bones, by softening and bending, and by a tendency to be associated with the formation of tumours. They therefore show a resemblance in three out of the four main features of the above two cases.

It would be by no means difficult to bring forward a series of cases to show that there is an unbroken connexion between the various forms of primary (idiopathic) bone disease. Idiopathic osteopsathyrosis might in this way be shown to merge on the one hand into osteitis deformans and on the other into osteomalacia. The widespread, but slighter, cell insubordination of osteitis deformans might next be seen giving rise to those local cell riots which we call tumours, fibrous, cartilaginous, or bony. Finally, as the expression of the loss of every vestige of restraint, would come the periosteal sarcomata. Or, beginning again at osteopsathyrosis and tracing it on to osteomalacia, we should next arrive at the innocent myelomata and end at the malignant endosteal sarcomata. Some good instances of these two series of changes may be found in von Recklinghausen's contribution to Virchow's Festschrift.[14] In one of his cases (that of a patient, aged 66 years) there were: (1) bending of the bones, (2) irregular thickening, and (3) formation of tumours, cystic, bony, and fibrous, among them being a spindle-shaped swelling of the upper part of the diaphysis of each femur. Though the anamnesis was very defective von Recklinghausen considered the disease to be osteitis deformans of very long standing, commencing, indeed, in all probability within the first ten years of life. Hence the first onset of the osteitis deformans came within the age which is favoured by osteopsathyrosis. He alludes to a case recorded by Virchow of "diffuse deforming osteitis with tumours and cysts," and he himself gives other cases of a similar nature. Some of these were allied rather to osteomalacia than to osteitis deformans. Thus in one, which occurred in a woman, aged 55 years, there was pronounced bone softening together with cystic growths. Von Recklinghausen himself considered it to be a case of modified osteomalacia. In another were cysts, numerous fractures, and a very thick calvarium. In yet another there was "fibrous osteitis," together with multiple sarcomata, and many fractures. His opinion was that in this last case the bone softening was primary and the sarcomata secondary. He then mentions a case recorded by Hirschberg of a similar nature, which also was considered by that observer to be primarily one of osteomalacia, the disease favouring the formation of cysts and sarcomata, and giving rise to fractures. Mr. John Langton[15] has also recorded an instance of the association of idiopathic fragility of bones with the formation of tumours. In this case the first fracture occurred at the age of 11 years and was followed 17 years afterwards by the breaking down of the union of this first fracture and the growth in the bone of a spindle-celled sarcoma. It seems clear from these and other cases that there tween
osteopsathyrosis, osteomalacia, They
run one into the other, have , and,

[13] Archives of Surgery, vol. ix.

[14] Fibrous and Deforming Osteitis, Osteomalacia, and Osteoplastic Carcinoma in their Comparative Relations, 1891.

[15] Transactions of the Clinical Society of London, vol. xxix., p. 36.

making allowances for differences of tissue or age, show similar anatomical changes.

(1) What is the cause of the tumours? and (2) why are first mentioned associated with congenital malformations? The answer to the first question is almost implied in what has already been said. There is every reason to suppose that all three diseases and that, constitute this respect is of the epithelial layers of the tongue, and similar degenerative overgrowths of the thyroid gland, the stomach, the prostate, and other organs. The answer to the second question arises out of the answer to the first. Their association with con- ground that disorders of ge. Primary obability of similar nature at whatever age they occur, and however differently they may manifest themselves, whether they occur as clefts or atrophies in fœtal life, as defects or excesses at any age, or as those localised outbursts which we call tumours.

Anatomy.—In the account of the histological features of this disease which are given by Professor Hamilton[16] it is evident that up to a certain point the minute anatomy is the same as that of osteitis deformans and of osteomalacia. The structural resemblances of these two latter diseases will Hamilton, who quotes ves two good plates, says ersian canals which are paces. The cement lines (von Ebner) which intervene and map out the borders of the Haversian systems have almost vanished. The borders of the trabeculæ of bo owing to their being bone marrow is red in fat. It resembles are present in the dilated Haversian canals. Cyst-like cavities purely deforma them are that osteopsathyrosis is the more chronic and tends to affect both marrow and bone indiscriminately. Whereas in the other two diseases the process is more active; the changes are more pronounced and tend to affect one tissue (marrow or bone) much more than the other.

mans). The differences between them are not radical or essential but are due to differences of tissue, age, sex, and function alone. The evidence of their essential identity runs through their whole clinical history and morbid anatomy. Their relation one to the other and their true pathology may be demonstrated, therefore, by passing in review their main clinical and structural features.

1. Osteomalacia and osteitis deformans have the same clinical basis. Both are sporadic, though osteomalacia, like other primary growth disorders, is much more prevalent in some districts than in others. Both make their appearance without any evident cause and both destroy the functions of the part they affect. Both run a course which is progressive but at the same time not altogether even, for it is broken up, as a rule, by intervals of quiescence or of actual betterment. These intervals are sometimes so conspicuous as to lead to the hope that the disease has ceased and whatever drug is in use when the amendment takes place usually receives the credit. But almost invariably a time comes, sooner or later, when the disease makes further headway, and though im- is nearly always Both diseases ious, progressive incurable. The diseases resemble each other also in certain Thus both may begin in one bone and may that bone; both are, as a rule, imperfectly both are attended with similar aching pains, shafts of the bones more than the ends, and in both the disease has no direct influence on other organs. They are

[16] Text book of Pathology, vol. ii., part ii., p. 837.

pending of the pronounced in

The appear- bone affected with osteomalacia may be summed up in four words. They consist of atrophy, overgrowth, regeneration, and degeneration. The atrophy affects cells of higher type, especially the bone corpuscles, which may be seen to be decidedly shrunken in that part of the shaft which borders on the marrow. The overgrowth is chiefly of the marrow, which undergoes immense increase in volume, but is also, to some extent, of the lymphoid tissue which runs up the Haversian canals. Degeneration is well seen on the outskirts of the diseased area where the marrow touches the shaft of the bone. It first shows itself as decalcification. This is, as a rule, attributed to the action of some acid, such as lactic or carbonic; but there appears to be no evidence whatever that any such cause is at work. It is far more likely that it is a vital and not a mechanical or chemical process, and that it is brought about in the first place by the pressure of the increasing marrow on the bone. It resembles, in fact, the decalcification which is produced by aneurysms when they impinge on bones, but is perhaps more obvious in these cases of osteomalacia because of the inherent tendency of the bone to degenerate. There seems no reason to doubt that the overgrowth of the marrow is under this circumstance amply sufficient to account for this decalcification, for it is not at all unusual to find the marrow in a malacic bone taking up more room than the marrow and bone together of the healthy bone. It has been noticed that in some cases, if not in all, the decalcified layer is not immediately absorbed, but after the removal of the bone salts splits up into fibres, and so, roughly speaking, reverses the order of its development. It recedes step by step from a calcified, organised, connective tissue into a decalcified, unorganised , as primitive as the embryonic tissue from which it ed. But along with this widespread overgrowth and neration there is an equally widespread attempt at repair. of the swelling of the marrow is, in fact, due to growth of embryonic material, consisting principally of round cells with little or no intervening fibres. But the fresh growth is itself stricken with the same blight as the tissue which it is apparently intended to repair. It is quite unable to mature so as to serve any useful purpose, and in course of time it also succumbs to degeneration. Granular and fatty changes take place in the cells until they disappear in a structureless débris. Or fatty degeneration may continue until there is ultimately nothing left in the marrow cavity but oil, which pours ou

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we have atrophy, overgrow There are atrophy of the more highly developed cells of the bone, overgrowth of the more lowly calcified connective tissue of the lamellæ, and the interstitial growth of fresh deposits of badly formed material. There is overgrowth also of the lymphoid tissue of the Haversian canals, with degeneration into cells which resemble those met with in inflammation. This widening of the canals and their occupation by embryonic tissue correspond with the similar changes which take pla malacia is distinguished in osteitis deformans there osteum, leading to the deposit of new bone; but the new material which is so laid down is, as in similar hyperplasia of other organs, not only redundant, but of bad workmanship. It is imperfect bone, resembling that which is found in the fœtus, and corresponds again with the embryonic tissue of the marrow of osteomalacia.

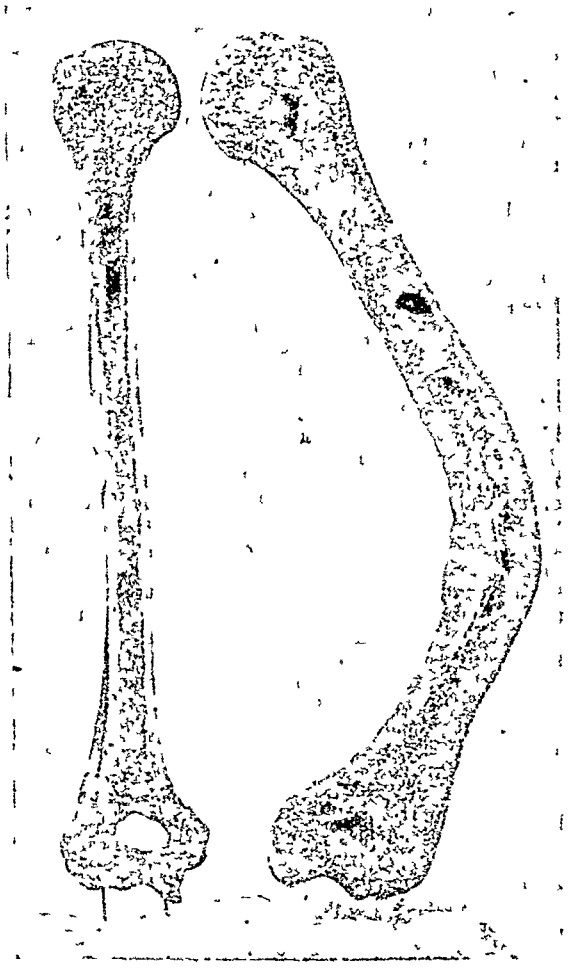
3. There is reason to believe that the two diseases may occur together. Some of the cases of osteitis deformans and osteomalacia which are reported in the medical journals present features which are characteristic of both diseases. This has already been alluded to when we were dealing with the subject of degenerative hypoplasia of the skeleton. One described as an instance of arrested osteitis

to be a case of osteomalacia

[17] Transactions of the Pathological Society of London, vol. xxxviii., p. 266.

old man" (the patient was 86 years of age). "On first examining the case it seemed to be one of senile atrophy with curvature." Now this specimen is preserved in the Hunterian Museum (No 1241, E), and I have to thank the Council of the Royal College of Surgeons of England for permission to reproduce a photograph of it (see Fig 4) It is

FIG. 4.



Degenerative hyperplasia of bone and marrow. Section of humerus (on the right) showing changes characteristic of both osteitis deformans and osteomalacia compared with section of healthy humerus (on the left).

put on the same shelf with specimens of osteitis deformans. In the description of it, which appears in the catalogue over the names of Mr Lunn and Mr. Shattock, it is said: "This specimen appears to be allied to cases of osteitis deformans affecting only one bone." It will be noticed that there is very little thickening except at the curve, but the bone has the coarse gritty look of the bone of osteitis deformans, while, on the other hand, there is an aggressive growth of the marrow causing absorption of the cancellous tissue at the upper end. The appearance of this specimen as a whole is certainly not that which is characteristic of osteitis deformans, and neither does it much resemble that which is ordinarily seen in osteomalacia, but it is equally true that in just those respects in which it differs from one disease it approaches the other in character. A better example of mixed osteitis deformans and osteomalacia it would be difficult to imagine. The specimen is such a good one that I was very rightly not permitted to obtain a piece for further microscopical examination. But I think there can be very little doubt that it is an example of a mixture of osteitis deformans and osteomalacia.

When the membrane bones of the skull are affected in osteomalacia they may closely resemble the appearance which is produced by osteitis deformans. This is well shown in a specimen of osteomalacia of Dr J. F. Goodhart's which is preserved in Guy's Hospital Museum. The calvarium in this case is coarse, granular, devoid of diploë, and deeply scored by the trenches which have been made by the blood-vessels. The sutures are obliterated and were the bone only a little thicker and more compact it could not be distinguished from the skullcap of osteitis deformans.

These are instances of the conjunction of the two diseases. There are other specimens in the London museums which appear to show a similar mixture.

4 Both diseases are allied to inflammation. Both may apparently start as the result of injury, such as a kick on the shin. In osteitis deformans especially the anatomical changes are remarkably like those met with in inflammation, and where the disease is confined to one bone it may be very difficult, or even impossible, to distinguish it from a diffuse osteitis and periostitis due to syphilis, or, possibly, to injury. But as a rule the wide and regular distribution of the disease in osteitis deformans, the progress from bone to bone and from one part of the body to another, the absence of definite cause, the absence of fever, the selection of a special age for its occurrence, the tendency to heredity, the progressive but interrupted course, and the uselessness of the iodides and of surgical treatment suffice to distinguish between them. Lastly, and of most importance, there is one fact which by itself is sufficient to distinguish between the two, and that is the absence of motive. Inflammation must in all cases have some cause, for in this is the essence of an inflammation. Inflammation is the manifestation of the resistance of the organism to injury. Yet no one has found any fungus or other foreign body to account for osteitis deformans, and from what we know of the disease it is most unlikely that such will ever be discovered.

What has been said of osteitis deformans may also be said in effect of osteomalacia. It, too, is like an inflammation, but is in some respects very different and falls short also in the one essential of motive. It may be started by inflammation and may become the seat of inflammation, but is yet not in itself inflammation.

5. Both are allied to, and may become the seat of, tumours. Perhaps no diseases are so difficult to distinguish from one another as osteomalacia and some tumours of bone marrow. Indeed, in some instances of widely disseminated cancer of the marrow it may be impossible to say during life whether the primary disease is an endosteal sarcoma or whether it is due to osteomalacia. Their origin, history, symptoms, and course may be almost identical. Sarcomatous marrow may also closely resemble the marrow of osteomalacia in structure In fact, healthy red marrow is so like sarcoma tissue that a widespread degeneration of red marrow into round-celled sarcomata does not leave much room for such an intermediate stage as that of osteomalacia. There can be no wonder that the two are occasionally mistaken for one another. The same happens sometimes with the corresponding diseases of other lymphoid structures, such as the lymphatic glands. It may be impossible to say in a given case whether the disease is Hodgkin's disease or a sarcomatous growth. A localised idiopathic swelling of lymphatic glands under a sterno-mastoid muscle may with confidence be regarded as a sarcoma (potato sarcoma of Mr. Hutchinson), while an idiopathic swelling of numbers of lymphatic glands in various parts of the body is as certainly due to lymphadenoma; but intermediate cases occur which cannot be positively called either the one or the other. In the same way, while ordinary cases of osteomalacia are unmistakeable, some of the reported cases of widespread sarcomatosis of bone marrow are remarkably like those of osteomalacia. Indeed, it is not easy to see how a generalised sarcomatosis of marrow, and of marrow only, can take place unless there is some alteration in this tissue, such as would be caused by osteomalacia, to predispose to it.

There is every reason to believe that the hyperplasia of osteomalacia may form a breeding-ground for new growths secondarily, as the expression of a further loss of cell-control, in the same way that the goitrous thyroid gland, the fibrous and degenerated breast, the tongue of ichthyosis linguæ, and, in rare cases, the liver of hepatic cirrhosis, may severally become the seat of malignant disease. It seems certain that this is what also takes place in osteitis deformans, for the bones in that disease are peculiarly liable to become the seat of cancerous tumours. This is in part to be explained on the ground that the tissues in general become more liable to this extreme form of degeneration as they increase in age. But in addition to this there is also an undoubted special proclivity of the hyperplastic bone

itself. It has already advanced to a half-way stage and the final descent into cancer becomes, therefore, so much the more easy.

of a man, aged least four years. cattered through

also present in the substance of one described by Mr. three small myelo in a rib, and who uced by osteomalacia. An examination of some of the specimens of osteomalacia in our museums would, if one may judge

disposes to tumour formation. Nothing would be so likely to form such a breeding-ground for tumours as of a degenerative character, however slight it extent. Myelomata also occur with osteitis defor Mr. B. Pitts and Mr. S. G. Shattock[20] give detai under Mr. A. O. Mackellar's care all the characters of myeloid d affected with osteitis deformans. It is not improbable that some of the heterologous tumours which are occasionally found in cases of osteitis deformans are not in reality secondary to the disease, but occur only in association with it as the expression of a common morbid tendency. An instructive case which appears to support this view is reported by Mr. C. E. Richmond.[21] Spontaneous fracture of a femur had occurred in a patient who was affected with scirrhus of the breast and numerous growths which appeared to be secondary to it. On post-mortem examination cancers were found in the iliac crests and elsewhere. A section of one femur showed that that bone was not the seat of cancer but that it had undergone

were the associated outcome of some dyscrasia which was common to both.

6. The two diseases are prone to be associated with congenital an described tion with l years at th were "ma in the lol the media

not sarcomatous. He considered the case to be an example of the "interesting association of Hodgkin's disease of the spleen with osteitis deformans." There is also an instance reported of the occurrence of osteomalacia and lymphadenoma in the same person. This case was described in 1861 by Professor Perrin,[22] who calls it a general hypertrophy of the "whole of the ganglionic lymphatic system" with softening of the tissue of the bones. The age of the patient was 68 years. His disease began with swelling of the axillary glands seven years before. The bones became unduly brittle (there were five fractures) and were so soft that they could be cut with a knife. As nothing is said of the presence of heterologous tumours and the glandular enlargement was widespread there is every reason to believe osteomalacia and

osteitis deformans with some other me individual or Bright's disease, roiditis, retinal oma, sarcoma, fatty and carti- in different cases. to certain of these associations, such as that with malignant tumours, with bulbar paralysis, or with degeneration of the posterior columns of the spinal cord. These degenerative disorders more often in association with osteitis do among those of the same age who this disease. The same may be said of good instance of its association with different degenerative disorders is published by Dr. George Dock[24] who, in describing the osteomalacia of a woman, aged 24 years, says that her father had had syphilis; the mother ad suffered as carrying A brother while the our of the ected with s, and the left palate, tre, cataract, chronic Bright's hydromyelus, and syringomyelus. Such diseases are frequent, but the most common of all are degene- affections of the central nervous system. These are so common as to lead to the belief that osteomalacia may be directly produced by some trophic disturbance originating in the brain. It is possible that the general defect of nutrition which characterises some forms of insanity may predispose to osteomalacia or be any sociation brothers mission.

Although the early forms of bone metaplasia (osteopsa- cases which edity is appa- than in osteo- ity be termed There appears of two cases to be no example of from the same family, such as is needed to prove satisfactorily the occurrence of heredity.

In Mr. Clinton Dent's case of osteomalacia,[25] commencing in a male, aged four months, which has already been referred to as an instance of degenerative hypoplasia of bone, there are indications of some hereditary tendency to the complaint. "The parents were healthy but a sister had curvature of the spine; one cousin suffered from the same ion as the patient, another had scoliosis, and a third palate." Here we have not only the statement of heredity but also evidences of association with an tary deformity, constituting indirect heredity. n instance given by Ekmann[26] the disease began in a great-grandfa could not wal affected with next two gen there are points about of their being examples of osteopsathyrosis, yet it is right to say that Ziemssen is of opinion that they may be due to rickets.

In the report of a case of osteitis deformans by Dr. Stephen Mackenzie[27] it is stated that "the patient was one of twins; his twin brother was imbecile and died in early life in an asylum Dr Robinson (who attended him at the time of death) elicited the important information that an

[19] Centralblatt für Chirurgie, No. 46.

[20] Transactions of the Pathological Society of London, vol. xxxi, p. 277.

[21] Ibid., vol. xxxvi, p. 164.

[22] Manchester Pathological Society, Feb. 13th, 1885.

[23] Transactions of the Pathological Society of London, vol. xxxix, p. 262.

[24] Bulletin de la Société Anatomique, 1861, 2 S., p. 247.

[25] American Journal of the Medical Sciences, 1895, vol. cxii, No. 5, p. 499.

[26] Loc. cit.

[27] Dissertation, Utrecht, 1733 (unverified).

[28] Illustrated Medical News, Sept. 1st, 1900, p. [illegible].

elder brother died a few years before the patient, at the age of 52, crippled by a deformity of his lower limbs. The course of his illness resembled that of the present case and he was believed by his family to have the same disease."

Another instance is given by Mr. Lunn.[28] The patient had a brother who was said to have died [illegible] another brother, aged 68 years, who [illegible] Mr. Lunn. Mr. Lunn says: "He tells me that he has noticed his own head getting larger and his hat seems too tight for his head. I find both fe[illegible] lower halves and the right clavicle [illegible] the left." Mr. Bryant[29] says that one of the five cases originally published by Sir James Paget had been that of a patient of his own and that he had [illegible] following out the case to the end.—He su[illegible] tion of his case for 10 or 12 years. Two brothers who are still living are beginning to show signs of the same disease. Of this family these were the only three members.

8. Both diseases have their physiological bases in certain changes of normal growth. These changes are chiefly of two kinds, according to whether they are produced by sex or by age.

(*a*) Changes produced by sex.—Osteomalacia [illegible] disease of women and osteitis deformans is [illegible] men. This is best [illegible] they are vices of growth and are therefore more liable to select those parts in which normal growth [illegible] vigorous. Women are of the more passive or [illegible] temperament. The tendency of their tissues is rather towards the formation [illegible] muscle and bone. It [illegible] the bone marrow is relatively of better growth in women than in men; it is also more subject to growth disturbance. The healthy rise and fall of nutrition which takes place periodically or at uncertain intervals renders [illegible] to that loss of equilibrium which constitutes [illegible] the other hand, there can be no doubt that the hard tissue of the skeleton of a woman is relatively of inferior growth; her bones are shorter, weaker, and slighter than are those of a man. Hence it is but to be expected that women should be more liable to false hypertrophy of the marrow and men of the hard substance of their bones. All this indicates that the respective pathological conditions have in each case a physiological antecedent and that this varies with the sex. This connexion between the sexual organs and the skeleton is so important in its bearing on the pathology of osteomalacia that it is necessary to deal with it more fully. It is shown under natural conditions as follows. 1. The growth of the sexual organs at puberty is closely associated with the growth of osseous tissue. The change of life which takes place at this age is almost as much one of the skeleton as of the reproductive organs. It is true that there is at the same time increased activity of growth of the soft parts, but this is slower than the growth of the skeleton and appears to be secondary to it as the result of physiological adaptation. The youth of 16 years of age is, as a rule, obviously more bony than the young man of 20, but it is not until the age of 25 years or thereabouts is reached that the muscles attain their full development and the soft parts reach to the standard of the skeleton. 2. A connexion between these organs is also to be observed during the decline of life, especially in women. The menopause corresponds in point of time with the period of physiological degeneration of the marrow. 3. It has been noticed that the bones and red marrow become more vascular during pregnancy, while the marrow is increased in amount. After pregnancy is over they return to the ordinary state.[30] This association is still more evident in certain [illegible] Premature sexual development i[illegible] corresponding changes in the bo[illegible] menstruation has commenced [illegible] acquire the figure, and almost the height, of the mature woman. In a case of this kind I have observed that the ossification of a child of three years, shown in a skiagram of the hand and adjacent part of the forearm, corresponded with that of a normal child of 12 years. Similar changes may take place in the male. 5. On the other hand, absence of sexual organs in the young male determines a condition of bone growth which approaches that of the female; and absence of ovaries in the female is associated with a condition which approximates to that of a child. In all these instances it is evident that there is close relation between the bones and the sexual organs, though it is shown in different way in different cases. 6. Of the same significance is the fact that the bones of the female which are involved first and most frequently in osteomalacia are the pelvic [illegible] in the male there appears to be no such [illegible] bones not having the same sexual significance that they have in the female. [illegible] This connexion between bone and sexual organs is quite [illegible] account for the relation of osteomalacia to the [illegible] the ovaries without seeking for any other cause. The process which gives rise to degenerative hyperplasia is essentially a growth excess. It is a hypertrophy [illegible] is undergoing degeneration and leads in [illegible] growth, but not to increase of function. Anything therefore which will tend to promote the activity of the red marrow will favour the con[illegible] disease. In healthy pregnancy the [illegible] nutrition, in which the bones share. [illegible] osteomalacia is most likely to [illegible] innominata of parturient women, ina[illegible] active at this time, are the bones most likely to be affected [illegible] other hand, there is, as a rule, a subsidence of [illegible] the period which immediately follows childbirth, and this is the period during which osteomalacia usually abates. [illegible] produce[illegible] [illegible] ese facts tend to the [illegible] whatever excites the activity of the red [illegible] marrow promotes the disease, and that whatever depresses [illegible] function of the red marrow tends to subdue the disease. At the same time it is most improbable that osteomalacia is the direct result of increased nutrition. It is far more likely that owing to premature degeneration of the marrow, or to [illegible] lity, it is unable to react to [illegible] t during pregnancy, and the attempt to do so results, not in true hypertrophy, but in the spurious hypertrophy of osteomalacia. Thus, while it may be true that undue accesses of general nutrition precipitate the onset of the disease while the return to equilibrium improves it, the [illegible] may be traced to depressing influences alone. It is on these lines that we must look for the explanation of the immense improvement which so often takes place after the removal of the ovaries in cases of osteomalacia. There is no occasion whatever to look for some chemical solvent, some peculiarity in ovarian structure, or for fungi as an explanation of what is so simply accounted for. It is most improbable that a disease should be so strikingly influenced by such a physiological catastrophe as deprivation of the ovaries unless the disease and the catastrophe were intimately bound up together. In other words, the nature of both cause and effect plainly indicates that in *both* cases there is some very direct interference with physiological processes. Nothing is better calculated to show, on the one hand, that osteomalacia is an affection of growth and, on the other hand, that it is brought about by some influence which is internal, primary, or essential and is not dependent upon any outside cause. Osteitis deformans is probably not obviously affected by these sexual changes, partly because of the greater stability of bone as compared with bone marrow, and partly because it ordinarily appears at an age when the sexual organs are extinct.

(*b*) Changes produced by age.—The changes which take place both in osteomalacia and osteitis deformans are in many respects much like those which are met with in the marrow and bone of the aged. But the resemblance is one of kind rather than of degree. It is, in fact, so grossly exaggerated as to be a caricature rather than a resemblance. It is such as we may imagine would result were senile degeneration to become an active instead of remaining a passive process. In the natural course of events the red marrow undergoes fatty degeneration into yellow marrow and so it remains or becomes gradually absorbed. But in osteomalacia degeneration takes place far more rapidly and is met by wild and misdirected attempts at repair. The new material which is so lavishly expended is either incapable of transformation into proper red marrow or itself undergoes degeneration and so does but add to the mischief. The process is suggestive of a senile degeneration taking place in one organ, while the rest of the body is still vigorous and in a condition to resent a premature decay of part of its community. The changes which take place in health are retrogressive, whereas in osteomalacia they are also progressive. They are retrogressive in quality and progressive in quantity.

[28] Transactions of the Clinical Society of London, vol. xviii, p. 271.
[29] THE LANCET, May 31st, 1890, p. 1182.
[30] Hanau: Festschrift der Medicin, 1892, No. 7.

Much the same may be said of osteitis deformans. Professor Sir G. M. Humphry has taught us that senile changes in bone may be expressed by overgrowth as well as by atrophy. The porous bone of osteitis deformans is, it is true, bone which are some- healthy old age But a deposit of fresh bone and to normal atrophy there be added the active process of interstitial embryonic cell-growth all the changes of osteitis deformans may be accounted for This cell-growth has the same effect that yeast has upon dough it makes the bone lighter, coarser, and bulkier Osteitis deformans is like a redundant, senile osteoporosis. The grosser appearances of osteitis deformans are also those of exaggerated old age The bent back affected with the shuffling carriage whic we have the which has alr

CONCLUSION

Enough has been said to show that the four primary growth erative hypoplasi repre- sented in which the one— ned by mere defe her, in which are shows all those broad clinical and anatomical features which in the first part of this article were seen to be characteristic of the degenerative diseases may be that they effect the skeleton is seen to run imperceptible gradations, other by characters impri hyperplasia is subdivided into two diseases according to tissue. If it affects the hard substance of the skeleton especially it is called osteitis deformans, if the soft substance it is called osteomalacia As a rule these two diseases are well defined, though in all cases both the clinical and material characters of the one can be traced in the other. The differences between them are in the main due to differences in tissue, function, sex, and age alone They are due to variations of the part affected and not of the affection itself.

What has been said of the skeleton and its growth diseases may also be said in effect of all other tissues and their growth diseases All are liable to the same four kinds of disorders and all are affected in the same way, varying only to the extent that one tissue differs from another tissue, one time of life from another time of life, one function from another function, and one sex from the other sex

Reading

A CASE OF SYPHILITIC FIBRO-SPONGIOID OSTEITIS.

By J. BASIL HALL, M.C., CANTAB., F.R.C.S. EDIN.,
SURGEON TO THE BRADFORD UNION HOSPITAL.

ALTHOUGH Wegner, Parrot, and Barlow have established the fact that in cases of inherited syphilis the bones are very frequently affected, it is remarkable how seldom such conditions are recorded in this country The syphilitic pseudo-paralysis consequent upon epiphysitis is occasionally seen in the out patient rooms of hospitals, but those forms of disease which Parrot has classed under the generic name "osteophytic" seem to be rarely observed Possibly this may be due to the fact that the less marked cases never apply for treatment, whilst in others bending of the bones and other changes produce an appearance very similar to that of rickets, for which the disease is consequently mistaken The case which I here record was sent into the hospital as rickets with a view to osteotomy

A boy, aged 14 years, was admitted into the Bradford Union Hospital on Sept 8th, 1899, with deformity of the legs. His family history was as follows His mother had been twice married, and by her first husband she had had one daughter who was healthy and who was now grown up Her second husband was a steady and temperate man but was very delicate. By him she had had five children, of whom the patient was the eldest. The second and third children died in infancy and the fourth and fifth were stillborn. The mother stated that the patient had snuffles very badly as an infant, that he was a very sickly child, and that he did not walk until he was five years old. He had had no rash at any

From a photograph showing enlargement and curvature of the tibiæ, especially of middle segment

time except measles. She noticed bending of the legs about 18 months after he began to walk. As regards his condition on admission to the hospital the patient was a sleepy looking boy and obviously was suffering from adenoids He walked with a curious gait as if his legs were too heavy for him He complained of aching pain in the legs at night, especially in the right leg There was marked asymmetry of the skull, the left parietal and frontal region appearing to be flattened, whilst on the right side a large boss on the prominent The bridge of the nose bones felt more massive than normal The teeth were very irregular and several were ill developed The incisors were tapering and pointed, but there was no central notch The arch of the palate was excessively high and narrow The lower jaw was greatly thickened, especially on the left side, where the enlargement could be seen on the face The thickening of the bone was irregular, so that the surface felt smoothly undulating On the right side there were three distinct bosses, but on the left the greater degree of thickening was nearly uniform from the angle of the jaw to the symphysis. The thyroid gland was large, the outlines being quite evident to the eye Both clavicles were much thickened in their inner half, especially the right, the enlargement of the latter being distinctly visible in spite of the boy being fairly fat The right humerus was irregularly thickened in its lower third, but the left was normal There was no rickety enlargement at the wrists. The hands and nails were normal The chest was well developed and was of good proportions There was no beading of the ribs or

any sign of rickets. The body generally was well nourished. The spine was normal, as also were the pelvis and femora. Both tibiæ were greatly enlarged and appeared to be much elongated in proportion to the rest of the limb. The right tibia was from half an inch to three-quarters of an inch longer than the left. They both presented an anterior convex curve in the middle two-fourths. The lower fourth was normal in shape. These bones, whilst they were generally enlarged to a very marked degree, had in addition irregular bossy swellings on their surface. These bosses were not prominent but were sufficiently marked to give the surface of the bone a smoothly undulating character. A quantity of softer tissue surrounding the bone and filling up the interosseous space was also felt, as if there were great thickening of the periosteum. The cutaneous veins were large and prominent. There was slight tenderness on pressure, especially of the right leg, and the boy flinched when the limb was grasped firmly. To summarise, therefore, there had been osteitis in the lower jaw, in the clavicles, in the right humerus, and in both tibiæ. There was asymmetry of the skull with thickening of the right frontal bone and possibly some slight thickening of the malar bones.

Parrot describes two osteophytic forms of bone affection in congenital syphilis—viz., the osteoid form and the fibro-spongioid or rachitic form. The osteoid form may develop at any period of childhood and may possibly even be prenatal. It consists of osteoid growths of a pinkish colour with trabeculæ arranged perpendicularly to the surface of the bone. The tissue is more brittle than normal bone and contains large quantities of lime salts. The trabeculæ are separated from each other by medullary tissue. The fibro-spongioid variety, on the other hand, never appears before the fifth month of life. It begins as a sub-periosteal growth of yellowish pearly fibroid material over which the periosteum is much thickened and closely adherent to it. It may attain as much as half an inch in thickness and is very vascular. There is always a distinct line of demarcation between the new tissue and the bone beneath. The bones most commonly affected are the humerus at its lower end, the ulna, the femur, and the tibia. Although two distinct forms are thus described by Parrot, both are usually present together in varying degree, the osteoid tissue being covered by a layer of the fibro-spongioid material. In the case under consideration there seems to be an arrangement of this kind, the enlarged bone with its smooth nodes feeling as if it were clothed with a softer material of considerable thickness. The abnormal vascularity shown by the enlarged cutaneous veins also suggests this view.

The illustration shows very well the enlargement of the limbs and the degree of bending. It is worthy of note that the convex curve of the tibiæ occupies a different position to that commonly seen in rickets, being confined to the middle segment rather than the lower segment of the bone—a point of some practical importance in the differential diagnosis in a less marked case. This deformity was called attention to by Fournier, who described the curve of the bones as "sabre shaped." Profile skiagrams of the tibia show the great thickening and the curve of the bone, whilst one of both bones taken from the anterior aspect delineates the osteoid node formation at some points.

Clinically speaking the most striking feature in the case is the marked clumsiness of the lower limbs. The patient walks as if he had heavy weights attached to his feet. The legs appear to be too long below the knee so that in bringing the feet forward he has to trail them on the ground. The family history is peculiar in that it is a typical syphilitic one in reversed order, but in spite of the absence of a definite proof of inherited disease I think no one would doubt the nature of the case for one moment.

Parrot[1] has fully described the osseous lesions occurring in congenital syphilis and in 1879 he gave an address on the subject to the Pathological Society of London and exhibited a large number of specimens. The interest aroused by his investigations seems to have chiefly centred on cranio-tabes and the conditions which give rise to the "natiform skull." Beyond Parrot's descriptions little seems to have been recorded, and I have been unable to find any account in English literature of such a pronounced type of the disease as in the case here related. Moreover, so far as I can ascertain, there is no report of any case in which the lower jaw has been involved. Affection of the clavicles has been observed in rare instances, but as a rule the lesions have been confined to the bones of the leg and the humerus. There can, I think, be little doubt that the bone lesions in inherited syphilis very frequently escape observation, otherwise it is difficult to explain the assertion of various writers that, excepting only the skin, the bones are more commonly affected than any other tissue. Such a marked example as the one here recorded is certainly uncommon, and is worthy of record if only to draw a closer attention to these conditions.

Bradford.

[1] Archives de Physiologie, 1879.

REMARKS ON THE VALUE OF UROTROPIN AND ITS PRACTICAL APPLICATION AS A URINARY ANTISEPTIC.

BY H. E. DRAKE-BROCKMAN, F.R.C.S. EDIN.,
CAPTAIN, INDIAN MEDICAL SERVICE, AGENCY SURGEON AT BHARATPUR, RAJPUTANA.

THE drug urotropin, or "aminoform" as it is sometimes called, appears hitherto to have attracted little or no general attention, at any rate in this country, but there is little doubt nevertheless that in it we possess a most efficient urinary antiseptic. A clinical experience of over two years in the use of this drug enables me to add my testimony to its efficacy as a urinary antiseptic, but besides this action it has other important therapeutic properties which must not be overlooked, and may briefly be summarised as follows: (1) as a urinary antiseptic; (2) as a uric acid solvent; and (3) as a mild, non-toxic, and therefore harmless diuretic.

As regards the exact mode of its action as an antiseptic there appears to be some difference of opinion, but considering its chemical composition (the drug being a derivative of formic aldehyde and due to the combination of ammonia with formaldehyde) it is more than probable that its action as an antiseptic is, in part at any rate, attributable to the evolution of free formaldehyde in the urine, though all of the drug is probably not decomposed into formaldehyde. This may be readily verified from the fact that the drug itself may be detected in the urine within half an hour of its administration by the addition of a few drops of liquor bromi to it, when a reddish precipitate (urotropin bromide) will appear, showing how rapidly the drug is eliminated from the body in a more or less unaltered form.

It has been stated by one observer (and on this point my own clinical experience agrees with the statement) that one condition necessary for its complete action as a urinary antiseptic is that the urine should, if possible, be acid in reaction. This, coupled with the fact that the drug when heated with mineral acids gives off formaldehyde, tends, I should say, to favour the theory that its antiseptic action is attributable, more or less, to the presence of free formaldehyde. The latter, after administration of the drug per os, has been detected always in the urine, and sometimes in the blood also, which tends to show rather that the change takes place, at any rate in part, before the drug could ever have reached the urinary tract, or come into contact with the urinary secretion. It is just possible, however, that some obscure changes do take place within the body which enable it to exert its action fully as an antiseptic—changes, perhaps not yet thoroughly understood by us and which do not, at any rate, fall within the limits of this paper, but rather within the domain of the chemist.

Firstly, with reference to its action as a urinary antiseptic urotropin can be used with success in any condition involving invasion of the bladder or urinary tract by pathogenic micro-organisms. Foremost amongst these pathological conditions cystitis may be reckoned, whether primary or secondary to enlarged prostate or vesical calculus, &c. All of these conditions directly render the urine septic, which under the circumstances, moreover, acts as a most efficient medium for the development of these pathogenic micro-organisms once infection has taken place. In all such cases this drug usually gives speedy relief. Under this head I may mention its use as a preliminary to operations connected with the bladder or urethra, but more especially with reference to litholopaxy. In this case I have made it more or less a routine in my practice to administer the drug a day

sary in order to render the urine as aseptic as possible, as there is usually a certain amount of cystitis present in most cases of vesical calculus before operation. I have good reason to believe that in one case at least upon which I operated—one of vesical calculus of large dimensions asso-

the bladder and thereby lessened the risk of any of these travelling backwards up the ureters and ultimately finding their way to the kidneys and setting up septic infection there, inducing pyelitis, &c., which complications may so easily ensue after such operations. Further, under this head I may also mention the important use that this drug may be put to in rendering aseptic the urine of patients suffering from enteric fever or other diseases in which it is known that pathogenic micro-organisms are eliminated from the body by this channel. There is little doubt that this occurs in diseases other than enteric fever; for instance, it is known that the bacterium coli commune is frequently found in the urine, and when present there plays a prominent part in the production of cystitis, possibly
body in this way.
urine of patients
after the second
valescence, conta
It is therefore important thoroughly to disinfect the liquid excreta of such patients as well as their fæcal evacuations. The use of urotropin in such cases should prove invaluable in preventing the dissemination of enteric fever by this important, and, I fear, much overlooked, channel of infection It is obvious that, if possible, the urine should be disinfected before its evacuation from the bladder, rather than that this process should be left till afterwards, possibly to be forgotten altogether. This point is of very great importance in India and in tropical countries, where the means employed for the disposal of excreta are usually some form of dry earth system That this is not always under the strictest supervision must be within the cognisance of those medical men who have practised in India, where liquid excreta are often carelessly disposed over the surface of the soil The risk is undoubtedly enteric fever affecting native patients, whose ideas of sanitation as well as of decency are usually very crude, and who, as a consequence, micturate as well as defecate indiscriminately over the surface soil, anywhere and everywhere. It is easy to conceive that when the soil is dry, and hot winds blow, or a dust-storm occurs, that the bacilli as well as the spores of pathogenic microbes (where such occur, which, however, is not the case, of course, with the bacillus typhosus) are carried far and wide, and that they eventually find their way into some well or other source of human food or drink supply with disastrous results. In India, it may be remarked, wells are usually of the open, and therefore unprotected, kind. There is little doubt in my mind that the subject of the thorough disinfection of the urine of patients suffering from enteric fever, previously to its final disposal, has not hitherto generally at our hands received the notice that it deserves At any rate, as regards India in enteric fever is spread more by any other agency. Moreover, I fancy history of the war in South Africa, especially with reference to the prevalence of enteric fever amongst the troops, comes to be written, it will go far to prove the truth of my statement. It was conclusively shown by one observer, as a result of some very interesting experiments made by him to determine the microbic impurity of the air of inhabited dwellings, that the number of microbes present per cubic foot of air was directly in proportion to the amount of dust particles floating about in the air of the space experimented upon, proving that dust is one most important agency by which microbes are disseminated The particular case to which I refer was that of a school in which large numbers of children were accommodated. If the prevalence of dust everywhere (more especially in tropical countries, where it is blown far and wide by means of hot winds and dust storms) be taken into account it may be imagined that a very important part is played by it in the dissemination of pathogenic micro-organisms of all kinds. That being so, we cannot exercise too much trouble and care in the execution of measures for the complete and effectual disinfection of all excreta, urinary as well as fæcal. It is in such cases that I see a wide and successful field for the employment of a drug such as urotropin, by means of which we are enabled to check the growth—in fact, to destroy the vitality—of pathogenic micro organisms of all kinds within the body and before their evacuation, at any rate, by such a channel as the urinary tract. Under the head of a urinary antiseptic also, urotropin should prove of great value in the treatment of gonorrhœa, gleet, &c.—in fact, in any form of urethritis of microbic origin.

Secondly, as regards the action of urotropin as a solvent of uric acid, I have given it with benefit in cases of gout, gravel, and uric acid diathesis, and when combined with salicylic acid in certain cases its action is rendered more potent still. With reference to its action as a solvent of calculi, I fear for obvious reasons that we cannot hope that it will in any wa
doubt, however,
urine acid, and
retard the growth of the bacteria of ammoniacal decomposition, that it may possibly prevent the growth of calculi already in the bladder, by lessening the chance of phosphatic deposits taking place. These phosphatic deposits usually occur sooner or later if left alone. In order to test its value in this matter I made some experiments on a small scale with the drug *in vitro*. Small portions of uric acid were taken from fragments of a calculus removed previously by litholopaxy. These were exposed to the action of a concentrated solution of the drug in pure and freshly sterilised water The solution was then placed in an incubator and kept at body heat for some days, after which time I could not detect any appreciable loss of weight or substance. This result goes rather to prove that when a calculus, even of uric acid formation, has already formed, we cannot look to much permanent benefit from the exhibition of this drug, though it is just possible that in the presence of normal urine its solvent action would have been more pronounced Stress of work and my having to proceed on sick furlough, however, prevented me from going more into this matter then, and I fancy that its solvent action on uric acid depends upon other complex chemical changes during its passage through the body, which probably operate upon this product through the medium of the blood and not locally This is a subject which I hope to go into on my return to India.

Thirdly, with reference to its therapeutic action as a diuretic, an effect which is distinctly beneficial as a secondary help to its antiseptic action, it occasionally causes slight purging. This I noticed particularly in one case of enlarged prostate with irritable bladder in which I gave the drug The amount given need not exceed 30 grains per diem, and it forms an agreeable, almost tasteless, beverage when taken with a little aerated water. I have myself hitherto seen no untoward results from its administration, but I believe that when the drug has been given in excess it has caused unpleasant symptoms, such as distressing diuresis and pain in the bladder and urethra, accompanied with slight hæmaturia, all of which symptoms, however, have ceased on the suspension of the drug or diminution of its dose, no permanent injury resulting.

In conclusion, I feel sure that there is a very wide field of usefulness in the future for the employment of urotropin. It has hardly, I think, received sufficient notice hitherto from the profession in England, but I am confident that its claims will be readily taken into account when it comes to be more generally known In the hope of such a result I am glad to be able to add my testimony to its worth as a valuable therapeutic agent for combating a troublesome class of cases.

DRAINAGE OF EGG-BUCKLAND.—At Plymouth County Court on June 20th a dairyman claimed £20 from the Plympton Rural District Council for damage to a field at Egg Buckland by reason of defective drainage. Evidence showed that the council without any notice to the plaintiff laid a drain through the field to a cesspit at the top, the result being that the cesspit constantly overflowed. The plaintiff was awarded 12 guineas and costs.

any sign of rickets. The body generally was well nourished. The spine was normal, as also were the pelvis and femora. Both tibiæ were greatly enlarged and appeared to be much elongated in proportion to the rest of the limb. The right tibia was from half an inch to three-quarters of an inch longer than the left. They both presented an anterior convex curve in the middle two-fourths. The lower fourth was normal in shape. These bones, whilst they were generally enlarged to a very marked degree, had in addition irregular bossy swellings on their surface. These bosses were not prominent but were sufficiently marked to give the surface of the bone a smoothly undulating character. A quantity of softer tissue surrounding the bone and filling up the interosseous space was also felt, as if there were great thickening of the periosteum. The cutaneous veins were large and prominent. There was slight tenderness on pressure, especially of the right leg, and the boy flinched when the limb was grasped firmly. To summarise, therefore, there had been osteitis in the lower jaw, in the clavicles, in the right humerus, and in both tibiæ. There was asymmetry of the skull with thickening of the right frontal bone and possibly some slight thickening of the malar bones.

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THE drug urotropin, or "aminoform" as it is sometimes called, appears hitherto to have attracted little or no general attention, at any rate in this country, but there is little doubt nevertheless that in it we possess a most efficient urinary antiseptic. A clinical experience of over two years in the use of this drug enables me to add my testimony to its efficacy as a urinary antiseptic, but besides this action it has other important therapeutic properties which must not be overlooked, and may briefly be summarised as follows: (1) as a urinary antiseptic; (2) as a uric acid solvent; and (3) as a mild, non-toxic, and therefore harmless diuretic.

As regards the exact mode of its action as an antiseptic there appears to be some difference of opinion, but considering its chemical composition (the drug being a derivative of formic aldehyde and due to the combination of ammonia with formaldehyde) it is more than probable that its action as an antiseptic is, in part at any rate, attributable to the evolution of free formaldehyde in the urine, though all of the drug is probably not decomposed into formaldehyde. This may be readily verified from the fact that the drug itself may be detected in the urine within half an hour of its administration by the addition of a few drops of liquor bromi to it, when a reddish precipitate (urotropin bromide) will appear, showing how rapidly the drug is eliminated from the body in a more or less unaltered form.

It has been stated by one observer (and on this point my own clinical experience agrees with the statement) that one condition necessary for its complete action as a urinary antiseptic is that the urine should, if possible, be acid in reaction. This, coupled with the fact that the drug when heated with mineral acids gives off formaldehyde, tends, I should say, to favour the theory [illegible] action is attributable, more or less, [illegible] of free formaldehyde. The latter, after administration of the drug per os, has been detected always in the urine, and sometimes in the blood also, which tends to show rather that the change takes place, at any rate in part, before the drug could ever have reached the urinary tract, or come into contact with the urinary secretion. It is just possible, however, that some obscure changes do take place within the body which enable it to exert its action fully as an antiseptic—changes, perhaps not yet thoroughly understood by us and which do not, at any rate, fall within the limits of this paper, but rather within the domain of the chemist.

Firstly, with reference to its action as a urinary antiseptic urotropin can be used with success in any condition involving invasion of the bladder or urinary tract by pathogenic micro-organisms. Foremost amongst these pathological conditions cystitis may be reckoned, whether primary or secondary to enlarged prostate or vesical calculus, &c. All of these conditions directly render the urine septic, which under the circumstances, moreover, acts as a most efficient medium for the development of these pathogenic micro-organisms once infection has taken place. In all such cases this drug usually gives speedy relief. Under this head I may mention its use as a preliminary to operations connected with the bladder or urethra, but more especially with reference to litholopaxy. In this case I have made it more or less a routine in my practice to administer the drug a day

or two previously to operation, when its speedy action, especially in India, is a decided benefit to patients who cannot, and do not usually like to, stay longer in hospital than necessary in order to render the urine as aseptic as possible, as there is usually a certain amount of cystitis present in most cases of vesical calculus before operation. I have good reason to believe that in one case at least upon which I operated—one of vesical calculus of large dimensions associated with enlarged prostate—in which there was marked concomitant cystitis; the patient's early and complete recovery was directly attributable to the preliminary use of the drug in this manner. Its employment possibly prevented the further development of septic micro-organisms within the bladder and thereby lessened the risk of any of these travelling backwards up the ureters and ultimately finding their way to the kidneys and setting up septic infection there, inducing pyelitis, &c., which complications may so easily ensue after such operations. Further, under this head I may also mention the important use that this drug may be put to in rendering aseptic the urine of patients suffering from enteric fever or other diseases in which it is known that pathogenic micro-organisms are eliminated from the body by this channel. There is little doubt that this occurs in diseases other than enteric fever; for instance, it is known that the bacterium coli commune is frequently found in the urine, and when present there plays a prominent part in the production of cystitis, possibly in t[illegible]
body in this way. It [illegible]
urine of patients suffe[illegible]
after the second we[illegible]
valescence, contains [illegible]
It is therefore important thoroughly to disinfect the liquid excreta of such patients as well as their fæcal evacuations. The use of urotropin in such cases should prove invaluable in preventing the dissemination of enteric fever by this important, and, I fear, much overlooked, channel of infection. It is obvious that, if possible, the urine should be disinfected before its evacuation from the bladder, rather than that this process should be left till afterwards, possibly to be forgotten [illegible]

[illegible] native patients, whose ideas of sanitation as well as of decency are usually very crude, and who, as a consequence, micturate as well as defecate indiscriminately over the surface soil, anywhere and everywhere. It is easy to conceive that when the soil is dry, and hot winds blow, or a dust-storm occurs, that the bacilli as well as the spores of pathogenic microbes (where such occur, which, however, is not the case, of course, with the bacillus typhosus) are carried far and wide, and that they eventually find their way into some well or other source of human food or drink supply with disastrous results. In India, it may be remarked, wells are usually of the open, and therefore unprotected, kind. There is little doubt in my mind that the subject of the thorough disinfection of the urine of patients suffering from enteric fever, previously to its final disposal, has not hitherto generally at our hands received the notice that it deserves [illegible] I.. . . in particular, I feel sure that [illegible] . . . v means of this than by almost [illegible]
to be written, it will go far to prove the truth of my statement. It was conclusively shown by one observer, as a result of some very interesting experiments made by him to determine the microbic impurity of the air of inhabited dwellings, that the number of microbes present per cubic foot of air was directly in proportion to the amount of dust particles floating about in the air of the space experimented upon, proving that dust is one most important agency by [illegible] The particular case to [illegible] which large numbers of [illegible] prevalence of dust everywhere (more especially in tropical countries, where it is blown far and wide by means of hot winds and dust storms) be taken into account it may be imagined that a very important part is played by it in the dissemination of pathogenic micro-organisms of all kinds. That being so, we cannot exercise too much trouble and care in the execution of measures for the complete and effectual disinfection of all excreta, urinary as well as fæcal. It is in such cases that I see a wide and successful field for the employment of a drug such as urotropin, by means of which we are enabled to check the growth—in fact, to destroy the vitality—of pathogenic micro organisms of all kinds within the body and before their evacuation, at any rate, by such a channel as the urinary tract. Under the head of a urinary antiseptic also, urotropin should prove of great value in the treatment of gonorrhœa, gleet, &c.—in fact, in any form of urethritis of microbic origin.

Secondly, as regards the action of urotropin as a solvent of uric acid, I have given it with benefit in cases of gout, gravel, and uric acid diathesis, and when combined with salicylic acid in certain cases its action is rendered more potent still. With reference to its action as a solvent of calculi, I fear for obvious reasons that we cannot hope that it will in any way replace surgical interference. I do not doubt however, owing to its capability of rendering alkaline [illegible] antiseptic properties which [illegible] of ammoniacal decomposi- [illegible] vent the growth of calculi [illegible] ng the chance of phosphatic [illegible] deposits taking place. These phosphatic deposits usually occur sooner or later if left alone. In order to test its value in this matter I made some experiments on a small scale with the drug *in vitro*. Small portions of uric acid were taken from fragments of a calculus removed previously by litholopaxy. These were exposed to the action of a concentrated solution of the drug in pure and freshly sterilised water. The solution was then placed in an incubator and kept at body heat for some days, after which time I could not detect any appreciable loss of weight or substance. This result goes rather to prove that when a calculus, even of uric acid formation, has already formed, we cannot look to much permanent benefit from the exhibition of this drug, though it is just possible that in the presence of normal urine its solvent action would have been more pronounced. Stress of work and my having to proceed on sick furlough, however, prevented me from going more into this matter then, and I fancy that its solvent action on uric acid depends upon other complex chemical changes during its passage through the body, which probably operate upon this product through the medium of the blood and not locally. This is a subject which I hope to go into on my return to India.

Thirdly, with reference to its therapeutic action as a diuretic, an effect which is distinctly beneficial as a secondary help to its antiseptic action, it occasionally causes slight purging. This I noticed particularly in one case of enlarged prostate with irritable bladder in which I gave the drug. The amount given need not exceed 30 grains per diem, and it forms an agreeable, almost tasteless, beverage when taken with a little aerated water. I have myself hitherto seen no untoward results from its administration, but I believe that when the drug has been given in excess it has caused unpleasant symptoms, such as distressing diuresis and pain in the bladder and urethra, accompanied with slight hæmaturia, all of which symptoms, however, have at once ceased on the suspension of the drug or diminution of its dose, no permanent injury resulting.

In conclusion, I feel sure that there is a very wide field of usefulness in the future for the employment of urotropin. It has hardly, I think, received sufficient notice hitherto [illegible] the profession in England, but I am confident that its [illegible] is will be readily taken into account when it comes to [illegible] more generally known. In the hope of such a result I am glad to be able to add my testimony to its worth as a valuable therapeutic agent for combating a troublesome class of cases.

DRAINAGE OF EGG-BUCKLAND.—At Plymouth County Court on June 20th a dairyman claimed £20 from the Plympton Rural District Council for damage to a field at Egg Buckland by reason of defective drainage. Evidence showed that the council without any notice to the plaintiff laid a drain through the field to a cesspit at the top, the result being that the cesspit constantly overflowed. The plaintiff was awarded 12 guineas and costs.

THE EXCRETION OF URINARY WATER AND UREA FROM THE HUMAN BODY, WITH DIMINISHED KIDNEY WEIGHT.[1]

BY JOHN B. NASH, M.D., M.R.C.S.,
HONORARY SURGEON TO THE WALLSEND HOSPITAL, NEW SOUTH WALES, ETC.

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CASE 1.—The patient was a female, aged 35 years. On March 24th, 1896, the right kidney was removed. On March 16th, 1899, she was confined of a full-sized healthy male child. The estimations were made about three years after the operation and at the time she was suckling her infant. They were begun on April 27th, 1899, and they were continued daily to June 14th, a period of exactly seven weeks.

CASE 2.—The patient was a male, aged 20 years. On May 29th, 1897, slightly less than one half of the right kidney was removed. The estimations, extending over a period of 52 days, were made two years after the operation they were begun on April 24th and ended on June 14th, 1899.

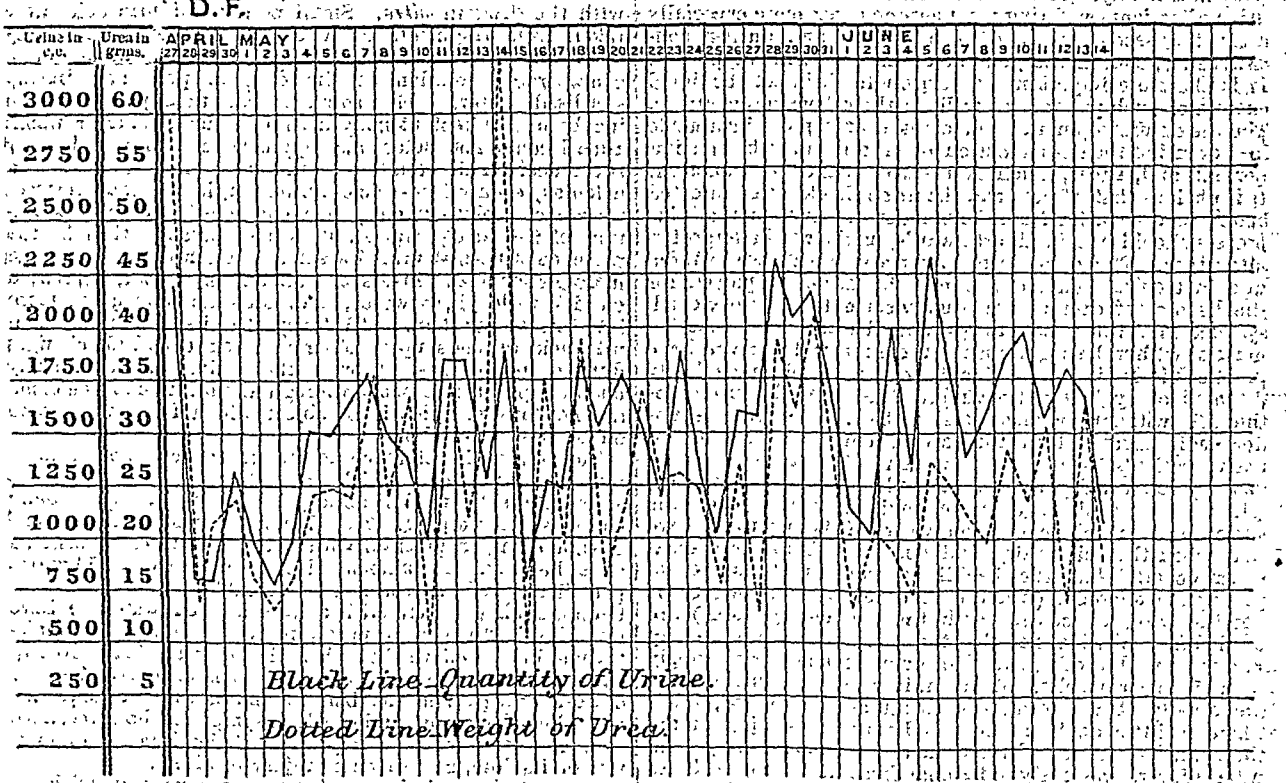
CASE 3.—The patient was a female, aged 56 years. On April 22nd, 1899, the left kidney was removed. The estimations were begun on the day after the operation and they were continued for 53 days or up to June 14th, 1899.

Cases 1 and 2 had time to settle into the normal condition and they exhibit the behaviour of diminished weight of renal tissue in bodies that had assumed a normal standard after complete recovery from the affections for which they were treated. There is one apparent difference in that the first patient suffered from disease and the second met with an accident; this is of no moment as the excreting tissue *in corpore* in each case must have been of a healthy type. Both individuals were upon an ordinary mixed diet and they carried on their customary duties. Case 3 shows the behaviour of one kidney immediately after it had been deprived of the assistance of its fellow, in which slightly more than half the acting structure was capable of performing its function, and further it shows how this single organ was equal to the requirements of the rest of the tissues in passing away the necessary quantity of water, nitrogenous extractives, and other solids after a somewhat serious operation.

In all the three cases the specimens examined were taken from the mixture of the total amount collected daily. The standards of comparison used are those given in Campbell Black's "Urine and Urinary Analysis," edition 1895. Herein the quantity of fluid excreted by the kidneys in 24 hours is given as from 1000 to 1200 cubic centimetres in the female, and from 1400 to 1500 cubic centimetres in the male. The urea elimination is stated at about 25 grammes daily in the female and from 18 to 30 grammes daily in the male. The volumetric analysis of the urea was made by the hypobromite of soda process with the ureometer of Doremus.

That one kidney is capable of doing the scavenging for which two are generally provided has been demonstrated upon many occasions in the after-history of persons from whom one kidney had been excised. The more thoroughly we realise the capacity of a diminished weight of tissue to perform all the particular requisite functions of the body which it was ordained to fulfil, with the more self-satisfaction do we attack and remove a diseased area of this tissue. The experiments in the dog (and they are being found to

CHART SHOWING EXCRETION OF URINE AND UREA IN CASE 1.



[1] A paper read before the Medical Section of the Intercolonial Medical Congress held at Brisbane in September, 1899.

In a normal animal the urea containing a greater percentage

e estimations

approximate proportion excreted in the healthy female with two kidneys. The one kidney in this woman is able to

CASE I.

Date.			Specific gravity of urine.
April 27th	2183	59·9	1021
,, 28th	799	13·6	1015
,, 29th	795	22·2	1024
,, 30th	1309	23·8	1020
May 1st	994	15·8	1018
,, 2nd	767	13·1	1017
,, 3rd	994	15·9	1014
,, 4th	1503	24·0	1014
,, 5th	1449	24·7	1014
,, 6th	1643	23·5	1016
,, 7th	1761	35·1	1022
,, 8th	1477	23·6	1014
,, 9th	1332	33·3	1022
,, 10th	937	10·7	1012
,, 11th	1847	34·7	1019
,, 12th	1847	22·1	1012
,, 13th	1276	32·0	1022
,, 14th	1875	65·2	1026
,, 15th	795	10·4	1013
,, 16th	1250	34·2	1018
,, 17th	1221	19·5	1012
,, 18th	1845	38·0	1022
,, 19th	1534	16·6	1010
,, 20th	1750	23·4	1014
,, 21st	1506	34·3	1022
,, 22nd	1193	25·1	1022
,, 23rd	1875	25·6	1014
,, 24th	1307	24·5	1023
,, 25th	1023	15·1	1022
,, 26th	1591	27·2	1016
,, 27th	1562	12·5	1013
,, 28th	2301	33·3	1020
,, 29th	2046	32·6	1015
,, 30th	2159	41·8	1020
,, 31st	1733	27·7	1015
June 1st	1136	13·6	1012
,, 2nd	1023	20·4	1021
,, 3rd	1903	18·4	1010
,, 4th	1336	14·4	1015
,, 5th	2301	27·5	1010
,, 6th	1818	24·9	1012
,, 7th	1135	21·3	1015
,, 8th	1619	19·4	1011
,, 9th	1875	27·8	1014
,, 10th	1903	22·8	1011
,, 11th	1562	30·1	1023
,, 12th	1761	14·0	1010
,, 13th	1676	32·5	1022
,, 14th	1079	17·2	1015

cent of urea. This would seem to indicate that the kidney

CASE II

Date	Amount of urine in cubic centimetres.	Amount of urea in grammes.	Specific gravity of urine.
April 24th	1136	25·9	1020
,, 25th	1136	20·7	1020
,, 26th	1078	20·9	1023
,, 27th	1136	28·5	1025
,, 28th	852	21·8	1027
,, 29th	1136	23·3	1024
,, 30th	994	23·8	1026
May 1st	1079	20·3	1022
,, 2nd	1221	25·0	1018
,, 3rd	1079	24·6	1022
,, 4th	1136	32·4	1027
,, 5th	852	23·3	1027
,, 6th	1136	25·9	1024
,, 7th	1463	29·2	1020
,, 8th	1079	28·3	1023
,, 9th	1449	33·0	1020
,, 10th	1278	27·6	1020
,, 11th	1136	25·9	1020
,, 12th	1364	24·8	1018
,, 13th	1165	21·2	1020
,, 14th	1648	37·5	1016
,, 15th	1506	34·3	1019
,, 16th	1335	41·1	1024
,, 17th	1221	33·4	1022
,, 18th	994	31·1	1026
,, 19th	909	28·0	1024
,, 20th	1335	24·3	1017
,, 21st	937	33·7	1026
,, 22nd	909	24·8	1024
,, 23rd	795	19·9	1026
,, 24th	1108	18·3	1016
,, 25th	1023	26·8	1022
,, 26th	767	16·6	1018
,, 27th	1108	19·0	1018
,, 28th	1136	33·7	1026
,, 29th	1108	16·4	1018
,, 30th	1079	21·5	1016
,, 31st	1108	18·3	1018
June 1st	1307	19·3	1015
,, 2nd	1278	13·8	1014
,, 3rd	1307	11·9	1010
,, 4th	1364	28·0	1026
,, 5th	1307	17·1	1012
,, 6th	1136	21·3	1020
,, 7th	1108	19·5	1019
,, 8th	1250	26·3	1020
,, 9th	1136	23·2	1020
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THE subject matter for this paper was suggested by a study of lectures published in THE LANCET of March 19th and 26th, and of April 2nd, 1898. They were entitled "Observations on the Pathology of the Kidneys," by Dr. John Rose Bradford, Professor Superintendent of the Brown Institution. As there were three patients in my practice with kidney weight diminished it occurred to me that an estimation of the quantity of urine and of its nitrogenous constituents excreted in a period extending over several weeks might be of sufficient interest to make a suitable contribution to this section of the congress; and it would apply to the human individual the principles laid down in the lectures quoted, and also contribute somewhat to our knowledge of the behaviour of the kidney tissue when its total weight relative to the rest of the body is diminished. In two of the cases one kidney—i.e., one half of the total kidney weight—and in the third slightly less than one fourth of the total kidney weight had been removed. The following are the cases.

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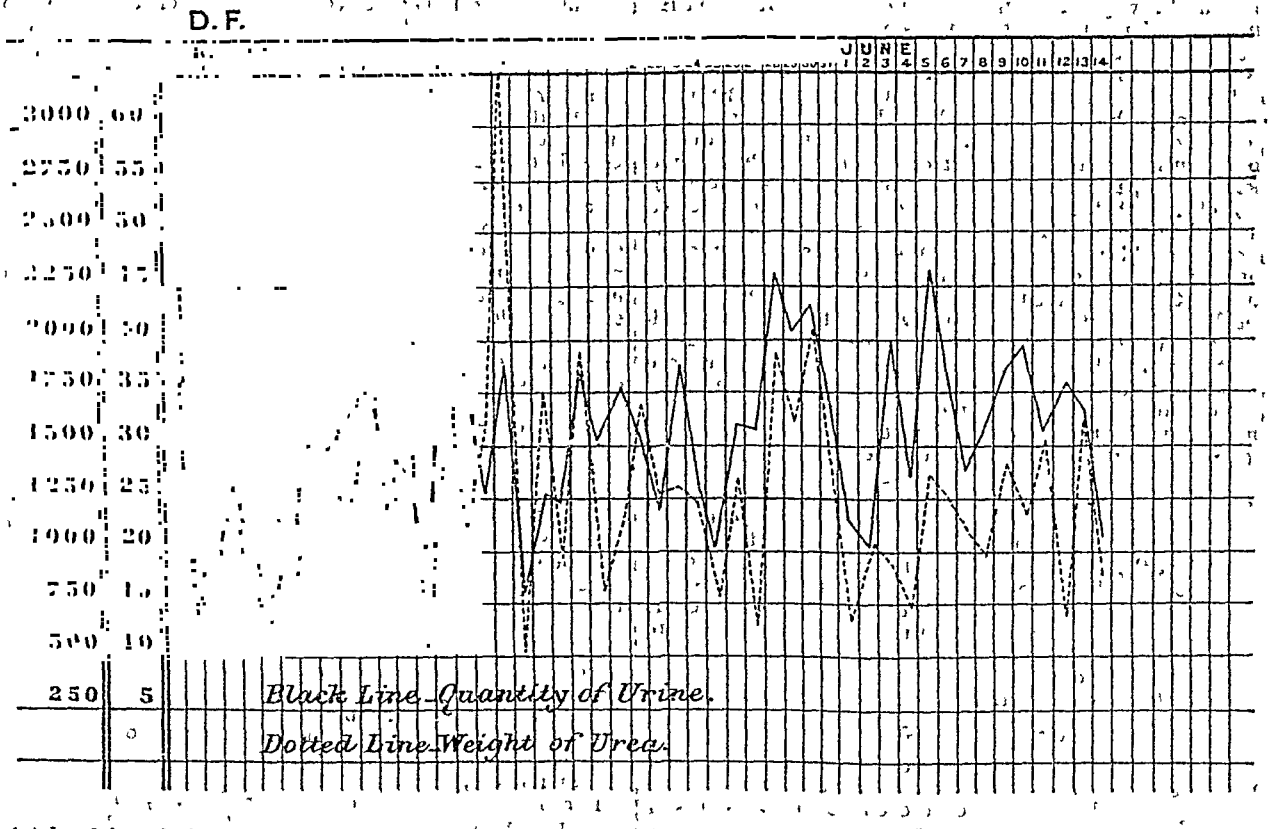

[1] A paper read before the Medical Section of the Intercolonial Medical Congress held at Brisbane in September, 1899.

excreted, but after this it remained free from albumin, and

Weeks.	Case 3. Urine.	Case 3. Urea.	Case 2. Urine.	Case 2. Urea.	Case 1. Urine.	Case 1. Urea.
	c.c.	grms.	c.c.	grms.	c.c.	grms.
First	4120	154·1	7473	165 1	7,843	164 4
Second	4404	100·7	7970	180 8	10,173	175·1
Third	4705	96 1	9121	168 0	10,116	218·3
Fourth	5740	77·7	8240	226 7	11,054	187 8
Fifth	7075	74 3	6848	159 2	12,418	209 3
Sixth	7644	101·1	8553	129 4	11,423	140 7
Seventh	7871	83·5	8724	158 0	11,480	151 0
Eighth	5995 4 days	62 0 4 days	375 3 days	77 3 3 days	—	—
Total	47,598 53 days	749 6 53 days	60,684 52 days	1294 9 52 days	74,509 49 days	1237 7 49 days
Average per week.	5943·13	93 2	8132·94	173 9	10,644·19	176 8
Average per day.	898 01	14 1	1167·0	24 9	1520 59	25 25
Average urea in grammes per cubic centimetre.	0·01574 = 1·574%		0·02133 = 2·133%		0·0166 = 1·66%	
Average specific gravity.	1015 4		10.0·6		1016 4	

kidney be
voided will
were present
cause no in
amount of u
the quantity of urinary water excreted by the other during the seven weeks immediately succeeding the operation will be below the average daily amount. 6. The urea produced by this one kidr oportion usually seen as kidneys but probably no healthy kidneys from an individual recovering from a serious operation.

From the standpoint of the practical surgeon there is one important fact brought prominently forward in Professor Bradford's experiments, and lectures. They teach us: first, that in the dog two-thirds of the total kidney weight can be removed with impunity, and the one-third remaining is consistent with the prolonged and healthy existence of the animal; and, secondly, that there is a limit between the one-third and the one-fourth of the total kidney weight beyond which, if excision be practised, the kidney tissue left is not

Oct. 17th, 1896.
ney invaded by
Conservative S
p 1229. A Case of
the Clinical Society of London.

and a polyuria immediately followed. Anyone of in a renal with ations that, one-third of the total kidney weight in the human being would be as capable of sustaining a prolonged and healthy

Wallsend, New South Wales.

ON THE USE OF TREATMENT OF DUE TO ARTERIO-SCLEROSIS.[1]

R.O.P. EDIN
NORTHERN CENTRAL
DDINGTON GREEN.

THE value of mercury in the treatment of disorders of the circulation was well recognised by the older physicians, but the zeal for its employment was not always according to knowledge. Consequently a generation arose which, following blindly in the footsteps of tradition and not finding their expectations answered, proceeded to ban mercury as a dangerous or useless drug under all circumstances and so impressed the public with this belated sagacity that even the acknowledged charlatan was forced to advertise his wares as free from that deleterious agent. One has only to mention the names of Withering and of Baillie, of Stokes and Graves and Gregory, however, to these distinguished men c strength, and that when they spoke positively results obtained under certain circumstances they stated facts and opinions which required the respectful if discriminating attention of posterity. Posterity, however, for man more discriminating than respectful and it con- of mercury in the it is now beginning to revise its hasty condemnation.

It is not my intention on this occasion to consider the larger question of the use of mercury in the treatment of heart disease, but to limit myself to a consideration of its employment in that form of cardiac failure which is so frequently associated with the arterio-sclerotic changes connected with advancing life, and more particularly when this is coupled with that overwork for a means of livelihood which is the fate of many. I think I can do this most conveniently by quoting a specific instance and making it the peg on which to hang any general remarks I may have to offer.

A man, aged 67 years, an English labourer of the best type, calm, self-respecting, the father of a hard-working family and of good physique but stiff and bowed down with continuous work and advancing age, had been under my observation for about five years in the out-patient department of the Great Northern Central Hospital. He had suffered during that time from a tachycardial form of cardiac arrhythmia with periods of amelioration and comparative sense of well-being, broken by the inevitable relapse into breathlessness, defective sleep, and scanty urination, but never reaching that greater depth of cardiac failure associated with progressive anasarca and effusion into the serous cavities of the body until December, 1893. He then returned as an out-patient, water-logged and with a rapidly sinking heart. I advised him to enter the hospital, and by Dr. E. Clifford Beale, he was oversight, however, I was not till a fortnight or so after that

[1] A paper read before the Æsculapian Society of London on May 19th, 1900.

[illegible] voided on four of the days. There was no marked hydruria or polyuria. (See table, Case 2.)

In Case 3 in the second and third 24 hours after the operation the [illegible] the urine was seen, the single kid[illegible] 4·56 per cent. of urea. Moreover, [illegible] urea excreted during any one day was 29·8 grammes, and that in the second 24 hours after the operation with urinary water 653·5 cubic centimetres; in the third diurnal period 28·3 grammes, with 625 cubic centimetres of water; in the following like time 27·5

CASE III.

Date.	Amount of urine in cubic centimetres.	Amount of urea in grammes.	Specific gravity of urine.
April 23rd	454	10 37	1027
" 24th	653	29 8	1026
" 25th	625	28 3	1028
" 26th	653	27·5	1026
" 27th	568	18 8	1024
" 28th	563	18 1	1024
" 29th	596	20 7	1024
" 30th	568	16·2	1028
May 1st	566	15·8	1024
" 2nd	653	19·0	1020
" 3rd	625	18·1	1022
" 4th	682	12 4	1015
" 5th	653	11·1	1016
" 6th	653	7·7	1011
" 7th	632	14·3	1018
" 8th	710	11·3	1014
" 9th	710	14 9	1018
" 10th	658	19·3	1018
" 11th	568	17 5	1020
" 12th	710	13 7	1016
" 13th	710	4 9	1010
" 14th	653	8 9	1014
" 15th	710	8·1	1010
" 16th	937	13 3	1012
" 17th	852	15 5	1016
" 18th	852	8·7	1014
" 19th	994	12 5	1012
" 20th	1023	11 0	1009
" 21st	852	9 2	1010
" 22nd	966	10·5	1011
" 23rd	994	9·0	1014
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" 25th	1079	11·0	1009
" 26th	1079	12·3	1012
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" 28th	1136	12·9	1010
" 29th	1193	16·3	1015
" 30th	1221	11·1	1011
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June 1st	994	13·6	1014
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" 3rd	1335	19·8	1018
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" 6th	966	10 4	1011
" 7th	795	10 9	1013
" 8th	1136	10 3	1010
" 9th	1449	11·5	1010
" 10th	1278	10·2	1010
" 11th	1676	13·3	1011
" 12th	1562	14·2	1012
" 13th	1420	14 6	1014
" 14th	1335	19 8	1016

[illegible] grammes of water. On the [illegible] and fifty-third days the [illegible] respectively 1676, 1562, 1428, [illegible] 0·79, 0 90, 1·02, and 1·49 per [illegible] the 53 days was 889 cubic [illegible] urea, or 1·57 per cent. The q[illegible] increased and towards the [illegible] as practically a hydruria but [illegible] 3.)

In Case 1 [illegible] minimum and maximum quantities in both urine and urea is to be seen. Under 800 [illegible] on four days, while [illegible] on five days. During the whole period the average 1520 cubic centimetres per day is well over the quantity voided daily by a healthy woman with two kidneys. Compared with the two other cases the urea variations were remarkable; more than 59 grammes were excreted on two occasions, the highest being 65·2 grammes on the eighteenth day of the estimations. Under 13 grammes were produced three times. These figures show that the single kidney is capable of getting rid of twice as much water and three times as much urea in one day as is the average for two healthy kidneys. The woman was in perfect health on an average mixed diet and suckling a full-sized male child.

In Case 2 the patient with his one and one-half kidneys *in situ* the urinary water was under 800 cubic centimetres per day twice and over 1400 cubic centimetres six times. For the whole period the daily average of 1167 cubic centimetres is about equal to what two healthy kidneys should excrete. The urea was below 14 grammes on two days and 33 grammes or over on seven days. Between these two limits the quantities varied considerably. The loss of one-fourth of his kidney weight did not materially alter the excretion of either the fluids or the solids by the renal tissue. The patient was a healthy young male, of average activity, living on a mixed diet. If estimations were made on a like man under similar circumstances, but possessing his full proportion of kidney weight, much the same variations would be found in the daily quantity of fluids and solids passed.

In Case 3 we have a condition like to the dogs of Professor Rose Bradford, as the estimations were begun immediately after the operation. He writes: "All partial nephrectomies, single or double, slight or extensive, increase the amount of urinary water, to different degrees it is true; the amount of urea is not increased by either single partial nephrectomy or by double partial nephrectomy or yet by the removal of one kidney and a portion of the other, provided always that at least one-third of the original total kidney weight be left to the animal." In Case 3 at no time during the first five weeks did the urinary water reach 1200 cubic centimetres in one 24 hours, the nearest to that amount being 1108 cubic centimetres passed on the thirty-fifth day. This does not agree with the hydruria found in the dog. The urea for the first 24 hours stood at the normal healthy average; during the second, third, and fourth daily periods it was about twice the normal amount per ounce of urinary water, but only a little above the total required to be excreted daily by a healthy female with two kidneys. This differs from what happened in Professor Bradford's dogs and shows that immediately after removal of one kidney in the human subject the kidney left *in corpore* is capable of excreting a somewhat concentrated urine. During the sixth and seventh weeks the urinary water voided kept well up to a healthy average, while on the four days of the eighth week the quantity was about 300 cubic centimetres above the average. In these same periods the urea was about one-half of that usually excreted by two healthy kidneys. The table as a whole shows a steady increase in the quantity of urinary water. At first, when this was small in amount, the patient had a low-tension pulse, she was unable to take much fluid wherewith to fill the blood-vessels, and a diminution in the filtering processes followed. After major operations there is usually wasting for the first few days; this is probably accompanied by an over-production of nitrogenous extractives in the tissues and blood, thence moving onwards to excretion through the kidneys. After the fourth day the urea fell to a normal degree and only five times during the subsequent analysis was it up to 19 grammes in the 24 hours. The patient put on flesh and soon regained more than her accustomed vigour.

In the *British Medical Journal* of July 29th, 1899, Dr. W. L. Bell of Lowestoft Hospital, England, reports a case of

the article he writes: "Estimations of urine.—During the

Weeks.	Case 3. Urine.	Case 3. Urea.	Case 2. Urine.	Case 2. Urea.	Case 1. Urine.	Case 1. Urea.
	c.c.	grms.	c.c.	grms.	c.c.	grms.
First	4120	154·1	7473	165 1	7,843	164 4
Second	4404	100 7	7970	180·3	10,173	175 1
Third	4705	96 1	9121	193 0	10,116	218·3
Fourth	5740	77 7	8240	226 7	11,054	187 8
Fifth	7075	74 3	6848	159·2	12,418	200 3
Sixth	7644	101·1	8553	129 4	11,423	140 7
Seventh	7871	83 5	8724	158·0	11,480	151·0
Eighth	5995 4 days	62·0 4 days	3751 3 days	77 3 3 days	—	—
Total	47,598 53 days	749 6 53 days	60,684 52 days	1294 9 52 days	74,509 49 days	1237·7 49 days
Average per week.	5943 13	98 2	8132·94	173 9	10,644·19	176 8
Average per day.	898 01	14 1	1167·0	24·9	1520 59	25 25
Average urea in grammes per cubic centimetre.	0·01574 = 1·574%		0 02133 = 2·133%.		0·0166 = 1 60%	
Average specific gravity.	1015 4		1020 6		1016·4	

kidney be removed, then two years afterwards the urine voided will be the same in quantity as if two healthy kidneys were present. 4. The loss of the half of one kidney will cause, n[illegible] total amount [illegible] then the quar[illegible] during the, seve[illegible] will be below the average daily amount. 6. The urea produced by this one kidney will be less than the average proportion usually seen as the result of the work of two healthy kidneys but probably not below the average excreted by two healthy kidneys from an individual recovering from a serious operation.

From the standpoint of the practical surgeon there is one important fact brough[illegible] Bradford's experiment. [illegible] first, that in the dog t[illegible] can be removed with impunity, and the [illegible] is consistent with the prolonged and healthy existence of the animal; and, secondly, that there is a limit between the one-third and the one-fourth of the total kidney weight beyond which, if excision be practised, the kidney tissue left is not emaciate and die; not, however, from uræmia, as even one-tenth of the total kidney weight an hydruria a polyuria immediately followed. Anyone of may have the question brought before him in a of kidney disease or a tumour growth of renal e as to how much of the kidney substance may be with all these observations Bradford's results, that [illegible] t in the human being would be as capable of sustaining a prolonged and healthy [illegible] or the pre- [illegible] king out of [illegible] Dr. F. H. Cox, a graduate of the Sydney University.

Wallsend, New South Wales.

[illegible] will be found [illegible] oyal Hospital, [illegible] t. Med. Jour., [illegible] Half the Kid- [illegible] marks on the [illegible] ct. 31st, 1896, [illegible] C. Wallis, at the Clinical Society of Lond[illegible]

ON THE

USE OF MERCURY IN THE TREATMENT OF CARDIAC FAILURE DUE TO ARTERIO-SCLEROSIS.[1]

[illegible], F.R.C.P. EDIN.,
PH[illegible] AT NORTHERN CENTRAL
H[illegible] PADDINGTON GREEN.

THE value of mercury in the treatment of disorders of the circulation was well recognised by the older physicians, but the zeal for its employment was not always according to knowledge. Consequently a generation arose which, following blindly in the footsteps of tradition and not finding their expectations answered, proceeded to ban mercury as a dangerous or useless drug under all circumstances and so impressed the public with this belated sagacity that even the acknowledged charlatan was forced to advertise his wares as free from that deleterious agent. One has only to mention the names of Withering and of Baillie, of Stokes and Graves and Gregory, however, to be certain that, whatever mistakes these distinguished men committed, they were the faults of strength, and that when they spoke positively of beneficial results obtained under certain circumstances they stated facts and [illegible] respectful if discriminating [illegible] erity, however, for a time was [illegible] pectful and it consigned in a great measure both these great authorities and their vaunted remedy to an unmerited oblivion. In the matter of mercury in the treatment of some forms of heart disease it is now beginning to revise its hasty condemnation.

It is not my intention on this occasion to consider the larger question of the use of mercury in the treatment of heart disease, but to limit myself to a consideration of its employment in that form of cardiac failure which is so frequently associated with the arterio-sclerotic changes connected with advancing life, and more particularly when this is coupled with that overwork for a means of livelihood which is the fate of many. I think I can do this most conveniently by quoting a specific instance and making it the peg on which to hang any general remarks I may have to offer.

A man, aged 67 years, an English labourer of the best type, calm, self-respecting, the father of a hard-working family and of good physique but stiff and bowed down with continuous work and advancing age, had been under my observation for about five years in the out-patient department of the Great Northern Central Hospital. He had suffered during that time from a tachycardial form of cardiac arrhythmia with periods of amelioration and comparative sense of well-being, broken by the inevitable relapse into breathlessness, defective sleep, and scanty urination, but never reaching that greater depth of cardiac failure associated with progressive anasarca and effusion into the serous cavities of the body until December, 1899. He then returned as an out-patient, water-logged and with a rapidly sinking heart. I advised him to enter the hospital, and by the courtesy of my colleague, Dr. E. Clifford Beale, he was placed under my care. By an oversight, however, I was not informed of his admission until a fortnight or so after that

[1] A paper read before the Esculapian Society of London on May 19th, 1900.

[illegible] passing away more than an average daily amount of urine is evident, as 1506, 1534, 1591, and 1613 cubic centimetres were voided on four of the days. There was no marked hydruria or polyuria. (See table, Case 2.)

In Case 3 in the second and third 24 hours after the operation the highest concentration of the urine was seen, the single kidney excreting a fluid with 4·56 per cent. of urea. Moreover, the largest quantity of urea excreted during any one day was 29·8 grammes, and that in the second 24 hours after the operation, with urinary water 653·5 cubic centimetres; in the third diurnal period 28·3 grammes, with 625 cubic centimetres of water; in the following like time 27·5

CASE III.

Date.	Amount of urine in cubic centimetres.	Amount of urea in grammes.	Specific gravity of urine.
April 23rd	454	10 37	1027
" 24th	653	29 8	1026
" 25th	625	28 3	1028
" 26th	653	27 5	1026
" 27th	568	18 8	1024
" 28th	568	18 1	1024
" 29th	596	20 7	1024
" 30th	568	16 2	1028
May 1st	568	15·8	1024
" 2nd	653	19·0	1020
" 3rd	625	18·1	1022
" 4th	682	12 4	1015
" 5th	653	11·1	1016
" 6th	653	7·7	1011
" 7th	632	14·3	1018
" 8th	710	11·3	1014
" 9th	710	14·9	1018
" 10th	653	19·3	1018
" 11th	568	17 5	1020
" 12th	710	13 7	1016
" 13th	710	4 9	1010
" 14th	653	8 9	1014
" 15th	710	8·1	1010
" 16th	937	13 3	1012
" 17th	852	15 5	1016
" 18th	852	8·7	1014
" 19th	994	12·5	1012
" 20th	1023	11·0	1009
" 21st	852	9·2	1010
" 22nd	966	10·5	1011
" 23rd	994	9·0	1014
" 24th	994	10·7	1014
" 25th	1079	11 0	1009
" 26th	1079	12·3	1012
" 27th	1108	11 3	1014
" 28th	1136	12·9	1010
" 29th	1193	16·3	1015
" 30th	1221	11·1	1011
" 31st	852	10 2	1013
June 1st	994	13·6	1014
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" 3rd	1335	19·8	1018
" 4th	1103	14·5	1016
" 5th	1136	15·5	1014
" 6th	966	10 4	1011
" 7th	795	10 9	1013
" 8th	1136	10·3	1010
" 9th	1449	11·5	1010
" 10th	1278	10·2	1010
" 11th	1676	13·3	1011
" 12th ...	1562	14·2	1012
" 13th	1420	14 6	1014
" 14th	1335	19·8	1016

[illegible] of water. On the [illegible] ty-third days the [illegible] 1676, 1562, 1428, and 1335 cubic centimetres, with 0·79, 0·90, 1·02, and 1·49 per [illegible] average for the 53 days was 889 cubic [illegible] with 14·1 grammes of urea, or 1·57 per [illegible] increased and towards the end [illegible] was practically a hydruria but not a [illegible] 3.)

In Case 1 a gr[illegible] between the minimum and maximum quantities in both urine and urea is to be seen. Under 800 [illegible] voided on four days, while [illegible] were passed on five days. During the whole period the average 1520 cubic centimetres per day is well over the quantity voided daily by a healthy wom[illegible] with the two other cases t[illegible] more than 59 grammes [illegible] highest being 65·2 gramm[illegible] estimations. Under 13 [illegible] times. These figures show that the single kidney is capable of getting rid of twice as much water and three times as much urea in one day as is the average for two healthy kidneys. The woman was in perfect health on an average mixed diet and suckling a full-sized male child.

In Case 2 the patient with his one and one half kidneys *in situ* the urinary water was under 800 cubic centimetres per day twice and over 1400 cubic centimetres six times. For the whole period the daily average of 1167 cubic centimetres is about equal to what two healthy kidneys should excrete. The urea was below 14 grammes on two days and 33 grammes or over on seven days. Between these two limits the quantities varied considerably. The loss of one-fourth of his kidney weight did not materially alter the excretion of either the fluids or the solids by the renal tissue. The patient was a healthy young male, of average activity, living on a mixed diet. If estimations were made on a like man under similar circumstances, but possessing his full proportion of kidney weight, much the same variations would be found in the daily quantity of fluids and solids passed.

In Case 3 we have a condition like to the dogs of Professor Rose Bradford, as the estimations were begun immediately after the operation. He writes: "All partial nephrectomies, single or double, slight or extensive, increase the amount of urinary water, to different degrees it is true; the amount of urea is not increased by either single partial nephrectomy or by double partial nephrectomy or yet by the removal of one kidney and a portion of the other, provided always that at least one-third of the original total kidney weight be left to the animal." In Case 3 at no time during the first five weeks did the urinary water reach 1200 cubic centimetres in one 24 hours, the nearest to that amount being 1108 cubic centimetres passed on the thirty-fifth day. This does not agree with the hydruria found in the dog. The urea for the first 24 hours stood at the normal healthy average; during the second, third, and fourth daily periods it was about twice the normal amount per ounce of urinary water, but only a little above the total required to be excreted daily by a healthy female with two kidneys. This differs from what happened in Professor Bradford's dogs and shows that immediately after removal of one kidney in the human subject the kidney left *in corpore* is capable of excreting a somewhat concentrated urine. During the sixth and seventh weeks the urinary water voided kept well up to a healthy average, while on the four days of the eighth week the quantity was about 300 cubic centimetres above the average. In these same periods the urea was about one-half of that usually excreted by two healthy kidneys. The table as a whole shows a steady increase in the quantity of urinary water. At first, when this was small in amount, the patient had a low-tension pulse, she was unable to take much fluid wherewith to fill the blood-vessels, and a diminution in the filtering processes followed. After major operations there is usually wasting for the first few days; this is probably accompanied by an over-production of nitrogenous extractives in the tissues and blood, thence moving onwards to excretion through the kidneys. After the fourth day the urea fell to a normal degree and only five times during the subsequent analysis was it up to 19 grammes in the 24 hours. The patient put on flesh and soon regained more than her accustomed vigour.

In the *British Medical Journal* of July 29th, 1899, Dr. W. L. Bell of Lowestoft Hospital, England, reports a case of

the article he writes: "
first 24 hours 14 ounces
[illegible] but after this it remained free from albumin, and

Weeks.	Case 3. Urine.	Case 3. Urea.	Case 2. Urine.	Case 2. Urea.	Case 1. Urine	Case 1. Urea.
	c.c.	grms	c.c.	grms	c.c.	grms.
First	4120	154 1	7473	165 1	7,843	164 4
Second	4404	100 7	7970	180·3	10,173	175 1
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Total	47,598 53 days	749 6 53 days	60,684 52 days	1294·9 52 days	74,509 43 days	1237 7 49 days
Average per week.	5943 13	98·2	8132·94	173 9	10,644 19	176 8
Average per day.	898 01	14 1	1167·0	24·9	1520·59	25 25
Average urea in grammes per cubic centimetre.	0·01574 = 1 574%		0 02133 = 2 133%		0·0166 = 1·66%	
Average specific gravity.	1015 4		10.0·6		1016·4	

The following conclusions appear to me to be justified: 1. If one kidney be removed then three years subsequently the healthy kidney *in situ* will excrete more than the average quantity of urinary water produced by two normal kidneys 2 This same kidney will excrete per cubic centimetre of urine and per diem the average amount of urea that would be produced by two healthy kidneys. 3. If one half of one kidney be removed, then two years afterwards the urine voided will be the same in quantity as if two healthy kidneys were present. 4. The loss of the half of one kidney will cause no increase or diminution in the percentage of total [illegible] If [illegible] y be removed then [illegible] the other during [illegible] the operation will be below the average daily amount. 6 The urea produced by this one kidney will be less than the average proportion usually seen as the result of the work of two healthy kidneys but probably not below the average excreted by two healthy kidneys from an individual recovering from a serious operation.

From the standpoint of the practical surgeon there is one important fact brought prominently forward in Professor Bradford's experiments and lectures. They teach us first, that in the dog two-thirds of the total kidney weight can be removed with impunity, and the one-third remaining is consistent with the prolonged and healthy existence of the animal; and, secondly, that there is a limit between the one-third and the one-fourth of the total kidney weight beyond which, if excision be practised, the kidney tissue left is not emaciate and die; not, however, from uræmia, as even with one-tenth of the total kidney weight an hydruria and a polyuria immediately followed. Anyone of us m[illegible]
case [illegible]
tissue [illegible]
[illegible] bservations
[illegible] esults, that
[illegible] man being
[illegible] nd healthy
[illegible] or the pre-
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[illegible] Dr. F H Cox, a graduate of the Sydney University.

Wallsend, New South Wales.

[illegible] a paper will be found [illegible] alford Royal Hospital, [illegible] d. Brit. Med Jour., Oct. 17th, 1896, p. 1100, Dr Oscar Bloch, A Case in which Half the kidney Invaded by Morbid Growth was Removed, with Remarks on the Conservative Surgery of the Kidney THE LANCET, Oct. 31st, 1896, p. 1229, A Case of Abdominal Nephrectomy, by Mr. F. C. Wallis, at the Clinical Society of London.

ON THE

USE OF MERCURY IN THE TREATMENT OF [illegible] O

By ALEXANDER MORISON, M.D., F.R.C.P.EDIN.,
PHYSICIAN TO OUT-PATIENTS AT THE GREAT NORTHERN CENTRAL HOSPITAL AND AT THE CHILDREN'S HOSPITAL, PADDINGTON GREEN.

THE value of mercury in the treatment of disorders of the circulation was well recognised by the older physicians, but the zeal for its employment was not always according to knowledge. [illegible] which, follow- [illegible] not finding [illegible] mercury as a [illegible] under all circumstances and so [illegible] is belated sagacity that even the acknowledged charlatan was forced to advertise his wares as free from that deleterious agent. One has only to mention the names of Withering and of Baillie, of Stokes and Graves and Gregory however, to be certain that, whatever mistakes these [illegible] the faults of [illegible] of beneficial strong [illegible] they stated results [illegible] ectful if dis- facts [illegible] however, for crimin [illegible] and it con- a time [illegible] thorities and signed [illegible] In the matter their [illegible] heart disease of me [illegible] ation it is now [illegible]

It is not my intention on this occasion to consider the larger question of the use of mercury in the treatment of heart disease, but to limit myself to a consideration of its employment in that form of cardiac failure which is so frequently associated with the arterio sclerotic changes connected with advancing life, and more particularly when this is coupled with that overwork for a means of livelihood which is the fate of many. I think I can do this most conveniently by quoting a specific instance and making it the peg on which to hang any general remarks I may have to offer.

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In Case 3 in the second and third 24 hours after the operation the highest concentration of the urine was seen, the single kidney excreting a fluid with 4·56 per cent. of urea. Moreover, the largest quantity of urea excreted during any one day was 29·8 grammes, and that in the second 24 hours after the operation with urinary water 653·5 cubic centimetres; in the third diurnal period 28·3 grammes, with 625 cubic centimetres of water; in the following like time 27·5

CASE III.

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May 1st	566	15·8	1024
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" 3rd	625	18·1	1022
" 4th	682	12·4	1015
" 5th	653	11·1	1016
" 6th	653	7·7	1011
" 7th	632	14 3	1018
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" 16th	937	13 3	1012
" 17th	852	15 5	1016
" 18th	852	8·7	1014
" 19th	994	12·5	1012
" 20th	1023	11 0	1009
" 21st	852	9·2	1010
" 22nd	966	10·5	1011
" 23rd	994	9·0	1014
" 24th	994	10·7	1014
" 25th	1079	11·0	1009
" 26th	1079	12·3	1012
" 27th	1108	11 3	1014
" 28th	1136	12 9	1010
" 29th	1193	16·3	1015
" 30th	1221	11·1	1011
" 31st	852	10 2	1013
June 1st	994	13 6	1014
" 2nd	909	17·1	1017
" 3rd	1335	19 8	1018
" 4th	1108	14·5	1016
" 5th	1136	15·5	1014
" 6th	956	10 4	1011
" 7th	795	10 9	1013
" 8th	1136	10·3	1010
" 9th	1449	11·5	1010
" 10th	1278	10·2	1010
" 11th	1676	13·3	1011
" 12th	1562	14·2	1012
" 13th	1420	14 6	1014
" 14th	1335	19·8	1016

[illegible] etres of water. On the [illegible] and fifty-third days the [illegible] pectively 1676, 1562, 1428, [illegible] 79, 0·90, 1·02, and 1·49 per cent. of urea. The average for [illegible] centimetres of urine, with 14·1 g[illegible] cent. The quantity of [illegible] towards the end of the [illegible] a hydruria but not a polyuria. (See table, Case 3.)

In Case 1 a great variation between the minimum and maximum quantities in both urine and urea is to be seen. Under 800 cubic centimetres of urine were voided on four days, while over 2000 cubic centimetres were passed on five days. During the whole period the average 1520 cubic centimetres [illegible] quantity voided daily by a healthy [illegible] Compared with the two other ca[illegible] were remarkable; more than 59 gram[illegible] occasions, the highest being 65·2 grammes on the eighteenth day of the estimations. Under 13 grammes were produced three times. These figures show that the single kidney is capable of getting rid of twice as much water and three times as much urea in one day as is the average for two healthy kidneys. The woman was in perfect health on an average mixed diet and suckling a full-sized male child.

In Case 2 the patient with his one and one half kidneys *in situ* the urinary water was under 800 cubic centimetres per day twice and over 1400 cubic centimetres six times. For the whole period the daily average of 1167 cubic centimetres is about equal to what two healthy kidneys should excrete. The urea was below 14 grammes on two days and 33 grammes or over on seven days. Between these two limits the quantities varied considerably. The loss of one-fourth of his kidney weight did not materially alter the excretion of either the fluids or the solids by the renal tissue. The patient was a healthy young male, of average activity, living on a mixed diet. If estimations were made on a like man under similar circumstances, but possessing his full proportion of kidney weight, much the same variations would be found in the daily quantity of fluids and solids passed.

In Case 3 we have a condition like to the dogs of Professor Rose Bradford, as the estimations were begun immediately after the operation. He writes: "All partial nephrectomies, single or double, slight or extensive, increase the amount of urinary water, to different degrees it is true; the amount of urea is not increased by either single partial nephrectomy or by double partial nephrectomy or yet by the removal of one kidney and a portion of the other, provided always that at least one-third of the original total kidney weight be left to the animal." In Case 3 at no time during the first five weeks did the urinary water reach 1200 cubic centimetres in one 24 hours, the nearest to that amount being 1108 cubic centimetres passed on the thirty-fifth day. This does not agree with the hydruria found in the dog. The urea for the first 24 hours stood at the normal healthy average; during the second, third, and fourth daily periods it was about twice the normal amount per ounce of urinary water, but only a little above the total required to be excreted daily by a healthy female with two kidneys. This differs from what happened in Professor Bradford's dogs and shows that immediately after removal of one kidney in the human subject the kidney left *in corpore* is capable of excreting a somewhat concentrated urine. During the sixth and seventh weeks the urinary water voided kept well up to a healthy average, while on the four days of the eighth week the quantity was about 300 cubic centimetres above the average. In these same periods the urea was about one-half of that usually excreted by two healthy kidneys. The table as a whole shows a steady increase in the quantity of urinary water. At first, when this was small in amount, the patient had a low-tension pulse, she was unable to take much fluid wherewith to fill the blood-vessels, and a diminution in the filtering processes followed. After major operations there is usually wasting for the first few days; this is probably accompanied by an over-production of nitrogenous extractives in the tissues and blood, thence moving onwards to excretion through the kidneys. After the fourth day the urea fell to a normal degree and only five times during the subsequent analysis was it up to 19 grammes in the 24 hours. The patient put on flesh and soon regained more than her accustomed vigour.

In the *British Medical Journal* of July 29th, 1899, Dr. W. L. Bell of Lowestoft Hospital, England, reports a case of

from hospital until March 29th. In other words, he was two months in hospital under constant observation and with every comfort after convalescence was established. A similar case with equally happy results had been under my care in [illegible] which had successfully coped with the wear and tear of another year.

As regards the efficacy of mercury administered in the combination indicated and under the circumstances under [illegible] and the operation of some of these combinations is undoubtedly quickened or exalted in many instances by the addition of mercury. A fluid drachm of the officinal [illegible] mixture [illegible] en the [illegible] pill of [illegible] Baillie, consists of three or [illegible] day and in the evening. As the formula is not given in the first edition which was published in 1833—the year in which Matthew Baillie died—it is probable that the usual post- [illegible] the days of the name-father of our society down to those of the last bath-doctor who has lost his mental equilibrium in enthusiastic praises of a new spring. Withering, indeed, writes of the therapeutic relation of squills to digitalis thus: "Next to the lancet, I think nothing lowers the tone of the system more effectually than the squill, and consequently it will always be proper in such cases to use the squill, for if that fail in its desired effect it is one of the best preparations to the adoption of the digitalis."[3] We [illegible] with 20 of powdered digitalis leaves and divided into 14 pills of which one was to be taken twice a day—evincing, surely, [illegible] that the attribution of that combination to the clinical acumen of Baillie is correct, but I have not so far met with a note of it in his works, which are well worthy of perusal even to-day.

—the "Guy's pill" [illegible] was probably not inte [illegible] of the bella- [illegible] the circula- [illegible] have, indeed, occasionally used extract [illegible] of hyoscyamus on this [illegible] is a bradycardial rather [illegible]

[2] Lectures on the Principles and Practice of Physick, vol. ii., p. 587.
[3] An Account of the Foxglove and some of its Medical Uses, 1775, p. 160.

arrhythmia so frequently associated with *arterio-sclerosis*. The beneficial influence of mercury in the combination is, I think, clinically indisputable, but the discussion of the precise manner of its operation might lead to much, and perhaps not very useful, speculation. A fact, however, among the effects of mercurials to which Sir William Broadbent (to whom I attribute a considerable share in the revival of the m [illegible] importance is its [illegible] this is brought abo [illegible] blood of waste mat [illegible] arterioles or by direct dilatation of the peripheral vessels in the process of its own elimination—it is not necessary at present to inquire and [illegible] the permeability of pe [illegible] their resistance is secu [illegible] with digitalis and squills [illegible]

Upper Berkeley-street, W.

"THE ACTION OF THE WATER OF LLANGAMMARCH WELLS ON URIC ACID."

By WILLIAM BLACK JONES, M.D., B.S. LOND., D.P.H.,
PHYSICIAN TO THE LLANGAMMARCH WELLS SPA.

IN an article under the above title which appeared in THE LANCET of March 25th, 1899 (p. 830), by Mr. Edward Russell and myself, we recorded observations on two cases, one of uric acid calculus and the other of lithæmia, in both of which the patients had derived considerable benefit from drinking the Llangammarch Wells mineral-water. In the latter case (which was that of Mr. Russell himself) the amount of uric acid voided was estimated by Hopkins's method.

During the season of 1899 I had several cases of lithæmia under my care. All those that I have subjected to analysis are given below. My method was to analyse two specimens in the above manner before the treatment began and then to make a second series of analyses about 10 or 14 days afterwards. In some cases a third series of analyses was made at a later date. In each case the amounts of uric acid given are the mean of two observations. My results are given in the following table.

Case.	Normal diet. Urine. Amount in c.c.	Normal diet. Urine. Per cent.	Normal diet. Uric acid. Total output per diem.	Drinking mineral water. Days after first experiment.	Urine. Amount in c.c.	Urine. Increase or decrease per cent.	Uric acid. Per cent.	Uric acid. Total output per diem.	Uric acid. Increase or decrease per cent.
			grms.					grms.	
1.	1440	0·058	0·83	14	1900	+ 31	0·066	1·25	+ 50
	1130	0·091	1·03	6	1530	+ 35	0·087	1·341	+ 30
2.	453	0·0675	0·313	15	653	+ 35	0·0757	0·513	+ 61
				25	650	+ 34	0·0355	0·25	− 22
3.	2000	0·0206	0·400	10	2850	+ 42	0·0600	0·855	+ 113
				60	1560	− 22	0·0146	0·227	− 44
4.	1120	0·0423	0·47	11	1700	+ 51	0·033	0·561	+ 19
5.	840	0·0206	0·175	15	1700	+ 102	0·0273	0·464	+ 165
6.	1420	0·0215	0·23	10	1700	+ 20	0·0223	0·404	+ 3
				13	1700	+ 20	0·0135	0·229	− 42
7.	1056	0·0117	0·457	12	1650	+ 77	0·012	0·222	− 1·0
				25	1800	+ 77	0·0163	0·312	− 34

CASE 1.—This was the case of Mr. Russell, which I have referred to above, and which I have inserted for comparison with other cases.

physician.

On admission into the ho[illegible] temperature is s[illegible] so far as it coul[illegible] irregular in forc[illegible] wrist. He was [illegible] a cough. He had anasarca [illegible] legs there were several foul [illegible] detectable ascites and the [illegible] tained some albumin. A m[illegible] tincture of strophanthus, fo[illegible] nine, and 10 grains of di[illegible] every four hours. One gra[illegible] scribed daily, and at bedtime he took 20 grains of bromide of potassium and 20 grains of trional. Saline aperients were likewise administered and the patient was placed on admission diet. Ten days later there was no noteworthy improvement in his condition; the hypnotics were increased in power and tincture of digitalis was prescribed instead of tincture of strophanthus. On Jan. 5th, 1900, fish was added to the dietary and a pill containing two grains of calomel was ordered to be taken at bedtime every night. Finding on the 9th that the condition of t[illegible] critical I placed him upon ordinary die[illegible] ounces of brandy, to be given in[illegible] the last ounce at bedtime. I discontin[illegible] ordered the pilula diuretica of the hospital pharmacopœia to be administered three times a day. This consists of powder of digitalis, powder of squills, blue pill, and extract of hyoscyamus, of each one grain. On the 16th the patient was still restless at night, but the œdema of his legs had subsided to some extent, and although there was a little recognisable serous effusion in his left chest, and the ratio between his heart and wrist pulse was as 150 to 100, the quantity of his urine had increased and it contained no albumin. By the 19th the ratio of his heart and wrist pulse was as 120 to 66; the impulse of the heart was stronger and its rhythm was regular; the patient slept better and there was less evidence of pleural [illegible]. The urine within the next few days began to flow more freely until on the 27th it reached a maximum of 110 ounces, and the patient's general condition had improved in every way. On the 31st the diuretic pill was discontinued as the patient's gums had become slightly affected. The urine, however, continued to flow satisfactorily until Feb. 12th, when it had fallen to 36 ounces, and on [illegible] ed. Three days later [illegible] ounces and, with some fluctuation, a maximum of 73 ounces on the 19th. The general state of the patient had meanwhile continued to improve and on the 25th the pill was again omitted, and was resumed on March 3rd because of a fall of the urinary secretion to 15 ounces as nearly as could be calculated. Four days later the quantity had again risen to 50 ounces and the patient's general state was most satisfactory. All anasarca and serous effusion had disappeared, the force and rhythm of his heart had improved, and the discrepancy between the heart beat and the pulse at the wrist had been reduced, at times very greatly, such ratios as 90 to 72, 100 to 84, and 104 to 88 being noted. The patient also ate well, and slept from 7 to 10 out of the 24 hours without any other aid than his nightcap of one ounce of brandy. The diuretic pill was discontinued and again resumed for a few days at a time, and on the 27th the patient was discharged on account of the demand for beds. He was then in every way comfortable, and was free from all the evidences of cardiac failure with which he had been admitted. The heart, however, still manifested its arrhythmical instability and he was advised to rest as much as possible and to live as generously as his family could afford to allow him to do. He returned to my out-patient clinic in May free from œdema or subjective distress, but with increased tachycardial arrhythmia and stated that he could not "get along" without taking a few of his "pills" from time to time.

I have too great a regard for the reputation of mercury as a therapeutic agent in cases such as that just related to claim for it a greater share in the success attending its employment than an impartial review of the circumstances seems to justify. It has been pointed out alike by Baillie, by Stokes, and by others, that it is the combined operation of mercurials and cardiac stimulants which influences for good the majority of cases of cardiac failure such as that described. To these, however, must be added, in the case [illegible] ly safely [illegible] ld have [illegible] however, [illegible] not dis- [illegible] was an efficacy to be expected [illegible] would p[illegible] [illegible] by the use of the drug without [illegible] by the unduly preponderant use of [illegible] with the mercurial. For my present purpose it is fortunate that this point was also illustrated in this case. On admission a powerful cardiac stimulant and diuretic was prescribed, together with a grain of calomel separately at bedtime. A fortnight later, progress being unsatisfactory, digitalis was employed instead of strophanthus and an additional grain of calomel was prescribed to be taken at bedtime. It was not, indeed, until more than a fortnight after the simultaneous use of the drugs thrice repeated daily, and after the patient had been placed on full diet and brandy made to take the place of his ordinary hypnotics, that the full effects of the drug were attained and a urinary output which had fallen to 18 ounces and even 15 ounces a day rose to a maximum of 110 ounces. It could not, of course, be maintained at this high figure although such amounts as 93, 75, 81, 85, and 69 ounces were recorded. For it may be noticed in water-logged cardiac cases that when the methods employed begin effectually to squeeze the human sponge a copious drip takes place, but the human body obeys under the circumstances the general law of sponges which once squeezed fairly dry have little more than their normal moisture to part with unless they again become more or less water-logged, as may happen. As Carlyle was fond of remarking, "You cannot get more out of a thing than there is in it." Even under recurrences of anasarca, however, this case shows that a steady recourse to the combined drugs may again be expected to relieve the patient; and, as is stated at the conclusion of the record, the patient himself was so convinced of the value of his pill that he insisted on keeping it within reach. In his case I believe that he was justified in his confidence, although a like touching faith may be frequently observed under circumstances in which a wholesome scepticism would be more in place.

A few remarks may be made upon the possible causes of success in the treatment of the case related and upon the value of the combination employed. In connexion with the first point it is important to note that the kidneys of the patient, although congested, [illegible] y, as it has been found by those w[illegible] n the treatment of heart disease tha[illegible] with the impeded elimination involve[illegible] ently prolonged exhibition of the drug to secure beneficial action. In the next place all the agents in the compound pill prescribed were steadily pushed under favourable circumstances as to posture, food, and warmth until a definite result was secured. It is permissible to refer to this point because it is so frequently observed that a rational course of treatment has been conceived and initiated without being pushed home with sufficient persistence and vigour to secure success. In the third place, the patient was either philosophical enough or stupid enough to allow of the mental factor in his case being eliminated and thus prevented from upsetting the balance of his circulation by the intrusion of the emotions. Although the notes taken by the resident physician comprehensively state that while cardiac failure was at it worst the patient was "off his head" (as often happens under similar circumstances), he slept well and long [illegible] comforts and the [illegible] ed and quite recov[illegible] In sleep, while the vessels of th[illegible] the withdrawal of the psychical sphere from active operation appears to release the general vascular periphery, somatic and visceral, and thus to relieve the labour of the heart which, like the rest of the organism, enters refreshed on waking upon the work thrown upon it during the day.

The last point which may be mentioned as having conduced to the favourable issue of the case is that, although the patient was admitted to hospital on Dec. 20th, 1899, placed upon full diet and given systematic and persistent treatment by the diuretic pill and an allowance of brandy without hypnotics on Jan. 9th, 1900, and was practically convalescent towards the end of the same month, he was not discharged

from hospital until March 29th. In other words, he was two months in hospital under constant observation and with every comfort after convalescence was established. A similar case with equally happy results had been under my care in the hospital a year previously, and although this patient returned to the ward for a short time while the patient whose case I now describe was under treatment there has been no recurrence of his extensiva dropsy since his convalescence. He also was kept for a long time in hospital. This patient

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another year[illegible]

As regards [illegible]
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tual [illegible]
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that fail in its [illegible]
preparations to [illegible]
now know that t[illegible]
In the same manner [illegible]
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blood of waste material which has a spastic effect upon the arterioles or by direct dilatation of the peripheral vessels in the process of its own elimination—it is not necessary at present to inquire and is very difficult to determine. That the permeability of peripheral vessels by a lessening of their resistance is secured appears to be clinically demon-

[illegible]
Matthew Baillie.
Upper Berkeley-street, W.

[illegible] AN-

BY WILLIAM BLACK JONES, M.D., B.S. LOND., D.P.H.,
PHYSICIAN TO THE LLANGAMMARCH WELLS SPA.

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Case.	Normal diet. Urine. Amount in c.c.	Normal diet. Uric acid. Per cent.	Normal diet. Uric acid. Total output per diem.	Days after first experiment.	Drinking mineral water. Urine. Amount in c.c.	Drinking mineral water. Urine. Increase or decrease per cent.	Drinking mineral water. Uric acid. Per cent.	Drinking mineral water. Uric acid. Total output per diem.	Drinking mineral water. Uric acid. Increase or decrease per cent.
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				60	1560	− 22	0·0118	0·127	− 68
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5.	840	0·0206	0·175	15	1700	+ 102	0·0273	0·464	+ 165
6.	1420	0·0275	0·33	10	1700	+ 20	0·0239	0·404	+ 3
				13	1700	+ 20	0·0135	0·229	− 42
7.	1036	0·0417	0·467	12	1350	+ 77	0·012	0·252	− 110
				25	1850	+ 77	0·0163	0·112	− 34

CASE 1.—This was the case of Mr. Russell, which I have referred to above, and which I have inserted for comparison with other cases.

[1] Lectures on the Principles and Practice of Physics, vol. ii., p. 507.
[2] An Account of the Foxglove and some of its Medical Uses, 1775.

CASE 2.—This patient suffered from pain in the loins, lassitude, and muscular weakness. She passed very little urine, and her appetite was very poor. She had influenza in February, 1899. Under treatment she made considerable improvement, lost the pains, and became more active. Her appetite and general health were very much better. There was at first an increase and then, after a month's treatment, a decrease in the amount of urine passed.

CASE 3.—A man, aged 38 years, had been suffering from rheumatism and gout for nine years. He complained of pain in the loins and between the scapulæ, and also had some stiffness of the joints. He was accustomed to considerable outdoor exercise. After a few days' treatment the uric acid excreted was more than double in amount and the pain was considerably less. After two months' treatment the pain had quite disappeared although the uric acid had diminished from its original amount.

CASE 4.—This patient, a woman, aged 50 years, had suffered from gout and rheumatism for some years. There were signs of osteo arthritis of both knees and symptoms of chronic gastric catarrh. After a few days' treatment there was an increase of 19 per cent. in the uric acid excreted, and later there was improvement in the condition of the knees.

CASE 5.—A woman had complained of pain in the lumbar region for two years, accompanied by an excessive deposit of uric acid. She had also had symptoms of renal colic. After drinking the mineral water for a fortnight there was an increased output in the urine of 102 per cent., and in the uric acid of 165 per cent. This was accompanied by a diminution of the pain and a general improvement in the patient's health.

CASE 6.—This patient, a female, had suffered for four years from an obscure urinary trouble. She occasionally passed very offensive urine, which occurred generally after overwork and after walking. She then passed much mucus and pus. She had consulted several specialists, but none would give a definite opinion as to the nature of her case. When she came under my care she was in a very weak condition, but her urine was normal. After three weeks' treatment she was much stronger, but the uric acid, which at first increased slightly, afterwards diminished considerably.

CASE 7.—This patient, a man aged 57 years, had suffered from gravel for some years, accompanied by lumbar pain. He occasionally passed fine "sand" in his urine, but had not done so for two months. A year ago there was a slight amount of albuminuria. On examining the abdomen there was some pain over the right kidney. After a few days' treatment I found that he was passing less than half the amount of uric acid, and at the same time he felt much stronger and the pain in the loins was considerably diminished. This improvement continued, and at the same time there was a relative increase in the amount of uric acid.

It will be noted that of the above seven cases, four of them (Case 1, Case 2, Case 3, and Case 5) showed not only a decided relief of the symptoms, but a considerable increase in the output of uric acid. In Case 7, while the symptoms were relieved the uric acid diminished, and the same may be said to a certain extent of Case 6. It will be observed that in all the cases where a later examination was made the uric acid diminished in quantity. Probably the excess accumulated in the system had by that time been removed by the action of the water. In all the cases there was an increase in the flow of urine. That this is not solely due to the increased amount of fluid consumed, but is due partly to the action of the mineral water, was shown in the former article by Mr. Edward Russell and myself, mentioned above.

These results are, on the whole, most encouraging, and they show that in the Llangammarch mineral water we have a powerful agent for the elimination of uric acid. This water is therefore indicated in cases of rheumatism, gout, osteo-arthritis, and in all forms of the uric acid diathesis. In addition, patients who drink the water at the spring have many opportunities for physical exercise in a mountainous district like Llangammarch, thus forming a valuable adjunct to treatment.

Llangammarch Wells, Breconshire.

BRENTRY HOME FOR INEBRIATES.—At a meeting of the Bath Town Council held on June 12th it was decided to enter into an arrangement with the authorities of the Brentry Home for Inebriates, near Bristol, by which for the payment of £1000 seven beds in that institution would be available for 25 years.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. GEORGE'S HOSPITAL.

A CASE OF HERMAPHRODITISM.

(Under the care of Mr. G. R. TURNER.)

THE frequency of cases of true hermaphroditism is probably not great, but the statistics of the French military revising councils show[1] that a cleft of the scrotum causing an appearance of two labia is met with in about 5 per 1000 of all those rejected. The increase of the intertubular tissue of the testis (noticed in the following case) is mentioned in several of the cases in which the testis of an hermaphrodite has been examined microscopically after having been removed. We refer our readers to an annotation entitled "Marriage between Persons of the Same Sex" which appeared in THE LANCET of June 23rd, p. 1814, and which illustrates the extreme difficulty of diagnosis of sex in some of these cases.

A "girl," aged 14 years, had been "ruptured" ever since birth. She had worn a truss until she was 12 years of age, but since then nothing in the way of a support. She had been in early life under the care of a surgeon to a truss society who had wished to operate. She is the third of a family of six who are all well developed. She had never menstruated. On admission to [illegible] there was a moveable oval irreducible [illegible] inguinal region which was taken to be a prolapsed ovary. This was removed and proved to be a testis lying over the external abdominal ring. The cord was ligatured and the ring was closed by suture. The operation wound healed by first intention. The naked-eye appearance of the organ removed was that of a well-developed testis, the epididymis of which contained three little cysts. A microscopical examination was made by Dr. H. D. Rolleston and showed that there was no ovarian tissue; there were seminal tubules like those of the testis. In addition there were masses of interstitial cells like those seen in the testis of some of the lower animals.

Gas and ether were subsequently administered to allow of a thorough examination of the individual by Dr. W. R. Dakin and Mr. G. R. Turner. The mammary glands were both well developed for the patient's age. The pubic hair was scanty but the external parts were those of a well-developed female, the labia majora, minora, clitoris, and urethral orifice being normal. The latter was slightly caruncular. The vagina admitted the index finger half way up to the second knuckle. The width of the vagina was normal; it terminated in a cul-de-sac. No cervix uteri could be felt. A very small transverse cord, like a Fallopian tube or vas deferens, could be felt per vaginam. Nothing could be felt in the labia. On bimanual examination a transverse cord could be felt to slip away. This cord was situated one inch behind the pubes. Per rectum the whole pelvis could be explored. There was nothing found—nothing to represent either the uterus or prostate gland. The following were the pelvic measurements: inter-spinous, 8¾ inches; inter-cristal, 9⅝ inches; and external conjugate, 6⅝ inches.

Remarks by Mr. TURNER.—This case would appear to be one of true hermaphroditism in which the external organs of generation are like those of the normal female, the vagina ending in a cul-de-sac with no trace of uterus or ovaries. The inguinal testicle (now in the museum of St. George's Hospital) had all the naked-eye appearance of the normal except that the epididymis was the seat of cystic degeneration. Microscopically, too, the structure was testicular. A somewhat similar case is recorded by Dr. Chambers in the Transactions of the Obstetrical Society of

[1] Lagneau. Le Bulletin Medicale, April, 1895.

London, vol xxi, page 256. In that case, too, the orifice of the meatus urinarius was irregular and granular, the vagina was an inch long and there was no trace of hymen, uterus, or ovaries There were present two testicles the glandular structure of which had never undergone its normal development. Leopold records a similar case and Hauf made a post mortem examination on one in 1873 In Shattock's case of spurious hermaphroditism with cleft [illegible] both testes were removed or double inguinal hernia these testes, as in the one [illegible] was "a highly pronounced [illegible] I have been unable either of the sexes in up as a girl and acts [illegible]

NEWCASTLE ON-TYNE ROYAL INFIRMARY.

A CASE OF REMOVAL OF A GALL-STONE FROM THE COMMON BILE DUCT BY THE DUODENAL INCISION.

(Under the care of Mr FREDERICK PAGE)

IN the following case a gall stone impacted in the common bile duct was removed by an incision through the duodenal wall This operation has been called duodeno-choledochotomy, and was first performed by McBurney,[1] then by Kocher,[2] and for the third time by Mayo Robson [3] It is a very useful method in some cases, as the stone is frequently fixed in that portion of the common duct which lies behind the duodenum It has now been performed in about 15 cases with three deaths, a mortality of 20 per cent

The patient was a woman, aged 59 years, who was admitted into the Newcastle-on-Tyne Royal Infirmary under the care of Mr F Page She had been subject for the past two and a half years to sudden attacks of severe pain in the region of the gall bladder extending down to the umbilicus and lasting several hours, when very severe it extended through to the back. The attacks were always accompanied by vomiting and shivering, the latter sometimes coming on before the pain She was troubled in this way about once a fortnight Three months previously she became jaundiced after an attack of colic; the discolouration had continued more or less

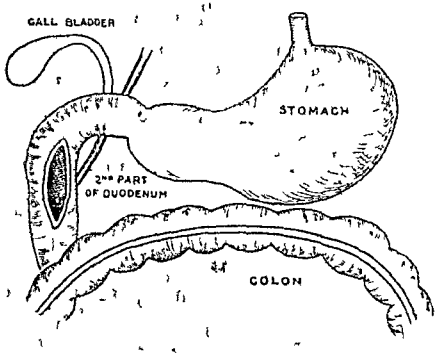

Diagram showing position of incision in duodenum

until admission Her family and previous history did not relate anything of importance [illegible] feeble The skin and conjunctiva [illegible] The urine contained bile The [illegible] and she suffered from constipation [illegible] not be felt on abdominal palpation During the seven weeks she was in hospital before operation she had several attacks of biliary colic

On Oct 14th chloroform was administered and the operation performed as follows 1 A vertical incision was made over the situation of the gall bladder 2 The stone was felt to the right side of the head of the pancreas, but as very extensive adhesions prevented the common duct from being exposed from the outer side the anterior wall of the second part of the duodenum was incised in the position shown in the diagram, the opening of the common bile duct into the duodenum was incised upwards, and a large gall stone was removed The incision into the opening of the common duct was not sutured 3 The incision through the anterior wall of the duodenum was closed as follows A continuous catgut suture passing through the three coats of the bowel was first inserted, then the line of suture was covered in by a continuous suture of fine silk passing through the peritoneal coat alone; one or two Lembert's sutures were put in at the [illegible] abdominal wound, which had [illegible] right costal margin, was then [illegible] No drainage was employed [illegible] was troubled with bronchitis but eventually completely recovered.

Remarks by Dr JOHN OLAY, *surgical registrar* —In the above case I had the good fortune to assist Mr Page. It is an example of the simple and rapid method of suture employed by that surgeon For the notes of the case I am indebted to the house surgeon, Dr L F Hemmans

Medical Societies.

EDINBURGH OBSTETRICAL SOCIETY.

Exhibition of Specimens —Nomenclature of Transverse Presentations and of Version —Set of the Pelvis in the Body

A MEETING of this society was held on June 13th, Dr R, [illegible] the chair [illegible] removed by Hys- [illegible] Section at Term; [illegible]

Dr, F W N HAULTAIN sh[illegible] uterine Gestation (after the ope[illegible] from the uterus followed by [illegible] (2) micro-photographs and microscopical [illegible] Cyst [illegible] was [illegible]

Dr J. W BALLANTYNE showed photographs of Anencephaly, Sympodia, Knotted Cord, &c

Dr J HAIG FERGUSON showed a Dermoid Ovarian Tumour [illegible] omenclature of [illegible] h Remarks on Transverse [illegible] the Choice of the Leg seized The best nomenclature of the position in transverse presentations was that which [illegible] into "dorso anterior" and "dorso-posterior" [illegible] "left acromio iliac" and "right [illegible] the acromion was to the left side or to [illegible] was better to name the positions from the acromion as it was often the presenting part This plan was more exact than that which named them after the head, as "right cephalo iliac" or "left cephalo-iliac" Little could be said in favour of the use of the scapula as the indicating part, as "left scapulo anterior;" the acromion was a more precise point The terms "right" and "left" referred to the mother and not to the fœtus The nomenclature of the varieties of version was at present very confusing The terms applied to version were descriptive either of the method by which the version was performed or of its aim In "podalic" or "cephalic" version the aim was to substitute the lower limb or the head for the presenting part The terms "bipolar version" and "external version" applied to method Dr Hart defined three great varieties of version (1) combined external version (cephalic) which was now seldom used in practice and was practically performed by external manipulation, its aim being to get the head to present, (2) Simpson's combined version

(podalic) which was carried out by one hand placed externally on the abdomen and the other hand passed deeply into the uterus, its aim being "podalic," as it was to bring the lower limb to present; and (3) Braxton Hicks's bipolar version (podalic) which was performed with one hand external and the other internal but not deep (the hand should not be passed beyond the presenting part), the aim of which also was podalic. The *second and third methods might for shortness be called* "Simpson's podalic" version and "Hicks's podalic" version. In the choice of the leg seized Simpson advocated the further knee, and Galabin advocated the near foot as a rule. Simpson's original case was a dorso-posterior one and Galabin's a dorso-anterior one. In a simple case they could turn easily whichever leg was taken and the leg seized would come to the front in the end. In difficult cases, with the liquor amnii partly drained off, it was of importance to seize the knee which gave the safer operation. Nagel had given by far the most complete discussion of the subject. He did not consider the question of the leg to be seized merely from the point of view of the accomplishment of the version, but *indicated that the leg*, the half breech of which would pass sooner to the symphysis, should be seized, thus taking the standpoint of the older observers, Baudelocque and Hohl, and of his own master, Gusserow. Dr. Hart summed up as follows:—"Seize the knee or leg which maintains the dorso-anterior position or converts the dorso-posterior into a dorso-anterior—that is, take the further limb in dorso-posterior cases, the nearer in dorso-anterior cases. When, however, in dorso-anterior cases the breech is in the fundus traction on the nearer leg may convert it into a dorso-posterior, and when the breech is near the os in dorso-posterior position traction on the further leg may not alter the posterior position of the back after version, owing, again, to the want of the necessary obliquity in the pull."—Professor A. R. SIMPSON, the PRESIDENT, Dr. A. H. F. BARBOUR, and Dr. S. MCVIE discussed the paper.

Dr. A. H. FREELAND BARBOUR read a paper on the Set of the Pelvis in the Body (Inclination of the Brim apart from Posture) and its Obstetrical Significance. The inclination of the brim, instead of being described in reference to the horizontal plane, might be described with the subject lying on the back, in relation to a perpendicular let fall from the upper margin of the symphysis on a line passing through the promontory of the sacrum in the direction of the long axis of the abdomen. [illegible] this method was that instead of taking [illegible] the body, which had no obstetrical significance and to which the relation of the pelvis changed with every posture, a fixed line within the body was taken. The angle of divergence of the plane of the brim (i.e., the plane passing through the conjugate of the brim) from this perpendicular was necessarily the same as the angle of divergence of the axis of the brim from the long axis of the abdomen. The smaller this angle—i.e., the more nearly the plane of the brim approached in direction with this line—the more did the pelvic inlet come into line with the long axis of the abdomen. The range of divergence in pelves which were obstetrically normal was considerable, varying from 40 degrees to 60 degrees. While a mean might be taken of 55 degrees, the variability of pelves from this, within certain limits, was a more important fact than the constancy of this angle which the mention of a figure was apt to convey. Though they were not in a position to gather up from clinical observation the results of this anatomical fact, owing to the difficulties of determining the size of this angle in the living subject, it was evident that its variability must exert a distinct influence on the engagement of the head and the driving power of the uterus in multiparæ. Dr. Barbour then discussed the work of Naegele, Weber, Meyer, and Prowchownik on the inclination of the brim clinically and the effect of posture on it. He also specially referred to the recent work of Dr. Sandstein who measured the height of the promontory above the symphysis in 28 cadavers, noting also the length of the conjugate. The true conjugate was found to range from four inches to 5·8 inches; and the height of the promontory from 3·7 inches to 5·4 inches above the symphysis. It was found that an increase in the length of the conjugate did not imply a proportionate rise in the level of the promontory, the cause of the variation in its level being the variability of the set of the brim which had a range of nearly 20 degrees.—The PRESIDENT and Professor A. R. SIMPSON made remarks on the paper.

CHELSEA CLINICAL SOCIETY.—At the annual meeting of this society, held on May 15th, Mr. J. Foster Palmer, the President, being in the chair, the following gentlemen were elected office-bearers for the session 1900–1901:—President: Dr. William Ewart. Vice-Presidents: Dr. C. C. Gibbes, Dr. C. J. Harrison, Mr. C. A. Morris, and Mr. A. F. Penny. Council: Dr. J. Barry Ball, Dr. J. Blumfeld, Dr. T. [illegible] Mr. J. W. E. Mortimer, [illegible] Treasurer: Dr. A. Barry Blacker. Secretaries: Dr. Austin E. Cooper and Mr. R. L. Norman.—Mr. Foster Palmer, having expressed his hearty thanks to the vice presidents and other members of the council as well as to the members of the society generally for their [illegible] and support during the last two years, [illegible] short valedictory address on some of the enemies—in a metaphysical sense—of the society, past, present, and future. These, which he characterised as demons, were Ignorance, Idleness, Superstition, and Fads founded on Folly. In accounting for the persistent vitality of some of these Fads he dwelt on the advantage Ignorance often possessed in being absolutely uncontrolled by the inconvenient knowledge of scientific facts and thus being able to give free scope to the powers of rhetoric and imagination. At the same time he thought the issues were still further obscured by the tendency to clothe their statements too much in technical or scientific language, and he advocated the cultivation of a simpler Anglo-Saxon diction without going quite so far as to adopt the powerful slang phraseology of John Hunter. The particular Fads referred to were as follows. 1. Anti-vaccination.—The un- [illegible] remarkable diminution of small-pox and [illegible] of insusceptibility even now among the [illegible] were alluded to and shown to be inadequately met by the prevalent objections that general sanitation had been the cause of the diminution and that the statistics had been falsified or wrongly interpreted. The case for vaccination did not rest wholly upon statistics. 2. Anti-vivisection.—The difficulty of tracing, and even of understanding, the progress of scientific research to those untrained in science, was as great as that of grasping legal technicalities w[illegible] in law. On this subject, therefore, [illegible] rhetoric had both run wild and readily lent itself to both. The constant persistence of the Fad was partly due, no doubt, to the prevalent hatred of science and its professors in England (and in England alone), but also to some extent to the hyper-technical and scientific diction already referred to. Otherwise, surely Professor Huxley's argument, stated many years ago in the *Nineteenth Century*, would have convinced all who believed in the utility of experiments. If, he said, the alternative was actually put, and they had to choose between the sacrifice of a dog and the sacrifice of a man, which was it to be? There was no choice. To save the dog in such a case would mean murder, and all who encouraged the act by word or deed would be accomplices. This was how the experimenters viewed the case, and, sad as the alternative was, they had no choice. Most of the anti-vivisectionists, however, pinned their faith absolutely on the uselessness of experiments. Was there no way of convincing anti-vivisectionists of what was so patent to them? Most of them had seen life saved by the injection of strychnine, and all the applications of strychnine, as Sir T. Lauder Brunton says, were the direct consequences of physiological experiment. 3. Teetotalism.—Without definitely including this among the Fads Mr. Foster Palmer here ventured to take exception to some of the experiments quoted by Mr. Horsley on the ground that alcohol taken otherwise than as part of a meal (i.e., a good dinner) was taken in an abnormal and unnatural manner. It required neither argument nor experiment to condemn nips of alcohol taken on an empty stomach. Nor was rapidity of thought necessarily an absolute test of mental and physical health, or the occasional slowing of thought necessarily an evil as seemed to be assumed. The net result appeared to be that alcohol was not a stimulant at all, but was in reality a depressant causing a delusive feeling of stimulation. It was merely a change of names. "That which we call a glass of port, by any other name, &c." The actual physiological and therapeutical value of alcohol remained unaffected. Mr. Foster Palmer concluded by expressing a hearty wish for the future progress of the Chelsea Clinical Society.

WIGAN MEDICAL SOCIETY.—An ordinary meeting of this society was held on June 21st, Mr. R. H. Cowan, the

supplemented the demonstration with some remarks on the Surgery of
was passed
for his inte
Jones replied.

Reviews and

A Manual of Medicine. Edited by W. H. ALLCHIN, M.D., F.R.C.P. and Lecturer on Clinical Medicine, Hospital, &c. Vol. I. General Dis Macmillan and Co., Limited. 1900.

issued under the
view of their
of
for
the reader is
referred to other works. The aim of the editor has been to present such a picture of the several maladies as will con
art affords.

The present volume deals with "Diseases Excited by The article Dr. W. H. body of heat y exposure to increased or decreased atmospheric pressure. A reference is also made to "lightning stroke." The chapter is a brief one but contains a large amount of useful information. It will be especially appreciated by those who desire to obtain a clinical knowledge of the conditions alluded to without having to glance through a long article containing a commentary on the various theories which from time to time have been brought forward to account for the phenomena encountered under such varying atmospheric influences. Professor G. Sims st able paper, on "The Infection of the general characters of the and the toxic products of bacte immunity are likewise discussed redisposition" to certain disease of bacterial origin. Details as to the general course and characters of the infective disease follow, ade to "mixed infections" which

A series of articles then follows on the various "fevers." Many of these are of unusual interest, such as those on Tropical Diseases. Mr. James Cantlie writes on Cholera, Plague, Leprosy, Dengue, Beri-beri, Epidemic Dropsy, Oriental Sore, Dysentery, Malaria, Hæmoglobinuric Fever, and Kala-Azar, whilst an article on Mediterranean Fever is from the pen of the late Captain M. L. Hughes, R.A.M.C. Major W. G. Macpherson, R.A.M.C., contributes the article on Yellow Fever and Dr. Colcott Fox writes on Verruga and Framboesia. This volume, therefore, should be particularly valuable to those practising in the climates where the above-mentioned fevers are met with.

Out of 45 articles it would be difficult to select any one for especial praise. All the authors seem to have carried out the intention of the editor and to have written their contributions from a clinical rather than from a pathological oint of view.

Bradford is responsible for the articles on Rabies. In reference to the latter he urges that eatment should be applied as soon as possible, good grounds for suspecting the animal which patient to be rabid, and that the treatment should not be delayed until the diagnosis has been confirmed by the inoculation test, as thereby three weeks may be lost and the disease declare itself before protective measures can be carried out. Dr. F. J. Calger contributes interesting articles on Diphtheria, Measles, Rotheln, Scarlet Fever, and Varicella.

One of the best contributions in this volume is that by Dr. W. Cayley on Typhoid Fever, and particularly interesting are his remarks on the "Complications and Sequelæ." Hæmorrhage and perforation naturally occupy the foremost place, but stress is also laid on the respiratory and nervous occur. With regard to the latter, "typhoid spine" are mentioned as discomfort and sufferings of the patient. Dr. Cayley speaks highly of the "bath treatment" nothing cannot be employed of of both these methods, which practitioners should have no difficulty in following.

Another instructive article is that on Acute and Sub-acute Rheumatism, by Dr. D. B. Lees. Attention will no doubt be directed to the section on Pathology. The remarks here found admirably sum up the views rapidly becoming accepted, that acute rheumatism is not essentially a joint Dr. Lees says: "The true nature and origin of this are still unknown; but the facts already stated make it certain that no neurotic theory and no theory of perverted metabolism can fully account for the phenomena; The greater in childhood remind the physician of the infectious fevers, and the occasional occurrence of sore-throat and of a characteristic eruption, with the pyrexia, are other points of resemblance. No microbe has yet been proved to be the cause of rheumatism, but the same is true of such undoubtedly microbic diseases as measles, scarlet fever, whooping cough, and syphilis." Acute rheumatism and lobar pneumonia seem now to have taken their permanent places amongst "the infections."

No better author could have been found for the contributions on Variola and Vaccinia than Dr. S. M. Copeman and both these articles will well repay perusal.

There are numerous other well-known authorities who contribute to this volume, such as Dr. J. W. Washbourn (Erysipelas, Infective Endocarditis, Relapsing Fever, and Weil's Disease) and Dr. W. Hale White ("Fever"), but we have said sufficient to indicate the high level of excellence apparent in this first volume of a manual for which we predict success.

The Diseases of Women: a Handbook for Students and Practitioners. By and ARTHUR E. GILE Second edition. Crown (mostly original) in the text. London: Lehman, Limited, 1900. Pp. 473. *Price 11s. net.*

THE appearance of a second edition of this text-book has been taken advantage of by the authors to carry out a careful revision. They have succeeded in doing this without unduly increasing the size of the volume. Only 37 new pages have been added, while the number of illustrations remains the same. Amongst the numerous additions that have been made the chapter upon Vaginal Secretions and Vaginal Infections has been brought thoroughly up to date and now presents a very clear and succinct account of the important rôle played by the vaginal bacilles. The authors are inclined to overrate the importance of some of the subjects which they describe and in consequence the book is

somewhat ill-balanced. For example, 33 pages are devoted to a consideration of myomata of the uterus and only eight to that of carcinoma of the body and cervix of the uterus. The practice of describing epithelioma apart from carcinoma is not one that conduces to clearness in teaching students. Squamous carcinoma is quite correct and certainly a less misleading term. There are some curious omissions. Nowhere do we find any account of the method of introducing a Hodge's pessary. No mention is made of conservative operations under the surgical treatment of diseases of the Fallopian tubes and J. Taylor's classification of intra-ligamentary gestation is not given. Abdominal drainage after cœliotomy is described, but not vaginal, and nothing is said as to the great value of intermittent uterine contractions in the differential diagnosis of hydramnion. As might be expected, one of the best sections is that upon tubal pregnancy. It is interesting to note that of the authors' large series of cases the proportion of tubal abortion to tubal rupture has not [illegible] more than one to four. The important statement that [illegible] decidua forms in the tube in cases of tubal gestation [illegible] based upon the careful microscopical examination of 25 early gravid tubes. In the surgical treatment of myomata the operation of oöphorectomy is regarded as obsolete, to be replaced by conservative hysterectomy, one or other ovary being left. The opinion which we expressed in our review of the first edition of the book still holds good—viz., that the authors are inclined to neglect the medical treatment of gynæcological cases and that a student in reading the somewhat sketchy account of some of the most important major operations might be led to look upon them as easy and to recommend them without a due regard to their difficulties and dangers. In these days when operative gynæcology is so much to the fore we cannot help regarding this as somewhat of a defect in an otherwise excellent book. While we may not agree with all which the authors teach, yet we must admit that their practice is not wanting in boldness of conception or their views in lucidity of expression. Several of the new illustrations are of great interest, notably No. 17 and No. 18, a case of hematocolpos and hæmatometra in the newborn child compressing the urethra and ureter, and No. 87, a cystic ovary containing a calcified corpus fibrosum. By a diminution in the size of the pages the book is rendered easier to hold and the appearance of the print is improved. The index has been considerably enlarged and we must congratulate both the authors and the publishers upon the care that has been expended in the preparation of this new edition.

A Treatise on Nasal Suppuration; or, Suppurative Diseases of the Nose and its Accessory Sinuses. By Dr. LUDWIG GRUNWALD of Munich. Translated from the Second German Edition by WILLIAM LAMB, M.D., M.C. Edin., M.R.C.P. Lond. With eight Illustrations in the Text, Two Plates, and One Table. London: Baillière, Tindall, and Cox. 1900.

THIS is a work of 316 pages with a copious bibliographical list of references and an index. The first part is general and deals with symptomatology and secondary diseases. The subjective disturbances of smell and sight together with mental processes are fully discussed, with such associated troubles as polypi, intracranial suppuration, and septicæmia. The methods of examination and prognosis are fully described.

The second part deals with special sources of suppuration, and here, as would be expected, the antrum and ethmoidal cells and the frontal sinus and sphenoidal cavity receive due attention.

A careful perusal of this book shows the labour bestowed upon it and impresses the reader with the fact that it is largely the outcome of the best sort of work—personal observation and research. Full lists are given from the author's actual experience of vari[illegible] ptoms which are of the highest prac[illegible] has also endeavoured to combine [illegible] with clinical research and to explain [illegible] matter of no ordinary difficulty, especially in this region of the body.

Speaking generally, we have read this book with a sense of disappointment. This is not due to the work itself, which is one of excellence, but to the fact that the author, though a man of unrivalled experience in this particular subject, has to confess to the almost insuperable difficulties which attend the diagnosis, especially the [illegible] of sinus suppurations, and the too often [illegible] and negative results of treatment. We have often experienced these difficulties, and the clouds of doubt and difficulty which surround them are not lifted from our path by Dr. Grünwald's book. This wise and skilful observer does not hesitate to tell us that he has experienced cases of [illegible] empyemata which are incurable by all ordi[illegible] a striking contrast to the "universal cures" [illegible] observers in this and other countries. In discussing the diagnosis of latent frontal empyemata a close reader will see that in the author's mind certain doubts arise as to the value of catheterisation and the position of drops of pus in the nasal chambers, and we are driven to the conclusion that a small exploratory opening is often needful to settle a vexed and difficult question.

The author thinks highly of the method of "damming back" certain areas of the nose in making differential diagnosis, but this again must in practice be difficult and very likely to lead a too confident observer totally astray.

The value of this book consists in its obvious honesty and in the wealth of clinical observation submitted. A close study of it will show how neglected the subject of nasal suppurations has been in the past and what a rich field for diagnostic research and improved treatment lies open in the future.

LIBRARY TABLE.

Burdett's Hospitals and Charities, 1900. By Sir HENRY BURDETT, K.C.B. London: The Scientific Press, Ltd. Pp. 958. Price 5*s*.—The eleventh issue of this useful book of reference is in no way behind any of its predecessors. To anyone who wishes to know about hospitals, as to their management, income, or the medical staffs and their hours of attendance, we commend the work as a mine of information. From the introductory chapters we learn that, excluding St. Bartholomew's Hospital, 75 of the London hospitals have invested property amounting to upwards of £4,000,000. Of these 75, 35 have invested property amounting to less than three years' ordinary expenditure, 21 have funds invested amounting to from three to five years' ordinary expenditure, and 18 have invested funds amounting to more than five years' ordinary expenditure.

My Diocese during the War. By the Bishop of NATAL. London: George Bell and Sons. Pp. 266. Price 6*s*.—This is in no sense to be taken as a deliberately thought-of comment upon the events of which it treats, for the book is merely a transcript of portions of Dr. Baynes's daily diary. But as notes of the observation of an intelligent and thoughtful civilian, of one who, owing to his official position, was affected to a far wider degree, and in even more distressful ways, than the ordinary civilian, the book is well worth reading. The notes go down to the end of April. Among the illustrations are some reproductions of drawings by the Bishop and also some photographs by Mr. Clinton Dent, including the views of the Boer trenches at Magersfontein which we had the privilege of publishing in our issue of June 2nd.

JOURNALS.

Records from General Practice. By J. KINGSTON BARTON, M.R.C.P. Lond., M.R.C.S. Eng. London: John Bale, Sons, and Danielsson. June, 1900. Pp. 84. Price 2s. 6d.—Few general practitioners can find time to take written notes of, a[illegible] are is no[illegible] Mr. J. [illegible] a record of a large number of cases during the last 20 years and now has formed the very praiseworthy intention to publish some of them. The first instalment appears in the form of a periodical and others will be published "from time to time." The first number contains the report of several interesting cases, notably a summary of 50 cases of acute abdominal affection, including 32 cases of appendicitis and seven of gastric ulcer. There are also some instructive observations on conditions of the teeth—Erosion of the Teeth in Children, the Ratio of Occurrence of Deficient Enamel, and Early Decay of the Teeth. The last article in the book is an appropriate one for this time of the year—viz., Holidays, with Notes on the Life-History of the Salmon. Mr. Barton may be congratulated on his publication and we wish it every success.

Edinburgh Medical Journal.—The June number opens with a long paper by Dr. Louis Cobbett entitled, "Has Antitoxine reduced the Death-rate from Diphtheria in our Large Towns?" A consideration of the statistics supplied by nine large towns in Great Britain for varying periods of years shows that a remarkable fall, both in the diphtheria death-rate and case mortality, has occurred since 1894. Several causes may have contributed to this change, but there appears to be every reason for believing that the most efficient of all was the introduction of diphtheria antitoxin. Dr. Cobbett says that the diphtheria bacillus may remain in a dangerous state for a very long time in the mouths of those who have recovered, so that convalescents can be declared free from infection only after the disappearance of the bacillus has been ascertained, and not at the end of any arbitrarily selected period such as three weeks. Altogether there are five original articles.

Scottish Medical and Surgical Journal.—In the June number Professor A. R. Simpson of Edinburgh writes on the application of the steam of boiling water to the endometrium. This may be done in two ways, either by leading the steam through a fenestrated catheter into the uterine cavity (atmokausis) or by passing into the uterus a non-fenestrated catheter heated by steam which is not allowed to escape into the uterus (zestokausis). In the Edinburgh Royal Infirmary Professor Simpson has used the treatment in 14 cases of endometritis with menorrhagia or metrorrhagia. It was always carried out under chloroform narcosis and was usually continued for 45 seconds. Of the 14 cases 11 were cured and three were improved. In a long paper, entitled "Heredity in Disease," Dr. G. Archdall Reid speculates on some of the far-reaching effects of various maladies, such as the extinction of certain uncivilised populations through the spread of tuberculosis among them after the advent of superior races.

Dublin Journal of Medical Science.—The original articles in the June number are on Toxins and Antitoxins, by Dr. A. C. O'Sullivan; on Commercial Pepsin, by Sir Charles A. Cameron; and on the Dublin Method of Effecting the Delivery of the Placenta, by Dr. Henry Jellett.

Mercy and Truth.—The June number was issued before the recent outbreak of hostilities in China. It contains articles on the Work of Medical Missions in Persia, by Dr. D. W. Carr, of Julfa; on Overcoming Obstacles in China, by Mr. L. G. Hill, of Pakhoi; and on Opening a Way for the Gospel, by Dr. Mabel Poulter, of Hok-Chiang, South China.

MEDICAL SICKNESS, ANNUITY, AND LIFE ASSURANCE FRIENDLY SOCIETY.

THIS society, which was founded in 1884 with a somewhat multifarious programme, has now become, as the result of experience, a sickness insurance society exclusively so far as the transaction of new business is concerned. In making this change the directors have, we think, been well advised, for the accumulation of funds to provide deferred benefits is an operation which cannot be carried out economically on a small scale, and this society, therefore, has never been in a position to compete favourably with the better sort of life assurance offices in this department of its work. The annuity department has accordingly been closed and is now being conducted with a view simply to the working out of subsisting contracts. The business of life assurance is carried on by means of a sort of agency arrangement, by which proposals reaching the society are handed on to a [illegible] connexion between the society and [illegible] no sense organic and, indeed, [illegible] particularly close. We think [illegible] sort cannot be too slight, for it is [illegible] advise a man who is proposing to effect an insurance on his life as to the choice of an office, and the method upon which the society proceeds does not seem to us to involve sufficient discrimination. It is certainly not desirable that the entire insurance business of the profession should be turned into one channel, nor is the office which most readily concedes a rebate from its premium rates likely to be the one which will make the best return to the policy-holder for the premium actually received. It cannot be too often or too impressively pointed out that the secret of good finance in life assurance is the cutting down of all expenditure other than that on benefits to members to the lowest possible percentage of the annual outgo. A rebate from the annual premium may indeed be classed as a benefit when it is made to the policy-holder himself, but it may be doubted whether in fact any benefit in that form is the monetary equivalent of the savings effected by those offices which, eschewing all costly forms of advertisement, are conducted with a view to the benefit alone of the insured members.

But it is no part of our purpose to criticise the choice which the society has made of a patron among the life assurance companies. It is with its own proper work of sickness insurance that we are more concerned, and here we have the satisfaction of saying that the seventeenth report recently issued to the members is entirely satisfactory. The members paid in premiums about £11,300, plus 10 per cent—[illegible] £12,430—and received in benefit just over £13,000. [illegible] rest [illegible] for [illegible] the [illegible] year [illegible] the amount coming from that source was no more than £250. Such a result is in the highest degree creditable to the management of the society and shows that in this department the members obtain their full money's worth in the form of benefit. If to the mere balancing of the account we add the priceless boon of an insurance scheme which carries the invalided practitioner over a period of sickness without any heavy demand upon his savings or other resources we see at once that the aid which this society renders is not to be measured by its mere money worth and that the presentation of a satisfactory balance-sheet, although indispensable, is the least of the claims which the committee are entitled to put forward for the recognition and gratitude of the profession.

The present annual report is accompanied by an actuarial report which does not call for any particular comment.

BRITISH MEDICAL ASSOCIATION, SOUTH-WESTERN BRANCH.—The annual meeting of the South-Western Branch of the British Medical Association was held at Torquay on June 20th. Mr. Paul Q. Karkeek read an interesting paper upon Pre-professional Education of the Medical Student. The secretary (Dr. H. W. Webber) stated that the branch had now a membership of 258. A vote of thanks was awarded to the retiring president, Dr. Mark Jackson of Barnstaple. It was decided that the next annual meeting should be held at Devonport and that Mr. G. Thom should be the president-elect. The dinner was held in the evening under the presidency of Mr. Karkeek.

THE LANCET.

LONDON: SATURDAY, JUNE 30, 1900.

THE crisis in North China, which is causing us such anxiety about the welfare of our countrymen, has also a sad side when considered from a humanitarian point of view. The Chinese, with all their boasted civilisation, have as regards the science and art of surgery and the knowledge and practice of medicine not advanced beyond empiricism They have kept their healing art in the region of magic with its mythical rites and incantations. No savage tribe or unlettered people practises surgery or medicine in a more primitive fashion or invoke the powers of paganism with more zeal or veneration than do the Chinese. The consequence of this backwardness in medical education must have appalling results at the present moment, when thousands of Chinese are being wounded partly at the hands of their fellow-countrymen and partly by a foreign foe. And while these ignorant fanatics must be punished no medical mind likes to contemplate the idea of neglected surgical injuries. During the Chino-Japanese war the ambulance equipment of the Chinese was rudimentary in the extreme but at the present moment, when undisciplined hordes are being mowed down by Maxims the medical arrangements must be altogether discounted and the condition of the wounded terrible to contemplate.

At Tientsin and Hong-Kong schools of medicine have been established for several years past. At Tientsin LI HUNG CHANG, at the instigation of Dr. IRWIN, inaugurated a medical school some ten years ago and the British Government seconded a medical officer from the British army, Surgeon-Major F. S. HEUSTON, to take up the work of superintending the teaching in the institution. LI HUNG CHANG'S primary idea in establishing the school was to provide medical men trained in Western medicine for service in his army and navy. We use the word "his" army and navy advisedly, for it was only in LI HUNG CHANG'S province of Chihli, of which he was formerly Viceroy, that anything like a modern army and navy existed in China. In 1887 a college of medicine for Chinese was opened in Hong-Kong. The school was initiated and its regulations were drawn up by Mr. JAMES CANTLIE, and Dr. PATRICK MANSON was the first dean. The Viceroy, LI HUNG CHANG, was (and is still) the patron, and in the letter of his acceptance of the position this head and front of Chinese mandarinism, this impersonation of anti-foreign education, wrote that "he hoped that anatomy and chemistry would form a prominent part in the training of the students, for he held these sciences to be the basis of all true medical knowledge." The grasp of knowledge expressed in these words by a man ignorant of science, steeped in Chinese prejudices and old-time mythology, is notable. The Hong-Kong and Tientsin schools are the only attempts in China at systematic teaching of modern medicine and surgery, and the Hong-Kong school especially has been attended with considerable success. The teachers are unpaid; the medical men in the colony have for 14 years now given their services willingly and gratuitously, but as yet no Government aid has been given to support this eminently useful work. Ambulance work was taught in Formosa by Dr. W. W. MYERS, and in Hong-Kong a bearer section was inaugurated, equipped and maintained by Mr. CANTLIE from amongst the students of the College of Medicine. This bearer section was attached to the Hong-Kong Volunteer Artillery, and has done excellent work.

With these exceptions there are no medical schools in China. There are Chinese practitioners in plenty, but their knowledge and practices would afford material for a comic opera rather than for serious consideration. A plaster to mend a fractured leg; a live duck split up and applied to the skin for a poultice; duck's blood smeared on the temples, face, and neck to relieve fever and headache; and "dragon's" blood and deer's horn to cure leprosy are examples of the practice of medicine in China, with which is combined the burning of printed emblems purporting to beseech the Evil One to ward off illness and death. The medical missionaries from Great Britain and the United States of America have done a great deal of excellent hospital work in China; but it is perhaps unfortunate that the medical work has been accompanied in almost every instance by religious proselytising. There seems little reason to doubt the fact that the progress of medicine and, what is still more important, the progress of general education and science and even of civilisation, have been thwarted by the fact that the converts are in most instances tinged with conversion to a new religion. The young Chinese trained in medicine are almost all Christians, and the fact is deterrent to the advance of medical science amongst the Chinese. We believe that were science to be taught to the Chinese in a purely secular way Christianity might follow, but it seems impossible to civilise the Chinese by means of Christianity. The Japanese have become civilised irrespectively of Christianity. Encourage secular Western education and especially medical science in China, send Chinamen thus trained into every centre and town of China, and a leaven will be introduced and a diffusion of knowledge spread through the length and breadth of China which will in the near future bring many good things in its train—among others, we truly believe, a considerable conversion of Chinamen to Christianity.

WEDNESDAY, June 20th, 1900, should be a memorable day in the history of Newcastle-on-Tyne, for on that day the new Infirmary was opened. The men of the north do nothing by halves. When they work they work, and when the vast and varied industries of the neighbourhood cease they play with equal energy. The laying of the foundation-stone of the new Infirmary—one of the many outcomes of the Diamond Jubilee of QUEEN VICTORIA—by the PRINCE OF WALES was an occasion which called forth all their enthusiasm. The huge works of the district were closed, and the resources of the North-Eastern Railway

were strained to bring the population of the counties of Durham and Northumberland into the decorated streets of Newcastle.

The Royal Infirmary of Newcastle has always been a conspicuous institution of the district. For a century and a half it has existed and has been served by physicians and surgeons who have left their mark on the history of the various branches of the healing art, while the members of its present staff of officers have entered thoroughly into the spirit of modern surgery and medicine and fully keep up the reputation of their predecessors. The proof of this lies in the fact that they have neutralised to a great extent the evils inseparably connected with ancient structures, so that the results of the work done were as excellent as when the Infirmary was new. This is a happy omen for the future when the staff will be working in the new building the foundation-stone of which has just been laid in the name of QUEEN VICTORIA by His Royal Highness the PRINCE OF WALES. The ending of an old hospital and the creation of a new one by the employment of all that is best in modern hygiene and medicine are no light undertaking. The promoters of the scheme for rebuilding Newcastle Infirmary have been favoured by the generosity of the citizens of that town, by public respect for the institution, by the high reputation of the staff, and by the harmonious coöperation of the Mayor and Corporation with the committee and staff of the Infirmary. The movement in Newcastle has now received an immense impetus from its Royal associations. The personal popularity of the PRINCE OF WALES is only second to that of Her Majesty the QUEEN. The PRINCE OF WALES has achieved for himself the enviable reputation of being a friend of hospitals—which means the friend of many friendless and truly pitiable people whose sickness is complicated with poverty. We have not always agreed with all that has been done under the name of His Royal Highness for the good of hospitals, but it is impossible not to recognise his great interest in these institutions and his efforts to eliminate all that is objectionable in their administration and to make them wholly beneficent influences. So far it has been chiefly in regard to *metropolitan* hospitals that the benevolent labours of the PRINCE OF WALES have been exercised, but his Newcastle visit will show that he has an equal interest in provincial hospitals. The PRINCE OF WALES went through the onerous duties of the occasion in a perfect style, his clear, short, pointed speeches being models of public speaking for such purposes. Nothing seemed to be omitted, nobody was forgotten. Even when the programme was defective he filled in the gaps, for he noticed the absence of the name of the Mayoress from the toast list at the luncheon. The munificent donor of £100,000—alas, now dead—and the generous contributions of the working men, amounting to £20,000, were alike remembered. He made it clear, not only by his words but by his whole demeanour, that he was perfectly at home in promoting the erection of a new infirmary. They inadequately judge the PRINCE OF WALES who fail to note the strong elements of benevolence and common-sense which characterise his public actions not less than his public speeches. His influence and his example may be the very saving of our voluntary hospital system, and they have never been more happily or properly used than in his visit to Newcastle.

It is no detraction from all this praise to say that the PRINCE OF WALES made it clear throughout that he was really representing his illustrious—or as he preferred to say his "dear"—mother. The sensible community of Newcastle could well understand the various reasons in this eventful year why the QUEEN could not undertake this work in addition to all the exceptional duties which have devolved upon her. The loyal and affectionate words used repeatedly by the PRINCE OF WALES on this subject went straight to the hearts of those whom he was addressing; and they were as grateful to the QUEEN for nominating the PRINCE as they were to His Royal Highness for coming so gladly and for bringing with him the PRINCESS OF WALES and their daughter, PRINCESS VICTORIA.

THE application made recently in the Queen's Bench Division of the High Court of Justice in the case of Bynoe *v.* the General Medical Council revives a story which attracted some attention a few years ago of a medical practitioner who if he is not a cunning and persistent criminal is one of the most cruelly wronged and unfortunate of men. The subject of the application was Mr. C. A. BYNOE, a medical man practising in London who in 1892 was convicted of forgery at the Old Bailey before Mr. Justice CAVE and sentenced to nine years' penal servitude. The fact of his conviction was in due course brought before the General Medical Council and his name was removed from the Register. During his incarceration continual efforts were made by him and by his relatives on his behalf to establish his innocence, which he had always strenuously asserted. New evidence and arguments were laid before the Home Office, but that department declined to advise either a "free pardon" or an abbreviation of sentence. But now that Mr. BYNOE has served his sentence in full he still maintains his innocence and hopes to establish it. With this view he sought the aid of the High Court that the Court might by its order compel the General Medical Council to hear his application to have his name restored to the Register. Such a proceeding would, of course, involve the re-opening of the question of his guilt, the reviewing of the evidence given at his trial, and the hearing of the new evidence which he is now prepared to adduce in modification or contradiction of testimony which had told against him. This order the Court declined to make, Mr. Justice GRANTHAM saying that to do so would place the General Medical Council in the position of judge and jury in a most complex and difficult case. Mr. Justice CHANNELL said that the Council had a discretion to re-hear the case, but there was no duty upon them to do so, and therefore the Court would not grant a *mandamus*.

That the General Medical Council, had it undertaken or had it been compelled to hold the proposed inquiry, would have had an exceedingly arduous and difficult duty to perform will be gathered from the following by no means exhaustive story of the case. Mr. BYNOE and his mother previously to his conviction kept a boarding-house at 1, Endsleigh-gardens, while he

practised at a surgery in the neighbourhood. At this boarding-house at one time resided a Miss POTTS, a lady of private means and intemperate habits, and a Mr. KIRK, her friend. After both these persons had left the boarding-house letters continued to arrive for Miss POTTS which were not forwarded to her, and some of these contained warrants for the payment of dividends upon stocks and shares owned by her. Certain of the dividend warrants which came in this way to 1, Endsleigh-gardens, and which bore Miss POTTS'S name forged upon them, were undoubtedly cashed by someone. Again, someone, presumably the same unscrupulous person, with considerable ingenuity wrote in Miss POTTS'S name to the companies issuing the warrants and stating that Miss POTTS had lost her certificates asked for duplicates of these documents to be sent to 1, Endsleigh-gardens, and forwarded the required indemnities. On these indemnities appeared the signatures of Miss POTTS and of her friend Mr. KIRK, both forged. The person who obtained the duplicate certificates also sold Miss POTTS'S holding in one of the companies, and to help him to procure an open cheque for the amount this person, a man, took a woman who personated Miss POTTS to the office of the outside broker who sold the stock. The cheque was given as asked for and was promptly exchanged for notes, while the notes were on the same day converted into gold. It was not denied by Mr. BYNOE that he knew of the dividend warrants and other documents coming to his house, and that more than one of the envelopes relating to Miss POTTS'S business had been opened there. He asserted, however, and, we believe, still maintains, that he forwarded all Miss POTTS'S correspondence, with the exception of a certificate found upon him (as to which he offered an explanation), to the care of Mr. KIRK at a club of which that gentleman was a member. Mr. KIRK appeared as a witness at the trial of Mr. BYNOE, Miss POTTS being then dead and he being her residuary legatee and executor. He denied having received any of the letters containing the dividend warrants. Beyond this it was proved at the trial that the prisoner was in more or less embarrassed circumstances. The secretary of the London and Universal Bank gave evidence of Mr. BYNOE having come to that bank on three occasions with relation to dividends of Miss POTTS. He professed himself, according to the witness, to be acting on her behalf and he obtained money for the warrants. The witness admitted no doubt as to Mr. BYNOE'S identity. The accused was further identified by two witnesses from the outside broker who sold the stock referred to and who saw him on two occasions with regard to payment for it; while two well-known handwriting experts gave their opinion that the documents said to be forged were written by the writer of documents which were acknowledged to be in the handwriting of Mr. BYNOE. (With regard to expert evidence of this kind it will be remembered that it is intended for the guidance of the jury, who, however, have the veritable documents before them, with every opportunity of forming their own opinions from the study of them.) In short, so strong was the case against Mr. BYNOE upon the depositions taken before the magistrate that the two very experienced counsel engaged to defend him—Mr. C. F. GILL and Mr. A. H. BODKIN—urged him to plead guilty. This he resolutely refused to do, maintaining that Mr. KIRK was responsible for the forgeries. In these circumstances Mr. GILL and Mr. BODKIN, without absolutely retiring from the case, remained in court and took no active part in it further, we believe, than making suggestions to Mr. BYNOE while he defended himself. This very unfortunate course, taken no doubt in consequence of the prisoner's determination to accuse Mr. KIRK of the forgeries, prevented the witnesses from being properly cross-examined. Mr. BYNOE was convicted, and the sentence passed on him quite possibly owed much of its weight to the endeavour to implicate an innocent man.

It will be seen from the above brief account of the case that Mr. BYNOE, if not guilty, was the victim of a most extraordinary combination of damnatory circumstances. It is, however, a fact that at his trial he endeavoured to influence the jury by producing an anonymous letter which he had received in prison, and which professed to come from the actual forger; while it is also a fact that a young woman is now in existence who states that she wrote that letter to Mr. BYNOE and that she personally wrote the forged signatures of Miss POTTS testified by the two handwriting experts to have been written by the prisoner and that she went to the broker's office and personated Miss POTTS. This young woman, who is of the humbler classes, declares that she committed the forgery ignorant of the import of her act, at the instigation of a man of whom she then was fond, who was not Mr. BYNOE and who has wholly disappeared; and the fact that she was at the date of the forgeries on friendly terms with a man answering to her description is borne out by her father. It is, apparently, the theory of those now interested on Mr. BYNOE'S behalf that the crime with which he was charged was committed not by Mr. KIRK, but by someone who had intercepted the warrants said to have been forwarded to Mr. KIRK. It seems clear that if this young woman had given evidence at the trial that she was the author of the forgeries the jury would probably have believed her and would have acquitted Mr. BYNOE; while if they had further believed that she personated Miss POTTS at the broker's office in company with a man not Mr. BYNOE (or if the evidence inspired them with doubt, which would have been sufficient) they would have also acquitted him of uttering the forged documents, knowing them to be forged. The matter at present stands as follows. Many persons in a position to judge, including, we believe, officials at the Home Office, are of opinion that the experts' evidence in the matter of the handwriting was wrong and misleading, and that the young woman was possibly the writer of the forgeries. What, however, the General Medical Council would have been called upon to decide was a much more complicated question, involving issues far too numerous and intricate to be given even in outline. They would have had to say whether Mr. BYNOE, who, on his own showing, must have acted with almost incomprehensible imprudence and want of good sense, had been the victim of a concatenation of compromising coincidences as well as of a foul conspiracy. It is impossible to express enough sympathy for a man who, albeit in consequence of his own unbusinesslike conduct, becomes the victim of such a crime—for the guilt, if Mr. BYNOE be innocent, must have been deliberately thrown

upon him. It is also impossible not to wish that if he be innocent facts entirely exculpating him and inculpating the real offender may speedily be made known to his friends and by them to the Home Office. It is, however, another matter to wish the General Medical Council to hold an inquiry into such a story, and to sift evidence, already sifted by the Home Office, with a view to either confirming or disagreeing with the decision arrived at by the Home Secretary and his advisers. It was a foregone conclusion that the High Court would not order the General Medical Council to undertake such a task, and we think that the Council have shown [illegible] upon their own initiative in [illegible]

Annotations.

"Ne quid nimis."

THE TREATMENT OF OUR SICK SOLDIERS.

MR. W. BURDETT-COUTTS, in the capacity of a special correspondent to the *Times*, has sent to that paper a lurid account of the inadequacy of the preparations made for the medical care and nursing of the sick in our large army in South Africa. The amount of sickness which has manifested itself in all our camps has for some time been the subject of serious consideration among medical men, for, as we had occasion to remark a fortnight ago, the lists of daily casualties demonstrate only too plainly that we have not yet solved the problem of protecting large bodies of troops from the ravages of such diseases as enteric fever and dysentery. Mr. Burdett-Coutts's letter will produce upon the public more than the impression that medical knowledge is at fault in the presence of certain problems of epidemiology. He has levelled an indictment against the War Office, the gist of which is that no proper arrangements of any kind have been made for the care of the large number of sick which should have been expected in an army of 200,000 men. Who is to blame and to what extent, as well as how far all the statements are accurate, will certainly be discussed by the public and we trust by Parliament; and we may be allowed to hope that the department which has covered itself with glory in all its arrangements for dealing with the wounded will have been found not to have broken down so completely as Mr. Burdett-Coutts believes in its management of the sick. Probably Mr. Burdett-Coutts is ignorant of the extent to which the Commander-in-Chief's lightning strategy has dislocated the plans of the Royal Army Medical Corps. One thing is certain: for the War Office to quote any eulogistic words of Sir William Mac Cormac and Mr. Treves uttered upon their return two months ago from the seat of war will be no complete answer to the charges. The experiences of Sir William Mac Cormac and Mr. Treves enabled them to express very definite opinions upon the treatment of our wounded in South Africa, upon the way in which battle-fields were stripped, and upon the heroism of many members of the Royal Army Medical Corps, but the vast epidemic of typhoid fever now prevalent did not come within their purview. But when Sir William Mac Cormac and Mr. Treves have spoken of the same things as Mr. Burdett-Coutts medical men will know who is the more likely to have the necessary equipment for giving us the truth.

WORKHOUSE OFFICIALS AT VARIANCE.

EXCELLENT indeed has been the result of the operation of the circular upon workhouse administration issued by the Local Government Board in the year 1895, reference to which was made in THE LANCET at the time and on subsequent occasions.[1] The common practice at that time in workhouses all over the country for paupers to be employed to perform the duties of nurses in the sick and lying-in wards, or in any other part of the workhouse, has been abolished, and paid and qualified nurses and assistants have succeeded them. But the Local Government Board also insisted on the appointment of a superintendent nurse who should have sole control over the infirmary wards. The matron was still to be the matron of the workhouse, not excluding the infirmary, and the result has been in not a few cases that there have been differences of opinion between the nurses on the one hand and the master and matron on the other. At the East Preston Workhouse in West Sussex a long series of complaints preferred by the superintendent nurse has recently been investigated by the guardians, who expressed the opinion that the friction was only what might be expected when the Local Government Board insisted on the guardians appointing two authorities in the workhouse. At all events, unpleasantness of this kind amongst officers does not conduce to the thorough discharge of their respective duties. All the officers concerned have been supplied with a copy of the guardians' report.

THE ACCIDENT AT SLOUGH.

MR. W. BRAMWELL BOOTH, writing to the *Times* of June 25th, makes a sensible suggestion—namely, that there should be a third man on the footplate of the engine of an express train who should act as look-out. Mr. Booth argues that an express train should, like a steamship, have a captain who should keep a look-out for signals and who should issue orders to the engineers—who, in short, should let the driver drive. This is to our minds an excellent suggestion and so simple that, like most simple things, it is a wonder that nobody seems to have thought of it before. Of course, it would cost money, but we are sure that no railway shareholder would object to a slightly diminished dividend if he knew that by that means increased safety would be afforded to the travelling public and a necessarily terrible strain taken off the minds of a very noble and arduously worked set of men. Only the innovation should be made compulsory, if made at all, upon every company. The custom of running past distant signals in the hope that the home signal will be clear, or if not that the breaks will pull the train up, seems far too common and should be severely put an end to. In this particular accident, however, there was no intentional running past the signals. The driver in his evidence stated that he never saw the signals and must have lost himself. Nothing can foresee or prevent these occasional failures of mental power. They happen to the greatest minds, as for instance, to Napoleon at Waterloo in the great cavalry attack.

THE EXPEDITION OF THE LIVERPOOL SCHOOL OF TROPICAL MEDICINE TO BRAZIL AND THE UNITED STATES.

THE expedition which has been organised by the Liverpool School of Tropical Medicine for the purpose of investigating the causes of yellow fever in the United States and Brazil will have the cooperation of the British Government. The committee of the school have received an intimation from the Marquis of Salisbury that he had asked the British Ambassador at Washington and Her Britannic Majesty's consul at Pará to obtain all possible facilities from the United States' and Brazilian authorities on behalf of the expedition. It is also pleasing to find that official invitations to the expedition to

[1] THE LANCET, April 13th (p. 945) and May 18th (p. 1338), 1895.

visit Washington have been received from the heads of the Medical Departments of the United States of America, and to visit Baltimore at the instance of the authorities of the Johns Hopkins University. The expedition, which consists of Dr. H. E. Durham (Grocers' Research Scholar) and Dr. Walter Myers (John Lucas Walker Student), both of Cambridge University, sailed from Liverpool on Tuesday, June 26th, for Canada, and will proceed thence to Washington and Baltimore. After conferring with the bacteriological experts in those two cities the expedition will proceed to New York and will sail from that port to Pará, their subsequent movements being guided by circumstances. Advantage will be taken of the opportunity to test still further the work of the Liverpool school in malarial fever carried on by Major R. Ross, I.M.S., and also to prosecute the study of dysentery. A public meeting was held at the Exchange Buildings in Liverpool on June 25th, which was presided over by Mr Alfred L. Jones, the chairman of the Liverpool School of Tropical Diseases, to consider "what action should now be taken to press upon the Government the necessity for the amelioration of the conditions of life in West Africa and other tropical countries by improved sanitation, better water-supply, segregation of Europeans, clearance of bush near towns, the introduction of light railways to the mountainous districts, and such other means as science may direct." A motion to this effect was carried unanimously in an influentially attended meeting. It was also proposed: "That the Liverpool Chamber of Commerce be requested to coöperate with the School of Tropical Diseases, and to ask the Government to receive a joint deputation on the subject." In the evening, on the invitation of Mr. Alfred L. Jones, a company of gentlemen sat down to a banquet at the Adelphi Hotel to do honour to the members of Liverpool's third expedition to the tropics who were about to sail for the Amazon. The toast of "The Yellow Fever Expedition" was proposed by the chairman and seconded by Professor Osler of Baltimore, to which Dr. Durham and Dr. Myers suitably responded. The chairman referred to the high esteem in which the late Miss Kingsley was held by West African natives and he suggested that the proposed hospital in Liverpool for the treatment of malarial diseases should bear her name. Mr. Jones generously offered to head the subscription list with a donation of £1000. Other subscriptions, amounting to £1200, were also promised towards the erection of the hospital. It is proposed to build the hospital on some waste land near the Royal Southern Hospital.

FATAL CASES OF PTOMAINE POISONING.

ON June 19th an inquest was held at Plymouth touching the death of Mabel Elizabeth Starling, aged 20 years. This was the second death in the family as alleged from the same cause. A week previously to her death the deceased with eight other members of the family partook of pork for dinner. Of these nine persons "eight suffered from symptoms of poisoning, two had died, and one escaped entirely. Mr. Starling suffered in the slightest degree; Mrs. Starling suffered severely, but the symptoms went off quickly. One son escaped for 24 hours. The other children were taken ill at varying periods of from two to four hours after dinner but recovered during the night." The family had partaken of fish (gurnet) for breakfast, but since none of them were affected until after dinner it may reasonably be concluded that the fish was not the offending agent. No other cases of persons who had eaten pork from the same carcass being attacked have been reported, and since there was direct evidence that the meat when delivered to the family was to all appearance fresh and good it would seem in the highest degree probable that it became subsequently infected with micro-organisms. It seems strange that a number of people who have eaten of the same poisonou article of diet should be affected so differently as re gards the period of onset of the symptoms, their degree of severity, and their duration. It must be borne in mind, however, that food may be poisonous in two ways; (1) from the direct irritant and toxic effects of animal alkaloids developed by the action of germs before the food is ingested; and (2) by the germs themselves setting up an infective process in the body and liberating during their culture the alkaloidal poison, just as in acute specific infective fevers. Writing on this subject Sir George Buchanan remarked: "The phenomena which were spoken of as food-poisoning are claiming an ever-growing evidence to be regarded as true infective diseases, as much so as was scarlet fever or tuberculosis. They have not been generally admitted into this rank (1) from the circumstance that some of them have seemed to be wanting in the incubation period, and (2) because they are rarely recognised as being transmissible from person to person." Thorough cooking kills the germs, but it does not destroy the animal alkaloids which they have formed. The poisoning is then a chemical one. On the other hand imperfect cooking fails to destroy the organisms, and so the individual is subjected to two influences—the developed alkaloid and the infective or fermentative process in his body. Now it is well known that the tissues, organs, and secretions of some people are more susceptible to the action of infective organisms than are those of others—"vulnerability," as it is termed—and thus it becomes abundantly clear why the results of implantation of the organisms should vary so extremely in different individuals. Moreover, as regards simple poisoning by animal alkaloids the effects will vary with the dose, with the empty or replete condition of the stomach, and with the rapidity with which the alimentary tract gets rid of the offending matter. Unfortunately, articles of diet—especially meat—which have become charged with animal alkaloids not seldom are free from noxious smell, and thus the warning given by the odour of putrescence is wanting. To avoid dangerous and even fatal consequences the meat should be examined to see that it is quite fresh and free from disease. It should be cooked early and thoroughly, and whilst kept in the raw condition it should be placed in healthy surroundings.

THE LECTURERS AND LECTURES AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND FROM 1810 TO 1900.

AMONG the various preparations which have been made in view of the now fast-approaching centenary of the Royal College of Surgeons of England a great many details of much historical interest will be found in a list of lecturers and lectures compiled[1] by Mr. Victor G. Plarr, the accomplished librarian of the College. The Hunterian Professors, by whom the "Museum Lectures" were delivered, have invariably been men of eminence in their respective subjects, and many of their discourses have been published in THE LANCET, the latest example being Mr. A. W. Mayo-Robson's three lectures on the Surgery of the Stomach, which appeared in our columns on the 10th, 17th, and 24th of March last. Surprising changes have occurred in the science and art of surgery and in most of the allied branches of knowledge since these lectures were instituted at the instance of the Government when the Hunterian collection was handed over to the College in the beginning of the present century. The first Museum Lecture was delivered on Feb. 13th, 1810, between which date and the following May 10th two courses of 12 lectures each were delivered, one on Morbid Parts and Surgery by Sir William Blizard and the other on Comparative Anatomy by Sir Everard

[1] Printed b Taylor and Francis, Red Lion-court, Fleet-street.

who made use of Hunter's manuscripts committed to his care and afterwards burnt the originals From that year to 1839 inclusive 21 courses of lectures on surgery were delivered successively by John Abernethy, Sir Anthony Carlisle, James Wilson, Sir Benjamin Brodie, Thomas Chevalier, Sir Charles Bell, George James Guthrie, Sir Henry Earle, and Frederick Tyrrell A long interval then ensued, but in 1868 the lectures were resumed and have been delivered regularly ever since The other division of the Museum Lectures—namely, the course on Comparative Anatomy—underwent fewer vicissitudes, and the Hale discourses of Joseph Henry Green, Sir Richard Owen, Thomas Henry Huxley, Sir William Flower, William Kitchen Parker, and others have worthily upheld the scientific position of British anatomists Mr Parr does not confine himself exclusively to the Museum Lectures but gives lists also of the Arris and Gale lecturers, the Erasmus Wilson lecturers, the Bradshaw lecturers, and others His pages are of considerable interest to ourselves from his frequent reference to the use which he has been able to make of THE LANCET in tracing the details of the lectures in the first half of the century, and from his discovery that among the pupils, tickets issued in 1816 for Sir William Lawrence's course on Comparative Anatomy No 144 G was assigned to Thomas Wakley, the Founder of THE LANCET

PERFORATING ULCER OF THE DUODENUM

THE *Boston Medical and Surgical Journal* of May 3rd contains an exhaustive paper on this subject by Dr R F Weir Summaries of all the reported cases (51) in which an operation has been performed are appended The symptoms of a duodenal ulcer are, as shown by Schwartz, frequently very slight In 20 out of 25 cases of perforation the patients had been apparently in good health or had been so slightly indisposed that they had not sought medical advice In only five cases were there previously gastric symptoms One patient was thought to be suffering from dyspepsia and two from gastric ulcer The following are the usual symptoms of duodenal ulcer The pain when characteristic occurs several hours after eating It is situated just below the gall bladder and may reach to the median line or to a level with the umbilicus Frequently it is absent Occasional pressure, particularly over the region to the right of the twelfth dorsal vertebra, elicits pain. Vomiting was present in 17 per cent of the cases It is of diagnostic importance if it occurs one hour or several hours after a meal The vomited matter consists of disintegrated food which is often mixed with bile and blood Jaundice is rarely present; it results from duodenal tumefaction or from cicatricial contraction of the orifice of the bile duct Hæmorrhage occurs in about one third of the cases of non perforating ulcers Bleeding may take place from the mouth or rectum and may prove speedily fatal The blood discharged by the bowel is usually tarry, but it may be of a bright hue When perforation occurs great pain is usually felt in the epigastrium or to the right of that region. Occasionally it has been observed at the umbilicus and in the left side Vomiting often follows the pain; it occurred in 28 out of 34 cases. Peritoneal symptoms rapidly develop with a tendency in some cases to be localised in the upper abdomen and on the right side, for fluids escaping from the duodenum flow at first between the liver and colon and thence along the ascending colon. In the diagnosis of perforation the situation of the early or initial pain in the right hypochondrium and the previous history of dyspeptic symptoms are of great importance. The treatment of duodenal ulcer is similar to that of gastric ulcer If the diagnosis has been narrowed down to perforation of the stomach, duodenum, or gall bladder, an incision from four to six inches in length should be made along the edge of the right rectus Weir recommends that this incision should be supplemented by a transverse one in its upper third, toward the median line, permitting division of the fascia covering the right rectus muscle, which latter is to be pulled to the left, exposing its posterior sheath and peritoneum, which are to be divided A duodenal perforation is usually found on the anterior wall of the bowel An attempt should not be made to excise the ulcer because this would occupy too much time In seven out of nine of the successful cases only suturing was employed Thorough cleansing of the peritoneum is important If the extravasation is limited careful wiping of the affected portion of the peritoneal cavity is sufficient, irrigation is more suitable in extensive peritoneal inflammation Tubes surrounded by gauze are the best drains As regards the 51 collected cases the ulcer was recognised and closed in 25 In 13 operation was performed after 30 hours' delay and all were fatal, 12 patients were operated on immediately, of whom eight recovered

INNOVATIONS AT THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY

THIS society has recently resolved upon several very important alterations in its regulations for dealing with papers which in the matter of liberality are far in advance of anything that has yet been done by any medical society of the first rank Authors of papers may now submit them to the Royal Medical and Chirurgical Society with the assurance that there is no probability of their being publicly discussed and afterwards returned as unworthy of a place in the "Transactions," for every paper accepted for reading is *ipso facto* accepted also for publication in the "Transactions" This is good, but the other alteration is even more important and shows that the present Council is determined that one of the principal aims of the society shall be carried out in the most liberal spirit Every paper read before the society may be immediately afterwards, that is, before it has been published in the "Transactions," printed in any other medical or scientific periodical and thus contributions to medical science, instead of being kept back, as hitherto, for 12 months and then published in the "Transactions" (the circulation of which must necessarily be limited), may be given to the professional world immediately through the medium of the medical journals

THE HOUSING OF THE WORKING CLASSES

WE have from time to time called attention to the prominence which is now being given to the problem of providing the poor of our cities with sanitary homes—a problem the complete solution of which seems in some cases almost hopeless The Local Government Board has now addressed a circular to local authorities calling their attention to the Public Health Acts of 1875 and 1891 and the Housing of the Working Classes Act of 1890, and stating that the Board is preparing digests of the portions of these Acts dealing with this subject, which will be forwarded in due course As the present system of drafting Acts of Parliament, which complicates them with cross references to other Acts already in existence, prevents any Act from being, by itself, a guide to those seeking to make use of its provisions, these digests will no doubt be extremely useful But in promising these the Board of Trade circular contains a reference to the Bill now before Parliament which amends the portion of the Housing of the Working Classes Act that enables local authorities to build new dwellings for the working classes of their districts, but does not go further into this branch of the matter, owing, no doubt, to the fact that legislation on the subject is proceeding The circular,

however, gives a full and instructive summary of the powers possessed by local authorities to inspect existing houses, abate nuisances, close houses where necessary, and procure the punishment of owners of insanitary premises, and in other ways to protect the poor within their gates; while by its language it emphasises the fact that the powers given to these authorities by statute do not only enable them to do certain things but impose upon them duties which they neglect if they do not acquaint themselves with their powers and proceed to act under them where anything exists to call for action. Acts of Parliament of this class, as we know—the Inebriates Act being an example which will occur to many—are not always acted upon with promptitude by local bodies, and as far as the Imperial Government is concerned circulars such as that before us constitute presumably the only method by which it can contribute to the enforcement of such Acts after it has once placed them on the statute-book.

THE HOWARD MEDAL OF THE ROYAL STATISTICAL SOCIETY.

THE next competition for the Howard medal will take place in the ensuing session of the Royal Statistical Society. The subject of the prize essay is "The History and Statistics of Tropical Diseases, with especial reference to Bubonic Plague." Essays must be sent in on or before June 30th, 1901, subject to the following rules:—

Each essay to bear a motto and to be accompanied by a sealed letter marked with the like motto and containing the name and address of the author; such letter not to be opened except in the case of the successful essay.

No essay to exceed in length 100 pages (8vo) of the *Journal of the Royal Statistical Society*.

The council shall, if they see fit, cause the successful essay, or an abridgment thereof, to be read at a meeting of the Royal Statistical Society, and shall have the right of publishing the essay in their *Journal* one month before its appearance in any separate independent form, this right of publication to continue till three months after the award of the prize

The President shall place the medal in the hands of the successful candidate at the conclusion of his annual address at the ordinary meeting in November, when he shall also re-announce the subject of the prize essay for the following session.

Competition for this medal shall not be limited to the Fellows of the Royal Statistical Society, but shall be open to any competitor providing the essay be written in the English language

The council shall not award the prize except to the author of an essay, in their opinion, of a sufficient standard of merit; no essay shall be deemed to be of sufficient merit that does not set forth the facts with which it deals—in part, at least, in the language of figures and tables, and distinct references should be made to such authorities a may be quoted or referred to

Further information can be obtained from the assistant secretary, Mr. B. W Ginsburg, at the office of the society, 9, Adelphi-terrace, London, W.C.

THE CAUSE OF CARIES OF THE TEETH.

IN a recent publication[1] Dr. Sim Wallace has advanced an ingenious theory to account for the increasing prevalence of dental caries. His views are as follows:—"The cause of the prevalence of dental caries is that the natural food-stuffs are to a large extent riddled of their accompanying fibrous parts and prepared and consumed in a manner which renders them liable to lodge and undergo acid fermentation in the mouth, while from this same cause and the induced conditions the micro-organisms of the mouth lodge and multiply and augment the rapidity and intensity of the acid fermentation" That the preparation of our food-stuffs may in some small measure assist in the production of caries seems possible, but that it is "the cause" is highly improbable. Much of Dr. Wallace's reasoning is unsound and many of his statements are incorrect. He crosses arms with those investigators who maintain that the teeth are degenerating in some unknown way and so are unable to resist the action of the acids set up by fermentation in the mouth. He prefers to hold the view that the cause is to be found in the food-stuffs being prepared in a manner which makes them more apt to lodge in the mouth, and he makes the statement, quite unsupported by any data, that the "teeth of the present day are as perfectly formed from a chemical and microscopical point of view as are the teeth of those races which are practically free from caries." That the structure of the tooth plays a most important part in the resistance to caries is within the knowledge of a dental practitioner with even a small experience. For example, in mouths, where there is but a slight amount of caries, and that slow, the enamel of the teeth is generally hard and resistant to the instrument, while where caries is prevalent and rapid the reverse is the case. Indeed, it requires but little observation to show that there is something, so far not recognised or understood, which plays a most important part in the liability of teeth to be attacked by caries. Crowding of the teeth is a fruitful predisposing cause of caries and this is acknowledged by Dr. Wallace, but he attributes the crowding to want of development of the tongue from lack of fibrous material in the food-stuffs. The removal of this fibrous material from the food stuffs robs the tongue of a certain amount of activity and so interferes with its development. Here, again, as with nearly all his statements, no data are given in support of his contentions. The true cause of caries has yet to be discovered and is not quite so simple as Dr. Wallace would lead us to believe.

[1] The Cause and Prevention of Decay in Teeth. London Messrs. J. & A. Churchill

AN UNQUALIFIED PLAINTIFF UNDER THE MEDICAL ACTS.

A CASE heard recently in the Stourbridge County Court seems to have raised a question under the Medical Act of 1858 arising out of circumstances not contemplated by those who framed the statute. The plaintiff suing for fees for medical attendance was not a registered medical man. He was a medical student who while pursuing his studies had employed a qualified practitioner to keep alive the practice which he (the student) had inherited from his deceased father. The fees, therefore, had been earned by a qualified man but the person bringing the action was not on the Register, and the Act above referred to says that "no person shall be entitled to recover any charge in any court of law for any medical or surgical advice ..... unless he shall prove upon the trial that he is registered under this Act." This seems fairly explicit, but the Act was, according to its preamble, passed in order that "persons requiring medical aid should be able to distinguish qualified from unqualified practitioners," and the intention of the legislature was no doubt primarily to hinder unqualified persons from holding themselves out to be medical men and exercising medical functions. There is no direct authority as to what is to happen where a duly registered medical man has earned the fee and a lay employer has sued for it, but there can also be no very strong reason why the section we have cited above should not be construed literally in such a case. It is possible that those who passed it may have intended to stop by it any intervention whatever by laymen in matters connected with medical practice, while perhaps they contemplated a system of laymen farming the work of qualified medical men which might otherwise arise. In the case at Stourbridge no decision was given on this question by the county court judge, as he pointed out that should he decide it in the defendant's favour the only result would be that the qualified medical man would sue instead of the then plaintiff, and the objection was accordingly dropped. A case, however, might well arise in which, owing to some dispute between employer and employed, the man who had earned the fee might not be willing to aid in recovering it, and even if such a state of affairs as we have described may not

be likely to occur frequently we should have liked to see the law on the matter clearly laid down.

ANTI-STREPTOCOCCIC SERUM IN CEREBRO-SPINAL MENINGITIS.

WE learn that in an epidemic of cerebro-spinal meningitis at Jerusalem 12 patients were treated with Marmorek anti-streptococcic serum and all recovered. In a disease so fatal as cerebro-spinal meningitis it is allowable to employ any treatment in reason even though there is not much probability of its success. We must confess that *a priori* we should not have imagined that anti-streptococcic serum would have proved efficacious against an entirely distinct micro-organism such as that giving rise to this form of epidemic meningitis.

ROYAL COLLEGE OF SURGEONS OF ENGLAND: MEETING OF FELLOWS.

J be present, otherwise it is possible that these meetings of Fellows may be discontinued altogether. Already one meeting a year has been done away with and no quorum has been obtained since July, 1897. The agenda paper includes three motions by Mr. R. B. Anderson relating to various matters of interest. We may mention also that the additions to the museum during the past year will be on view in the Council Room on July 3rd, 4th, 5th, 6th, and 7th.

VACCINATION FEES AT BURY.

AT the meeting of the Bury Board of Guardians on June 7th the reply of the Local Government Board to a letter from the guardians as to the fees payable to the public vaccinators was read. The principle on which payment is made is stated to be that "their remuneration should mainly depend on the fees which they received for successful vaccination," so as to give every inducement to promote, as far as possible, the vaccination of all children. Under the new system of domiciliary vaccination the board introduced the fees provided for under article 3 (1) (3) of the Vaccination Order of 1898. "The board decided that while the former should not be less than 1*s.* per case it should not exceed one-third of the fee payable for each case of successful vaccination." The guardians decided to pay 1*s.* 6*d.* and 5*s.*

CHOREA: A STATISTICAL AND CLINICAL STUDY.

PROFESSOR ALLEN STARR of New York contributes a valuable paper on the above subject to the volume of the *Festschrift* in honour of Dr. Abraham Jacobi, just published (May, 1900), analyses the histories of 1400 cases of chorea seen in the Vanderbilt Clinic. The proportion of females compared with male patients was almost exactly as 2 to 1, and it appeared that the disease was relatively common among children of the poorer classes and was often accompanied by anæmia. The most constant physical condition accompanying the disease was malnutrition. Among etiological factors preceding the disease fright was noted in 285 cases, and a history of acute rheumatism in 290. Organic cardiac murmurs were observed in 175 cases and functional or hæmic murmurs in 123 cases. In 871 patients no cardiac murmurs could be found. As regards age, 919 cases, or 65 per cent., occurred between the ages of seven and 14 years. As regards seasons, it was recorded that 707 out of 1129 cases occurred between March and August. The choreic movements were general in 951 cases and unilateral in 449, the right side being affected slightly more than the left. Mental changes were observed in 827 cases in the form of irritability combined with more or less dulness, and speech was affected in 556 cases. Therapeutically it appeared that arsenic given in increasing doses and pushed to its physiological limit gave the best results. The dose had to be reduced slightly after this. Antipyrin was also used with favourable results, but very little benefit was obtained from exalgin, paraldehyde, phenacetin, or counteract the anæmia and surroundings was attend

THE INTERNATIONAL MEDICAL CONGRESS, PARIS, AUGUST, 1900.

ALL members of the profession, including ladies and dentists, who wish to become members of the Thirteenth International Medical Congress are requested to send in their names by return of post to the secretaries of the National Committee for Great Britain and Ireland (Dr. A. E. Garrod, 9, Chandos-street, Cavendish-square, London, W., and Mr. D'Arcy Power, 10A, Chandos-street, London, W.). The list of members in Paris will close on July 15th, and after that date it will be impossible to guarantee any of the privileges of the Congress to those who send in belated applications. A ladies' committee has been formed under the auspices of Mesdames Lannelongue and Brouardel and a convenient room has been placed at their disposal. The nouncement of of Paris in the August 7th.

THE WATER-SUPPLY OF MANCHESTER.

THE water-supply of our towns becomes more and more difficult as the population grows, and where it is abundant to-day there is anxiety as to to-morrow. This is illustrated by the history of the Manchester supply. When the Longdendale reservoirs were completed it was thought that the provision made was practically inexhaustible, but after a time it became evident that more than the 25,000,000 gallons which it now gives would be wanted, so the Thirlmere scheme was gradually worked out and one pipe laid, when for a time there was the pleasant feeling of abundance and security. Since that day, however, there has been, according to the report of the Waterworks Committee which is to be submitted to the Council at their next meeting, "a very excessive increase in the consumption." The committee wish the public to get rid of the idea that there is "an exhaustless supply for all time," to avoid waste, and to practise a reasonable economy in the use of water. The present consumption is about 32,000,000 gallons per day, "and the increase during the last 10 years has been at the rate of over 1,000,000 gallons per day per annum." With the additional pipe which it is proposed to bring from Thirlmere it is calculated that the total quantity obtainable from that source will be 50,000,000 gallons daily, which with the Longdendale supply is estimated to make up 75,000,000 gallons per day. With the increasing growth of habits of personal cleanliness which are gradually permeating through the population from above downwards there is a much greater demand for water for domestic purposes, including the supply for baths which are now common in Manchester in small "weekly" houses, as they are called, than would have been dreamt of 50 years ago. The committee have come to the opinion that at the rate of increase for the last 10 years and allowing for the growth of the population "the whole 75,000,000 gallons per day is likely to be overtaken in about 35 years. They therefore feel it their duty to make this emphatic statement so that all citizens and consumers may realize their personal responsibility for the proper and moderate use of the water." While it is absolutely necessary to give water to the towns it ought not to be forgotten that many country places all

It was at the last-named engagement that Colonel Bullock of the Devon Regiment, undaunted by his previous experiences, behaved with such stubborn pluck and that Mr. Lenthal Cheatle, who happened to be present in the train, had the opportunity of rendering very important services to the wounded. It will naturally be the first aim and object of Lord Roberts to see whether he cannot put an end to this eventful history by cutting off and capturing this force and its wily leader. We may confidently expect to hear soon of some active, and, let us hope, decisive, movements on the part of the British forces in the Transvaal.

So far for the military situation at the present time. Turning to the medical history of the war we may briefly allude to a communication which appeared in the *Times* of June 25th descriptive of the experiences of Dr. Morris Martin with General Cronje and the Boer forces until he obtained permission to go to Delagoa Bay, where he seized an opportunity for making his escape to this country. As the communication gives a description of what was going on behind the scenes with the Boers whilst the war drama was actually taking place it is worth reading.

The health of the British troops as a whole is stated to be good and their spirits are all that could be desired. There is still, however, a terrible amount of enteric fever prevalent among the army in the field and also (although to a far less extent) dysentery, together with many cases of pneumonia and diseases of the respiratory organs. A very large number of men are in hospital at Bloemfontein suffering from enteric fever. Large batches of sick and wounded are arriving from time to time in this country and reinforcements are in like manner being sent out to South Africa with *personnel* and *matériel* for the various hospitals, military and otherwise. According to a return just issued by the War Office the total losses since the beginning of the war up to the end of last week (exclusive of sick and wounded men now in British hospitals in South Africa) amounted to 26,296 The details are as follows:—

—	Officers.	Non-commissioned officers and men.
Killed in action	250	2384
Died from wounds	63	589
Missing and prisoners (excluding those who have been recovered)	37	1650
Died from disease	125	3935
Accidental deaths	—	66
Sent home as invalids	734	16,358
Total	1264	25,032

We notice that according to a communication from the special correspondent of the *Standard* at Cape Town, dated June 25th, it is alleged that during the last few weeks there has been a growing feeling of dissatisfaction on the part of both the public and the patients with the way in which the military hospitals and convalescent wards are being managed. The whole matter was discussed at a meeting of the Good Hope Society for the Aid of the Sick and Wounded. The Archbishop of Cape Town brought forward statements in regard to Rosebank Hospital to the effect that invalids were insufficiently supplied with warm clothing, while other statements were made that the food was insufficient in some cases, and in others of a nature unsuitable for patients suffering from dysentery or enteric fever. The Archbishop brought forward a motion drawing the attention of the military authorities to the great neglect in the supply of proper clothing and food, but subsequently withdrew it on a representation that the matter would be given full publicity in the press. The Rev. Mr. M'Clure urged that a report should be drawn up, contending that those found responsible for neglect should be very severely dealt with. The matter has been left in the hands of a committee, and the Archbishop of Cape Town is stated to have apologised for having made statements founded upon erroneous information. We must be content to suspend our judgment until the result is made known.

We have referred elsewhere to the communication from Mr. W. Burdett-Coutts, M.P., which appeared in the *Times* of Wednesday, June 27th. The accuracy of Mr. Burdett-Coutts's statements will be tested immediately.

WITH THE IMPERIAL YEOMANRY HOSPITAL.

(FROM A SPECIAL CORRESPONDENT.)

The winter has come upon us now with its black frosts. The days are much colder than on our arrival at Deelfontein, when the most comfortable uniform was merely a flannel shirt and trousers without any coat. Now the medical officers are often glad to make their rounds in top coats as well as to wear their warm winter underclothing. Life in tents has its drawbacks and one often longs for a more stable edifice in which a blazing fire could warm one's half frozen hands and feet. Although the thermometer does not register any great degree of cold the wind seems much more piercing here than in England, and one never feels warm unless the sun is shining brightly. At night black frosts occur, the absence of white hoar frost being due to the extreme dryness of the atmosphere, and we occasionally find that the water for our morning tub is covered with a layer of ice a quarter of an inch thick. It requires some amount of determination to take a bath in water like this and when exposed to a biting wind. The rainy season has been an exceptionally long one this year, and only last week very heavy showers fell for three days. These rains are very heavy while they last and are as a rule accompanied by thunder and lightning.

The general health of the hospital encampment remains good and the patients still continue to pick up their former health, and in some cases with an astonishing rapidity. So far, with one exception, none of the sisters has fallen seriously ill. Apart from minor ailments, such as sore-throats or toothache, their bill of health is a clean one. We all regret that one of the sisters, who was suffering from necrosis of the superior maxilla when she started from Scotland, has since been invalided home.

A few cases of scarlet fever have occurred in the camp, but by the most careful isolation Dr. J. W. Washbourn has been enabled to prevent its spread. The origin of the scarlet fever was found to be a patient who came from Naauwpoort Hospital and who was found to be "peeling" after having suffered from a sore-throat a week or two before. He passed the infection to the orderly who was attending the sick in the hut in which he was located, and one or two patients and orderlies have also since caught the infection. This has entailed considerable trouble and has necessitated the disinfection of the tents and huts in which the cases were discovered, together with the transference of the patients to other huts during the disinfection. Colonel A. T. Sloggett, R.A.M.C., has also arranged for two small separate encampments, one where the cases of scarlet fever are nursed and a second one where the men who have been exposed to infection can be put into quarantine. By these methods the disease has been stamped out and only a very few cases have occurred.

Of more serious import is the occurrence of typhoid fever and dysentery amongst some of the medical staff and a few of the orderlies and patients. Dr. R. T. FitzHugh[1] and Mr. Greenfield and Mr. Hobart, the store-keeper, are down with enteric fever, and one misses them sorely, for Dr. FitzHugh was acknowledged to be the best singer in the camp. His comic songs were unequalled and at every concert "We 'ad a roarin' time" was eagerly called for. Whilst one regrets that cases of these diseases should arise within the camp itself one must realise the immense difficulty of treating 300 or 400 patients suffering from typhoid fever and absolutely preventing any spread of infection when any single piece of soiled linen or any one patient can spread the disease indefinitely if any neglect of rules occurs.

All the huts are now completed and we have about 700 patients in the hospital at the present time. The camp is assuming the appearance of a small model village with its level well-kept streets, plainly marked out with a continuous row of whitewashed stones on each side of the roadway. 70 more tents are to be sent up from Cape Town and they will afford accommodation for 500 more patients. The medical cases far exceed in number those of a surgical nature and several of the surgical officers are giving assistance on the medical side of the hospital. The number of medical cases is larger for two reasons, chiefly because owing to the small amount of resistance offered by the Boers there have been very few casualties on our side lately, and also because convalescence in medical cases is a longer business than it is in surgical ones.

[1] We regret to say that Dr. R. T. FitzHugh, to whose illness our correspondent alludes, above, died on June 16th, as announced in our last issue, p. 1830.—ED. L.

At present nothing [illegible]
Colonel Sloggett, but [illegible]
branch hospital should [illegible]
W. D. Wilson, the pri[illegible]
the most suitable place would be at Kroonstad, but now, owing to our rapid advance and the occupation of Johannesburg and Pretoria by the Imperial forces, the necessity for a hospital there has disappeared. For strategic reasons it is [illegible] oria would be the more [illegible] iced hospital, but it is qu[illegible] be chosen in the hope that the staff of the Imperial Yeomanry Hospital may be able to be as near as possible to the [illegible] rces when they collect [illegible] ie.

[illegible] al there are practically [illegible] fever, dysentery, and [illegible] aigning without shelter [illegible] ds and with insufficient [illegible] t important rôle in the [illegible] nany cases it is [illegible] after a soldier [illegible] nights to wet [illegible] to dry on him [illegible] may lower the [illegible] ian more liable to infection with the amœba of dysentery which would be repeatedly drunk in the dirty water with which he had slaked his thirst on the [illegible]

[illegible] severity of the case, an[illegible] mucus are passed, alth[illegible] small in amount. [illegible] resist treatment [illegible] requires the bed-[illegible] abdominal pain and much rectal straining and discomfort. The stools are often [illegible] may give rise to a [illegible] The spleen is sometin[illegible] may cause difficulty in [illegible] We have had no cases [illegible] dysentery so far. The temperature chart is more or less typical and its variation may be given from an actual case which was proved by post-mortem examination to be one of dysentery. The temperature rises each evening about a [illegible] is reached [illegible] a period [illegible] h evening and normal in the morning. As the patient improves his temperature again gradually falls in the evening until the normal temperature is reached and maintained. Should chronic diarrhœa persist the temperature generally registers 99° in the evening. The temperature does not always vary with the severity of the diarrhœa. The treatment adopted is to give large doses of powder of ipecacuanha, from half a [illegible] and to give large doses of ipecacuanha, as if the diarrhœa once becomes almost continuous nothing seems to be of any assistance to the patient and he gradually sinks and dies. His pulse fails, and in a few days his condition becomes most wretched. Continuous and uncontrollable diarrhœa quickly emaciate him, his appetite goes, he is listless and apathetic, and may have lost full consciousness of what is going on around him. He becomes a misery to himself and to those who attend on him. Rudyard Kipling well describes dysentery as the disease "which eats the heart out of a man." No improvement seems to take place in the amount of diarrhœa for the first 24 hours after the commencement of the ipecacuanha treatment but the patient is much more comfortable and blood is generally passed in smaller quantities. The treatment with sulphate of magnesia and sulphate of soda has also been tried. It seems useless unless the treatment is begun quite early, and as it is also apparently very exhausting and depressing it is advisable not to try it in the last stages of the illness. Young, robust men stand it best. Drachm doses of these drugs are given every hour or every two hours, and the treatment is continued until the passage of blood and mucus decreases and the evacuations become fæcal in character. Relief will generally be given after from six to eight doses, the patient feeling much more comfortable and experiencing much less pain and straining. In the first 24 hours the number of evacuations will not be lessened and at this time one can only judge of the success of the treatment by the feelings of the patient and by the character of the evacuations. In more chronic cases of dysentery rectal injections of boric acid and solutions of silver of nitrate are of service.

Post mortem more or less severe ulceration of the rectum and sigmoid flexure is usually found with thickening of the walls of the gut and enlargement of the mesenteric glands. Isolated patches of ulceration and inflammation of the rest of the colon often occur and the cæcum often suffers very severely. The small intestines are generally healthy, except that the lower part of the ileum has been inflamed in some cases. The amœba of dysentery has been searched for by Dr. Washbourn, but so far none has been discovered.

By far the largest number of our patients are suffering from typhoid fever of a very severe type. The chief strain seems to fall upon the circulatory apparatus and weak-running pulses of from 130 to 144 are not uncommon. The reason for this seems to be that the patients before contracting the disease have had excessively hard work to do, riding and marching for many hours every day, and this has no doubt weakened the resisting power of the heart in a disease which is known to severely attack the muscular structures throughout the body. Liberal quantities of champagne and brandy, with digitalis and strychnine, have to be given to tide the patient over his difficulties.

In all cases of doubtful diagnosis the Widal reaction is applied under the personal supervision of Dr. Washbourn. After dysentery sometimes chronic arthritis occurs with very little pain in the joint except on movement and with no swelling of the joint, but with a persistent temperature which has a suspicious resemblance to a typhoid fever chart. In one patient a doubt existed between the diagnosis of malaria and typhoid fever, so specimens of blood were examined by Dr Washbourn for the plasmodium malariæ and a Widal's reaction was also tried. The plasmodium was found as masses of pigment in several of the red blood corpuscles and an immediate clumping of a typhoid culture pointed to the presence of typhoid fever. This double diagnosis has since been borne out by the subsequent progress of the patient. The Widal reaction is sometimes at fault In one case of dysentery a strong and immediate reaction took place but typhoid fever was proved afterwards at the necropsy to be absent.

At present it is perhaps too early to condemn inoculation against typhoid fever It certainly does not prevent a patient from contracting the disease, and it seems doubtful whether the inoculated person will show any greater [illegible] non-inoculated person. Slight attacks [illegible] clases of patients and two patients in [illegible] ere inoculated have succumbed to the [illegible] f grounds one would hardly expect that [illegible] treatment would be successful in a [illegible] t has existed for something like three [illegible] the patient from a relapse. Moreover, [illegible] y no means unknown and one of Dr. [illegible] had a most severe second attack of typhoid fever from which he died, so that a previous attack does not seem to protect either from the disease itself or to lessen its severity

One cannot praise too highly the care and devotion to duty which has been shown by the nursing sisters, one and all, in their work in the hospital. It is, of course, in the treatment of typhoid fever that their assistance is of the utmost value, and many a convalescent soldier will owe his life to the skilful nursing of a trained sister. The arrangements for the treatment of cases of typhoid fever are most complete. Special huts are set apart for their reception and special sisters and special orderlies are appointed who never attend other patients. In addition to these arrangements a latrine for typhoid fever patients has been built in the midst of the huts occupied by those patients suffering from typhoid fever, where the evacuations are sterilised by disinfectants before they are destroyed, and where all soiled linen is soaked in

lysol for 24 hours before it is taken to the laundry to be washed.

Two interesting cases of relapse in typhoid fever have occurred. In the first case the patient's temperature rose about 10 or 11 days after his first attack and he had all the usual symptoms of a slight relapse, such as headache, malaise, pains in the limbs, slight abdominal distension, and enlargement of the spleen. The evening temperature remained up for seven days, with a normal temperature each morning after the first three days, during which time it rose to 102° F. On the eighth day the patient seemed quite well again; his temperature was normal and it remained so for five days. On the fourteenth day he was seized with pain in the abdomen and his temperature suddenly ran up to 105° without any preceding condition of collapse being noticed. His abdomen was rigid and did not move well with respiration. There was dulness of the lower part of the abdomen, especially on the right side, sickness began, and the pulse became more rapid and weaker. Dr. Washbourn, in connexion with Dr. Richmond, diagnosed a perforation of a typhoid ulcer, and laparotomy was performed by Mr. Raymond Johnson. A small perforation was soon discovered in the centre of a typhoid ulcer in the ileum of about the size of a shilling. The walls of the gut were too soft to allow of the ulcer being stitched up and so it was sewn into the wound and the peritoneum was washed out with boric acid lotion and the pelvis drained. The patient unfortunately sank a few hours after the operation. At the post-mortem examination it was found that this was the only ulcer present, although there were evidences of recent typhoid ulcers. It is thus clear that a single typhoid ulcer can give rise to a relapse, and that although such relapse may have a very short period of pyrexia it is of the utmo[illegible]nportance to treat such attacks with as much care as in the primary attack. In this instance the patient was kept on a strict diet of plain milk from the second day on which his temperature rose until his decease. In the second case a relapse occurred with all the usual symptoms and with enlargement of the spleen and with spots five weeks after the patient's temperature had been normal.

Deelfontein, May 14th.

ASSOCIATION OF BRITISH POSTAL MEDICAL OFFICERS.

ANNUAL DINNER.

THE annual dinner of the Association of British Postal Medical Officers was held under the chairmanship of the President, Dr. W. DOUGAN, on June 21st, at the Whitehall Rooms, Hôtel Métropole. The usual loyal toasts having been honoured, Sir JAMES CRICHTON BROWNE proposed "The Imperial Forces" in an eloquent speech and the toast was replied to by Sir JOSEPH FAYRER who said that he had endeavoured to record in the book which he had just written and published the history of his life's work and he had honestly done his best for those Services for which he was responding. For the rest of his life, which in the nature of things could not be very prolonged, he felt that he had the approbation of his *confrères* in the profession and of his brother officers in the Service, which he thought was the best reward a man could have. "The Houses of Parliament" was next proposed by Mr. EDMUND OWEN in a brilliant and witty speech, and was replied to by Mr. J. WALTON, M.P., who said that he had always entertained the idea that the House of Lords was a body of men independent of, and uninfluenced by, the voice of clamour, but that idea of his a short time ago received a shock when the peers surrendered on the vaccination question. Mr. EUGENE WASON, M.P., [illegible] HUNTER replied to, the toast of [illegible] Secretary, and other Executive [illegible] "The Board of Education and [illegible]" was proposed by Dr. F. DE HAVILLAND HALL, and was responded to by Sir GEORGE KEKEWICH, Secretary to the Board of Education. Dr. J. F. W. TATHAM, Superintendent of Statistics to the Registrar-General's Office, also acknowledged the toast, and said that he wished to extend the usefulness of the statistics issued by his office. He had to thank the members of his own profession for the hearty support extended to him in the performance of his duties. The toast of "Preventive Medicine" was proposed by Dr. WOOD (Dulwich) and was replied to by Professor W. H. CORFIELD, who said that such was the excellence of the carrying out of the vaccination regulations in Germany that since 1874 no epidemic of small-pox had occurred throughout that empire, and as a result when a case of small-pox occurred in th[illegible] adjacent to countries where the [illegible] carelessly enforced the first Germa[illegible] the case generally mistook it for chicken-pox. He himself could remember three hospitals in London where scarlet fever cases in times past were mixed up with the general patients. For his efforts to stop that he had received the severest possible censure from the chief physician of one of the hospitals concerned who was also medical officer of health; that alone showed how preventive medicine had advanced.—Dr. A. WHITELEGGE (Chief Factory Inspector), in giving the toast of "The General Medical Council," said that it was realised that the Council was endeavouring to make the profession more select by elimination of undesirable members and by increasing the stringency of the qualifying examinations.—Dr. J. G. GLOVER, in responding to the toast, said that it would be well for the medical profession if all gentlemen spoke of the General Medical Council with the generosity which characterised the remarks of Dr. Whitelegge. He (Dr. Glover) did not wish to save the Council from criticism for it was the better for it, but any fair student of its proceedings would conclude that with the limited powers it had it did the best it could. Nothing would do the Council more good than the encouragement of the profession. As a slight proof of the right of the Council to feel that it had done something for the profession he would refer to the question of infectious diseases. He himself had taken an active part in trying to increase the education of students in the matter. He was a member of the deputation [illegible] the Metropolitan Asylums [illegible] It was possible for a man to be a most distinguished student and yet never see a case of small-pox and possibly measles. When the deputation went to Mr. Ritchie Sir Samuel Wilks related how Guy's Hospital had been asked to send a medical man to one of the important public schools, and the best man the hospital had was sent. There arose in the school a mysterious complaint which this gentleman had never seen before. He was so puzzled that he went to the oldest medical practitioner in the district and detailed the symptoms and was duly informed that he had to deal with an outbreak of measles. This defect in medical education the Council was trying to remedy. The unity of the profession would be best served and promoted by giving all encouragement to the General Medical Council; for it was the most representative body in the profession: it represented the medical schools in the United Kingdom, the Universities, the medical corporations, and the great body of the medical profession, though, [illegible] that direct representation [illegible] be. If they used the amou[illegible] ich they had in the right way [illegible] they might so abuse it as to secure not extension but extinction. He (Dr. Glover) could say as one of the Direct Representatives that the other members of that Council representing the Crown and other interests paid great respect to the views of the Direct Representatives.—Dr. R. PARAMORE proposed "The Medical Press," which toast was suitably responded to.—The Rev. HENRY BELCHER proposed "The Association of the British Postal Medical Officers," and this having been replied to by the PRESIDENT, Dr. H. FITZGIBBON proposed "The Guests," which received due acknowledgment from Sir THOMAS ROE and Mr. P. J. FREYER.—A very cordial vote of thanks to the honorary general secretary, Dr. R. Ritchie Giddings, concluded the proceedings. The enjoyment of the evening was much enhanced by the excellent singing of Miss Lilian Corner and Mr. George Schneider and by a well-selected programme of music executed by the Imperial Orchestra.

THE NEW INFIRMARY AT NEWCASTLE.

THE foundation-stone of the Royal Victoria Infirmary was laid by the Prince of Wales on Wednesday, June 20th. The new building, which is to commemorate the Diamond Jubilee of Her Majesty the Queen, will occupy a site upon Castle Leazes and will take the place of the old infirmary which, by

In 1896 Mr. R Lord was for the first time elected mayor of Newcastle and he initiated the movement to build a new infirmary to celebrate the Queen's Diamond Jubilee. He asked for £60,000, £1000 for each year the Queen would have reigned. This sum was raised more easily than it was expected it would be and Mr. Lord then asked for £40,000 more to rebuild the infirmary on its present site. While this money was being collected Mr John Hall, a wealthy Newcastle merchant, offered to give £100,000 to build a new infirmary provided the site were changed and after great trouble and much delay ten acres of land were given by the corpora- n the Hall great R

of another infirmary in Newcastle has been talked of and

particularly appropriate, versary of the Queen's a have the streets of New bunting; and other co handsome stone building hardly be recognised, and the thoroughfares were thronged with such a crowd of visitors as has rarely if ever nately was e the success. The from York at etary, the Lord Lord Durham, Sheriffs, and the members of the corporation, together with many of the prominent citizens. An address, enclosed in a casket of ivory the the ted to ome uge ON, ary, o be my cent her your the s on rled yne

and maintain your population of resolute and prosperous workers are.

tion of a hos best resources of medical science and of skilled and efficient nursing will be at all times available for the benefit of the suffering. We learn with satisfaction that a very generous contribution has been made by working men towards the endowment of the infirmary from which they will derive such benefits I shall be happy to convey to the Queen your loyal and dutiful expressions of attachment and your good wishes, and I have to thank you for the cordial reception f Wales and myself a.

special prayer and the MAYOR, on behalf of the architects, Mr W. L Newcombe, F.R I.B A., Newcastle, and Mr. Percy Adam, London, and of the contractor, Mr. A. Pringle, presented to His Royal Highness a golden trowel and a mallet. The Prince then declared the stone to be "well and truly laid."

At a lunch which was afterwards served in the St George's Drill Hall to some 900 guests the PRINCE OF WALES, in reply to the loyal toasts, said: In the name of the Princess and of our daughter and in my own name I must express our heartfelt thanks for the manner in which the Mayor has so

take her place. I need hardly say how gladly I was able to take the opportunity of once more being among you, where we have always been so kindly received. Most sincerely do I hope that the building will meet all its requirements. The spot chosen seems to be a most excellent one, and I am glad to hear not only of the great munificence of a donor who, alas, has been taken from us, but that the working classes have shown the great interest that they take in their own welfare by subscribing considerable sums towards the institution. Everybody knows how celebrated Newcastle is for its great works and for its shipping. It is known all over the world. His Royal Highness then proposed the health of the Mayor and Corporation of Newcastle, to which he added the health of the Mayoress.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ELECTION OF MEMBERS OF COUNCIL.

ON July 5th the Fellows of the Royal College of Surgeons of England will be called upon to elect four members of the Council, and the occasion is remarkable, not for the number of vacancies, for in some years five vacancies have occurred, but for the large number of Fellows who have come forward as candidates. 12 Fellows will compete for the four seats, and so far as we are aware this number is absolutely un- but Mr. his senior fficulty in ves which far above elt, for as ome from pport pro- d in this

feeling of loyalty, but we do not hesitate to point out that the power of electing to so important a body as the Council of the Roy England is a serious trust and for the benefit of any individual, of the medical p

so find that three of them have already been members of the Council. Two of the retiring members, Mr. John Tweedy and Mr. Alfred Cooper, are offering themselves for re-election, and we imagine that all will agree that a retiring member of the Council who has served one term of office well is al being appointed for a ginally elected as repre o, and his conduct durin fully justified his appointment, for though he has shown himself at all times a zealous supporter of reform, he does not under estimate the difficulties of the task. He has done good work on the Council and he would be certainly much missed by his colleagues should he not attain re-election. Mr. Alfred Cooper has also served one term and has proved himself a useful member of the Council, he will no doubt receive much support. Dr Ward Cousins has not at present a seat on the Council though he has been twice elected a member. On each occasion he has replaced a member who through death has not finished his full term of

office; the result has been that though Dr. Cousins has had two terms of office he has only served four years.

Of the nine remaining candidates one, Mr. Jordan Lloyd, is a provincial Fellow, a well-known surgeon of Birmingham. At present there are only four provincial members of the Council, though there have been five, and if the electors consider that five members should be from the provinces they will elect either Dr. Ward Cousins or Mr. Jordan Lloyd. We are sure that either of them would be a useful addition to the Council.

The eight London candidates who have not yet been on the Council represent six medical schools, for Guy's and Middlesex each have two candidates, Mr. Clement Lucas and Mr. Golding-Bird being connected with the former and Mr. Pearce Gould and Mr. Bland-Sutton with the latter. Charing-cross is represented by Mr. J. A. Bloxam, St. Bartholomew's by Mr. W. J. Walsham, St. Thomas's by Mr. H. H. Clutton, and St. George's by Mr. W. H. Bennett.

As Sir Thomas Smith, who is retiring from the Council and does not intend to offer himself for re-election, is from St. Bartholomew's it is not unlikely that that medical school will be successful in replacing him by Mr. Walsham, although four members of the Council at present represent that hospital.

With regard to the other candidates we do not feel called upon to discriminate between so many able surgeons and we must leave to the electors themselves the onerous task of decision.

This year, as for several years past, the Fellows have been supplied with ballot papers so that they can vote by post, and there will be a still further falling off in the numbers of those who vote in person; but we would remind the electors that six Fellows must be present before the election can commence and would ask any London Fellows who can spare the time to attend at the College on Thursday next at 1.30 P.M.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6569 births and 3325 deaths were registered during the week ending June 23rd. The annual rate of mortality in these towns, which had been 16 8 and 18 0 per 1000 in the two preceding weeks, declined again to 14 9 last week. In London the death-rate was 13 3 per 1000, while it averaged 16 0 in the 32 provincial towns. The lowest death-rates in these towns were 8 0 in Birkenhead, 9 9 in Cardiff and in Nottingham, 10 0 in Norwich, and 10·2 in Portsmouth; the highest rates were 20·7 in Manchester, 21 2 in Liverpool and in Sunderland, 21·8 in Oldham, and 22 4 in Salford. The 3325 deaths in these towns included 366 which were referred to the principal zymotic diseases, against 386 and 427 in the two preceding weeks; of these 117 were referred to measles, 82 to whooping-cough, 64 to diarrhœa, 56 to diphtheria, 28 to scarlet fever, 18 to "fever" (principally enteric), and one to small-pox. No fatal case of any of these diseases occurred last week in Birkenhead; in the other towns they caused the lowest death-rates in Swansea, Nottingham, Halifax, Gateshead, and Newcastle; and the highest rates in Wolverhampton, Derby, Manchester, Oldham, Preston, and Sunderland. The greatest mortality from measles occurred in Plymouth, Derby, Manchester, Oldham, Huddersfield, and Sunderland; from whooping-cough in Oldham; and from diarrhœa in Wolverhampton, Preston, and Sunderland. The mortality from scarlet fever and from "fever" showed no marked excess in any of the 33 large towns. The 56 deaths from diphtheria included 21 in London, six in Leicester, six in Sheffield, and four in Leeds. One fatal case of small-pox was registered last week in Wolverhampton, but not one in any other of the 33 towns. The number of small-pox patients under treatment in the Metropolitan Asylums Hospitals, which had increased from three to 15 at the end of the five preceding weeks, had declined again to 13 on Saturday last, June 23rd; one new case was admitted during the week, against four, four, and eight in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 1810, against 1754 and 1766 on the two preceding Saturdays. 219 new cases were admitted during the week, against 194, 203, and 210 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 268 and 257 in the two preceding weeks, further declined last week to 181, and were 28 below the corrected average. The causes of 44, or 1·3 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leicester, Nottingham, Salford, Bolton, and in 10 other smaller towns; the largest proportions of uncertified deaths were registered in Liverpool, Preston, Huddersfield, Halifax, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 18·3 and 19 9 per 1000 in the two preceding weeks, declined again to 16·5 during the week ending June 23rd, but exceeded by 1 6 per 1000 the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 8 6 in Leith and 10 6 in Paisley to 17 0 in Edinburgh and 18·8 in Glasgow. The 510 deaths in these towns included 19 which were referred to diarrhœa, 18 to whooping-cough, 14 to measles, four to diphtheria, two to scarlet fever, two to "fever," and one to small-pox. In all 60 deaths resulted from these principal zymotic diseases, against 57 and 78 in the two preceding weeks. These 60 deaths were equal to an annual rate of 1 9 per 1000, which was 0·3 per 1000 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of diarrhœa, which had been seven and 22 in the two preceding weeks, declined again last week to 19, of which seven occurred in Edinburgh, five in Glasgow, two in Dundee, and two in Paisley. The deaths from whooping-cough, which had been 17 and 21 in the two preceding weeks, declined again to 18 last week, and included 16 in Glasgow. The fatal cases of measles, which had risen from 10 to 23 in the four preceding weeks, declined again last week to 14, of which 11 were registered in Glasgow and two in Edinburgh. The four deaths from diphtheria corresponded with the number in the preceding week, and included three in Glasgow, where the two fatal cases of scarlet fever and the death from small-pox were also recorded. The deaths referred to diseases of the respiratory organs in these towns, which had been 106 and 101 in the two preceding weeks, further declined last week to 87, but showed an excess of 13 over the number in the corresponding period of last year. The causes of 25, or nearly 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 21·9, 23·1, and 23·8 per 1000 in the three preceding weeks, declined again to 17 9 during the week ending June 23rd. During the past four weeks the death-rate in the city has averaged 21·7 per 1000, the rate during the same period being 15 9 in London and 16 7 in Edinburgh. The 120 deaths belonging to Dublin registered during the week under notice were 40 below the number in the preceding week, and included four which were referred to the principal zymotic diseases, against three, 10, and six in the three preceding weeks; of these, two resulted from "fever," one from diphtheria, one from whooping-cough, and not one either from small-pox, measles, scarlet fever, or diarrhœa. These four deaths were equal to an annual rate of 0 6 per 1000, the zymotic death-rate during the same period being 1·5 in London and 2 1 in Edinburgh. The two deaths from "fever" corresponded with the number in the preceding week, while the mortality from diphtheria showed a slight decrease. The 120 deaths in Dublin last week included 23 of infants under one year of age and 28 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons showed a decline from the numbers recorded in the preceding week. One inquest case and one death from violence were registered; and 47, or more than a third, of the deaths occurred in public institutions. The causes of eight, or nearly 7 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff-Surgeons: James M'C. Martin, D.S.O., and W. E. Home to the *Centurion*; and H. P. Shuttleworth to the *Boscawen* for the *Minotaur*. Surgeons: Richard C.

Munday to the *Nelson*; S. Roach to the *Centurion*; William Walker, John O'Hea, Leonard S. Whitwan, Herbert, Denny, Alfred J. Hewett, and Gerald M. Eastment, to the *Duke of Wellington*, additional for disposal; Robert W. G. Stewart, John St. John, Murphy Henry J. Rogers, Alex. O. Remirck, Walter P. Dyer, and Thomas H. Vickers, all to the [illegible]

Arthur F. [illegible] *Pembroke*, [illegible] Horley, to the *Wildfire*, [illegible] W. Campbell, to the *Lizard*; [illegible] to the *Centurion*; and J. P. H. [illegible]

[illegible]

Rustam [illegible] O.I.E. [illegible] idle and James William Evans. *Bombay Establishment:* Henry Peers Dimmock and Charles Bradley Maitland. Captains to be Majors: [illegible] Marshall, David Ma[illegible] rch, V.C., James Reid [illegible] ta Prasad, Patrick Wilkins O'Gorman, William Henry Gray, and George Thomas Mould. *Madras Establishment:* Allan Ewen Grant and Frank Charles Pereira. *Bombay Establishment:* James Graham Hojel, Henry Charles Leffler Arnim, and George [illegible]

Gradin Jayakar. [illegible]

MILITIA INFANTRY

Ernest Madge, late Surgeon-Lieutenant, Militia Medical Staff Corps, to be Captain.

Western [illegible] ajor W. [illegible] Captain [illegible] Miners: [illegible] n to be [illegible] ion the [illegible] Dickson [illegible] tion the [illegible] L. Freer [illegible] Supernumerary. 3rd (Dumfries) Volunteer Battalion the King's Own Scottish Borderers: Surgeon-Lieutenant G. D. Logan resigns his commission. 4th Volunteer Battalion the East Surrey Regiment: Surgeon-Major E. J. Lawless to be Surgeon-Lieutenant-Colonel and to remain Supernumerary [illegible] James Black Roberts [illegible] division of the 1st Volunteer Battalion the Lincolnshire Regiment into two Volunteer Battalions, designated respectively the 1st and 3rd Volunteer Battalions the Lincolnshire Regiment, Her Majesty has been graciously pleased to approve of the following with effect from June 20th, 1900, and of the officers so transferred being considered to have received in the new battalion commissions of the same rank and date as in the consolidated one, viz.:—1st Volunteer Battalion the Lincolnshire Regiment: Surgeon-Major F. J. Walker and Surgeon-Lieutenant J. Bruce.

WAR NOTES.

[illegible] have arrived in England. The following officers were discharged from hospital to duty for the week which ended [illegible] an and Civil Surgeon [illegible] O., and Surgeon-Lieu- [illegible] East Surrey Regiment, [illegible] ty for the week ending June 17th.

On June 19th Princess Henry of Battenberg visited the [illegible] Wounded Soldiers at [illegible] at present contains 28 [illegible] Canadians, was founded by Mr. and Mrs. Mallock. Mr. J. Quick described each case and Her Royal Highness had a cheering word to say to each of the men.

Mrs. Skey Muir, the honorary secretary of the Royal Army Medical Corps South African Fund, notifies all those who have been interested in the work of this Fund that the offices, [illegible] e, W., will be given up [illegible] can be received after the [illegible] however, still be sent to the [illegible] amyton on June [illegible] former brought 392 and the latter 334 sick and wounded from South Africa who were admitted to the Royal Victoria Hospital. We hear that in future convalescent patients will be sent on from the troopships to Portsmouth and that only men really requiring medical treatment will in future be admitted to the wards of the hospital.

TRANSVAAL WAR CASUALTIES.

Surgeon-Lieutenant-Colonel James Stevenson died at Cape Town on June 19th.

Mr. Benton Norman Maclean, medical officer attached to the Imperial Light Horse, is reported to have died from ptomaine poisoning at Ladysmith.

Captain J. H. Campbell, R.A.M.C., was severely wounded during the operations in Natal on Feb. 24th.

The following are reported dangerously ill:—At Bloemfontein: Surgeon-Lieutenant-Colonel W. W. Lake, Militia Medical Staff Corps. At Kimberley: Civil Surgeon W. H. Steele. Civil Surgeon W. B. Bennett, attached No. 1 Stationary Hospital, Natal. At Kroonstad, June 16th: Civil Surgeons R. W. Jameson and A. Robertson.

Lord Roberts telegraphs that the following sick officers are reported to be at Heilbron: Major Greig, R.A.M.C., and Civil Surgeon Ash, enteric fever; doing well.

THE CRISIS IN CHINA.

A *Times* telegram through Reuter's agency, dated Calcutta, June 26th, states that a wing of the 7th Bengal Regiment, together with the 43rd Field Hospital, embarked on June 25th on board the *Nerbudda*.

In a subsequent telegram, [illegible] *Times* says: Major Cree, R.A. [illegible] duty with the force. Lieut [illegible] Walton of the Indian Medica[illegible] charge of the x rays apparatus, of which there is only one complete set available here.

The following Indian medical officers will accompany the regiments proceeding to China: Lieutenant-Colonel Bookey (principal officer), Lieutenant-Colonel Esmonde-White, Majors Mould and Whitchurch, V.C., and Captains Kenrick, Walton, and Price. Those proceeding with the hospitals are: Lieutenant-Colonel Waddell, Majors Burton, Fooks, Thomson, Marshall, and White, Captains Jenny, Carr, Moorhead, Harris, and Hamilton, Lieutenants Fenton, McCay, Megaw, G. Stewart, Willmore, Mcakin, Gidney, and O. Stewart.

ROYAL VISIT TO NETLEY HOSPITAL.

On June 21st H.R.H. the Princess Louise, Duchess of Argyll, visited the Royal Victoria Hospital with Mrs. Elliot Yorke with whom she was staying at Hamble Cliff. Arriving at the hospital at 2.45 P.M. Her Royal Highness was met by Colonel Charlton, R.A.M.C., accompanied by his secretary (Major Treherne, R.A.M.C.), and by Professor A. E. Wright, and was conducted through the wards of both the medical and surgical divisions of the hospital. In the

former the cases were explained to the Princess by Lieutenant-Colonel W. [illegible] surgical division by Ma[illegible] fessor of Surgery, and [illegible] being the officer in ch[illegible] Princess remained in the hospital for rather more than two hours.

ARMY MEDICAL SCHOOL, NETLEY.

Under orders from the Director-General of the Army Medical Service a special examination was held at the Army Medical School on June 20th and 21st to examine the surgeons-on-probation who had been nominated for the Royal Army Medical Corps. The following gentlemen were recommended for commissions as Lieutenants:—

1. P. Henderson.	10. W. B. Fry.
2. J. P. Murphy.	11. C. R. L. Ronayne.
3. A. R. Greenwood.	12. G. Baillie.
4. F. H. Hardy.	13. L. L. G. Thorpe.
5. W. M. H. Spiller.	14. J. B. Hall.
6. D. W. K. Moody.	15. W. S. Crosthwait.
7. A. D. Jameson.	16. P. G. Douglass
8. W. Bennett.	17. R. F. Ellery.
9. B. B. Burke.	

DEATHS IN THE SERVICES.

[illegible] when pneumonia [illegible] Lieutenant Ch[illegible] recently, from p[illegible] recently entered [illegible] A.B.O. Dub. in 1897.

Correspondence.

"Audi alteram partem."

THE POSITION OF THE GENERAL MEDICAL COUNCIL WITH RESPECT TO THE MIDWIVES BILL.

To the Editors of THE LANCET.

SIRS,—As President of the General Medical Council I have been authorised and requested to [illegible] amendments to the Midwives Bill now [illegible] the House of Commons be placed on the notice-paper, that the Council at its last meeting carefully considered the bearing of the most important of these amendments and passed the following resolution:—

That the Council request the President to represent to the Lord President of the Privy Council that the amendment of Clause 2 (2) of the Midwives Bill by the omission of the words "or shall habitually [illegible] en in childbirth" would so completely destroy [illegible] of protection for lying-in women of the poorer [illegible] could no longer approve of the Bill passing into law; and that accordingly they deem it unnecessary at the present time to express an opinion on the other amendments suggested.

As I understand that an amendment for the omission of the words referred to has been placed on the notice-paper I have to request that you will favour me by publishing this letter so that the Medical Council's position on this matter may be known.

I am, Sirs, yours faithfully,

WM. TURNER.

June 26th, 1900.

THE RIGHT OF THE LICENTIATE OF THE SOCIETY OF APOTHECARIES OF LONDON TO STYLE HIMSELF "PHYSICIAN AND SURGEON."

To the Editors of THE LANCET.

SIRS,—Subjoined is a copy of a resolution passed by the Court of Assistants of this Society on June 19th. Having regard to the great importance of the resolution to the Licentiates of the Society I shall be much obliged if you will allow it to be published in your next issue.

I am, Sirs, your faithfully,

JAMES R. UPTON.

June 26th, 1900.

The resolution passed by the General Medical Council at its recent session deciding not to employ the funds of the Council in defraying the expenses of a test case to determine whether the L.S.A. (1886) is or is not entitled to call himself Physician and Surgeon having been read, Resolved, that in view of the opinions expressed by eminent counsel this court considering that the [illegible] l ought not to operate to the [illegible]

THE DAVIES-COLLEY MEMORIAL FUND.

To the Editors of THE LANCET.

SIRS,—The irreparable loss which our hospital and medical school have sustained through the death of Mr. Davies-Colley while still with us in active work [illegible] a general desire to perpetuate his memory. It is felt that th[illegible] e eager to testify in some lasting for [illegible] great ability, ne[illegible] of [illegible] The form which the [illegible] at a meeting of the subscribers to be held at a later date. Subscriptions may be sent to Dr. T. G. Stevens at the address as below.

We are, Sirs, yours [illegible]

CHARTERS [illegible]

June 28th, 1900.

LYMPHATIC LEUKÆMIA.

To the Editors of THE LANCET.

[illegible] he account of the [illegible] THE LANCET of [illegible] by Dr. [illegible] While agreeing with the author as to the importance of recording new and successful treat[illegible], I should submit that the diagnosis is [illegible] assumed. The diagnosis of lymphatic [illegible] in which the hyperplasia of the lymphatic glands was absent, but I am aware of no record of a case in which the latter two symptoms were also absent. In Dr. Murrell's case there is no mention made of the condition of the lymphatic glands, the number of white corpuscles was never above the normal; in fact, in the first and third counts there was a considerable leuc[illegible] centage a [illegible] cytes and hyaline corpuscles. I would further suggest that the condition described as "small cells having a single pale [illegible] a narrow zone of fine granules [illegible] methylene blue" is such as is [illegible] when blood is deeply stained with methylene blue. Ehrlich[1] [illegible] says: "The protoplasm sh[illegible] similar stains inequalities ir[illegible] must be regarded, not [as Ehrlich first thought] as the expression of a granulation, but as a net-like structure." It would be advisable that the indicated points should be cleared up before such a valuable case is put on record.

I am, Sirs, yours faithfully,

J. CHARLTON BRISCOE.

King's College Hospital, June 20th, 1900.

"ACCIDENTAL VACCINATION OF A WOMAN BY HER CHILD."

To the Editors of THE LANCET.

SIRS,—A case similar to that reported by Mr. Henchley in THE LANCET of June 23rd (p. 1846) occurred to me last year. A lady came to stay in this neighbourhood bringing her infant with her and in a few days she sent for me. She was suffering from pyrexia and from diffused redness of the face and much swelling which seemed to have its centre near the nose. The case seemed so obviously to be one of facial erysipelas that I notified it as such. Within two or three days a copious serous discharge from her nostrils began and continued for a week. As these symptoms slowly subsided the unusual course of the case led me to inquire further, and it came out that the infant had been vaccinated shortly before coming

[1] Die Anæmie, p. 46.

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ntly been
medico-

Blackheath, June 23rd, 1900. WALTER KIDD, M.D. Lond.

HORSE AMBULANCES.

To the Editors of THE LANCET.

SIRS,—Perhaps the ancient and loyal borough of Wigan

and through the local press, and there has not been lacking that
on the part
needed to est.
are justly proud
their share in giving lectures on "first-aid and ambulance work" in the various works, so that within a circle with a radius of nine miles from this hospital you will

Bill which they hoped might render it a useful measure and one which would safeguard the public and be accepta
fully
at the
itself.
this s
composed and signed the following, which is an extract from a letter which accompanied the invitation to the meeting:

that no measure which provides for the attendance of lying in women without proper medical supervision can fail to be productive of a largely

Sydenham, June 17th, 1900. F. LORIMER HART.

OF
AL

DISTRICT.

To the Editors of THE LANCET.

stated
except
as yet
mar, "*where nothing has*
is incorrect as regards
the Braemar district, where a scavenger has been employed for the last three years and paid a regular salary during that time. I have, therefore, to ask you to contradict the latter part of the paragraph in so far as Braemar district is concerned.

I am, Sirs, yours faithfully,

WM. MICHIE,
Clerk to Braemar Special District.

Tullocheoy, Crathie, June 23rd, 1900.

THE RAILWAY MEDICAL OFFICERS' UNION.

To the Editors of THE LANCET.

SIRS,—It will be a very great convenience and will considerably aid organisation amongst railway medical officers if you will allow me to ask those who previously communicated with me, as well as those who have not, if they will let me know as soon as possible whether they could attend a meeting at Ipswich during the session of the annual meeting of the British Medical Association, with a view of instituting a union for the protection and promotion of the interests of railway medical officers.

I find that the medical officers of some railway companies are already organised, having had associations for some years. If they will attend the proposed meeting their experience will be of use, not only in assisting the medical officers of other companies to form associations on their respective lines, but also in forming the national union.

There is nothing revolutionary intended in the proposed union. The objects are (1) to promote unity and good fellowship; (2) to compare the rates of payment of the different staffs; (3) to consider whether there should be a separate payment for minor surgical injuries as well as to consider the special fees for fractures, dislocations, &c.; (4) to consider the question of gratuitous or paid ambulance lectures; (5) to consider how we can protect each other from those who are seeking the appointments which we hold; and (6) finally to consider any other means which may be proposed from any member or staff likely to be for our mutual benefit.

If I hear from a sufficient
will make arrangements for a
be glad to know what day and
will be most
hear from th
annual meeti
ly wish to
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but these
ly for this
who could mak
meeting but have not the time at their disposal to remain for any other meeting. Our meeting will not be restricted to members of the British Medical Association. I shall be glad to hear from those unable to attend a meeting at Ipswich whether they are favourable to the union and will give it cordial support, in all cases stating what company they are attached to and any details connected with their appointment that may be of interest and utility to their colleagues. All communications will be regarded as confidential, facts only being made use of, not the names of the authors.

I am, Sirs, yours faithfully,

G. H. BROADBENT,
Medical Officer G.N. and G.C. Ry. Cos.

8, Ardwick green, Manchester, June 22th, 1900.

CHELTINE FOODS.

To the Editors of THE LANCET.

SIRS,—Referring to your remarks on Cheltine Foods in THE LANCET of June 16th, when treating of the exhibits at the Medical, Surgical, and Hygienic Exhibition, we beg to state that the wording on the tins of diabetic food "Cannot turn into sugar" was a clerical error. Correction was made on our pamphlets two months ago but was unfortunately omitted on the diabetic tins. This has now been corrected, and in future all tins containing diabetic food issued by this company will have written on them "Will not form diabetic sugar."—We are, Sirs, yours faithfully,

WORTHS FOODS SYNDICATE, LTD.

Cheltine Works, Cheltenham, June 18th, 1900.

"CORONERS' INQUESTS ON PERSONS DYING UNDER ANÆSTHETICS."

To the Editors of THE LANCET.

SIRS,—On reading your excellent leading article in THE LANCET of June 23rd, p. 1811, with regard to the questions propounded by Dr. Danford Thomas to be put, I presume, to medical witnesses at future inquests on deaths from anæsthetics, I could not help wondering whether the well-known coroner can possibly have any practical knowledge of the difficulties of complying with the suggestions which his questions would imply. A large number of the cases in which a general practitioner is called to give an anæsthetic are cases more or less of emergency, perhaps in some country village miles away from any professional assistance, cases in which there would be no time to make the thorough examination of the patient and the surroundings as suggested, or even if that were possible cases in which even unfavourable conditions might have to be ignored more or less. By all means let us have scientific inquiry with regard to anæsthetics, but I cannot help thinking that the general practitioner is being somewhat hampered by all the minutiæ of detail expected of him, which will make many men almost shrink from giving an anæsthetic. For instance, one of the questions suggested by Dr. Thomas is the experience of the anæsthetist. True, the more experience an anæsthetist has had the better for the patient and everybody. But it is not possible for all to have the same experience and many a young general practitioner may be called upon as a bounden duty to give an anæsthetic whether he has had experience or not. If the questions propounded by Dr. Thomas are to be put on every occasion of a fatality and the jury are to give their verdict according to the answers received, I for one, although I have had a fairly large experience of anæsthetics—i.e., ether and chloroform—hope I may never have to give any more if I am to run the risk of having my professional credit upset by a jury who are certainly not a competent tribunal on those matters.

I am, Sirs, yours faithfully,

June 26th, 1900. M.B., M.R.C.S.

THE NATIONALISATION OF TRINITY COLLEGE, DUBLIN.

To the Editors of THE LANCET.

SIRS,—Although I am unable to discern that the columns of a medical journal are the proper arena for the discussion of the Irish Catholic University question I feel bound to contest your conclusion, as set forth in an annotation in THE LANCET of June 23rd, p. 1815, that the proposal to nationalise Trinity College is "as useless as it is impracticable." I hold, on the contrary, that the nationalisation of the College, which I understand to be the same thing as the complete de-sectarianising of it, would be most useful because it would remove for ever the only complaint which Irish Catholics can justly make against the Dublin University system. Trinity College is, indeed, national already but for one thing. Its education in arts, science, medicine, law, and engineering, and its degrees in these faculties, are as freely open, with all the honours of the higher grades, to Roman Catholics as to the students of any other religion. No questions are asked or any exclusion practised towards them, and many Roman Catholics who have passed through Trinity with honour have testified to that fact, and no grievance can be truthfully averred respecting the educational treatment of students of that or any other Church. There is, however, that within the University and its College which unfortunately affords grounds for the complaint that Roman Catholics are liable to be exclusively dealt with therein. The atmosphere is very strongly redolent of Protestantism, and the governing body, the Professors and Fellows and officials, are almost universally Irish Churchmen, and it would be no more reasonable to expect Irish Churchmen to feel comfortable in their studies at Maynooth than to expect Roman Catholics to feel comfortable at Trinity.

That the Protestant atmosphere is so thick in Trinity is due not to any desire on the part of the Protestants to boycott the Roman Catholics but to the refusal of the Catholic priesthood to allow their co-religionists to bear a hand in any form of Irish education over which they have not, practically, despotic control. They have pursued towards Trinity the same policy which they pursued towards the Queen's Colleges, using every effort to make them failures and then screeching that the institutions should be superseded because they *are* failures. No one in Ireland, I imagine, entertains any hope that the Catholic hierarchy will abandon this position until they must and the parade of imaginary grievances will no doubt continue, but if the nation recognises that the education of the people ought not to be chopped up for division amongst a number of sects and compels the Government to turn a deaf ear to the clamour of the Irish priests and to force Trinity to accept liberalisation and desectarianism the Irish University question will be solved as the nation desires. It may be true, just at present, that "no statesman of any party would attempt to interfere with Trinity College," but when we had a strong hand at the Ministerial helm instead of the time-serving Government which now rules the attempt was made and nearly succeeded and there is no doubt that the liberal voice of the British electors would now support any Government which would have the courage to ignore the assumed indignation of the Irish priests and proceed to eradicate all traces of sectarianism from the University of Dublin. To effect this latter purpose it would be essential to transfer in its entirety the Divinity school of Trinity College to the outside custody of the Church of Ireland with a grant to that Church equivalent to that now made to the sectarian education at Maynooth and elsewhere. Without this the Roman Catholics will always have a reasonable grievance and the priests a good cry for a separate Catholic university, and I see no insuperable difficulty in doing it whenever the nation has a Government whose regard for justice and for the interest of the people will restrain it from trafficking with parties for votes.

I am, Sirs, yours faithfully,

June 26th, 1900. A.M., M.D. DUB. UNIVERSITY.

PLAGUE IN AUSTRALIA.

(FROM A SPECIAL CORRESPONDENT.)

THE returns of plague in Sydney for the week ending May 12th are as follows: remaining at the beginning of the week, 99; admitted, 23; discharged, 26; died, 10; remaining at the end of the week, 86. The totals up to the end of the week are as follows: cases, 216; deaths, 73; discharges, 57. "Contacts," 1242; "contacts" remaining, 153; cases among "contacts," seven. The population of Sydney should, perhaps, have been mentioned at an earlier date; it is about 456,000. Its composition is a matter much misunderstood in some quarters, in which it seems to be supposed to resemble that of South African towns. The truth is far otherwise. Australia is a white man's country, and it will not be the fault of the present generation if it does not remain so. The people are white, European or of European descent on both sides, and in preponderating proportion British. The only coloured people present in number of importance, in relation to vital statistics for instance, are the Chinese; but only 3465 were enumerated at the census of 1891, since when restrictive laws have prevented their immigration, hence nearly all the plague patients have been whites which might be inferred also from the gross death-rate. Only five coloured people have suffered; all of them were Chinese. Three have died, while two are likely to die.

Another point on which something may be said usefully is as to the completeness of the returns which have been given

from week to week. No doubt is entertained in any quarter that they are complete. That the first case discovered was the first case in reality is most probably the truth. It was certainly—the word is here used deliberately—not preceded by any important number of minor or of ambulant cases; one or two such there may have been; more there surely cannot have been. And if early in the epidemic it should be guessed that there may have been some oversight of declared or bubonic cases they diminished very quickly at all events; but the general feeling is that there never can have been more than (say) half a dozen at the outside. This is the opinion of all in a position to judge—of the resident staffs at the hospitals, for example, and of the staffs of the department of public health. As regards the latter, no doubts are entertained by it; it has the confidence of the profession which knows that its members will be rationally dealt with. A good many cases have been reported rather late, and even occasionally after death under medical care; but no one who has been puzzled by early symptoms fears that he will be rudely brought to book under the law, or that he will be asked publicly to explain his delay in reporting. On the other hand, all have learned that anything like wilful [illegible] e of other [illegible] v) is dealt with local conditions will be inclined to argue that wilful concealment of cases has occurred. He will refer to the early cases—if, indeed, cases of plague they were—in Calcutta. But the truth is that no evidence which would enable a reader to form an opinion was adduced regarding them;[1] a bare statement that the bacillus was observed comprised it What, exactly, it was that was seen was not described; and whatever the bacteriological competency of an observer may be that, in a case where the possibilities of mistake are many, is not enough. From other quarters the evidence of precedent cases of ambulant plague—those, namely, in which there is recognised glandular swelling—is that practitioners remembered meeting with such cases which must have been plague, only after plague had become epidemic. Now, at first, attention was often drawn in Sydney to instances of glandular swelling, but they were almost always easily traced to one or other of the recognised causes and in reality were reported for protection; hardly ever had the patient any symptom of general illness, but the swelling was chronic, or at least of long standing In one or two cases the cause of the swelling could not be made out, but then the most careful consideration and bacteriological examinations failed to afford the slightest support to a diagnosis of plague. In short, with as thorough a knowledge of plague as could be got from epidemiological and clinical study of accounts of the disease and its outbreaks, acquired long before the disease actually appeared here, nothing at all has been observed to support the notion that those causes of incompleteness in the epidemiological accounts which have existed or have been assumed in other cases have this matter in [illegible] good reason for [illegible] the diminished number of new cases for the week already shown above. The Millard house on having its floor taken up revealed a dry sandy soil and nothing else. The newly admitted cases show the same degree of virulence in the infection as at first on the average. Inoculation has recommenced; arrangements have been made for inoculating the inhabitants of the [illegible] in preference to [illegible] is shown by the [illegible] e and a few less [illegible]

May 15th.

[1] Papers relating to the Outbreak of Bubonic Plague in India to March, 1897.

THE DURHAM MEDICAL GRADUATES' ASSOCIATION.—The annual meeting of this association, followed by a dinner, is held alternately in London and Newcastle-on-Tyne. This year the turn of Newcastle came, very opportunely on the eve of the visit of the Prince of Wales Many Durham graduates practising in London were present The association is prosperous and betrays a warm affection for its *alma mater*. The dinner was held at the Grand Hotel, Barras Bridge, and was ably presided over by Dr. W. C Beatley.

THE UNIVERSAL EXHIBITION AT PARIS.

(FROM OUR SPECIAL CORRESPONDENT.)

Opening of the International Congress Season.—Graphology.—Agriculture and Health.—Grocers and Health.—Women's Work and Health.—The Housing of the Poor.

THE season for international congresses has now fairly begun. There were only three such congresses in the month of May, but 23 are taking place during the course of this month. The congress which in the month of May attracted the most general attention was that of graphology; a fact which is not surprising when we remember how experts in handwriting quarrelled over the celebrated Dreyfus *bordereau*. I am not aware, however, that anything was said about the graphology of medical prescriptions though this was certainly a subject on which a very interesting paper might have been written, beginning with some account of the mystic invocation to Jupiter which heads a prescription and concluding with some sarcastic allusions to the art of illegibility. Among the congresses that have already been held this month was that of the friendly and benefit societies called Le Congrès de la Mutualité. When the medical profession is better organised it should contrive to have a voice at such gatherings so that the other side of the questions treated may be brought forward. As it was we were treated to panegyrics on the advantages of thrift and on the benefit and growth of organisations the principal object of which it is to provide for a rainy day. Of course all this is excellent so far as it goes, but to accumulate vast reserve funds at other people's expense is not quite so estimable a performance. That the working classes and the small trading classes should be praised for such foresight and economy as they have displayed is quite right and proper, but at the same time it should be known that a part of these funds is not the result of economy and saving but the direct profit obtained by sweating members of the medical profession. It does not suffice to say this outside; it should be repeated within such congresses, so that it might be heard and understood by those who are responsible for the widespread grievances that afflict a large section of the medical profession in most countries. Another important congress was that of the grocers. I have not much to say about this meeting beyond mentioning the fact that there was an imposing British delegation of over 100 members Considering how at scientific international congresses, such as that of hygiene, Great Britain is often very feebly represented, I must confess to a feeling of discouragement when I found that the grocers manage these things much better than the medical profession But the grocers had also some things to say that affect public health. They were loud and bitter in their complaints against the truck system and against trusts which not only ruined legitimate trade but which, by abolishing competition, placed the public at the mercy of the monopolists. Such monopolists could more easily foist unwholesome articles on to the public, or sell things at exorbitant prices The delegates, though they represented the master grocers, very generally agreed that the hours of labour for their shop assistants were too long and that they should be reduced In this respect England was mentioned as a model nation where there is not only complete rest on Sundays but generally a half holiday in the middle of the week. It would be worth while holding such congresses if for no other purpose than to spread this custom to other nations among whom the exaggerated duration of the day's work for shop assistants has a very detrimental effect on public health

M Casimir Perier, *formerly* President of the French Republic, presided over the Congress on Agricultural Education He eloquently urged that every effort should be made to render education in agriculture at once attractive and easy, for it was most necessary to check the continual migration of the rural populations to the great towns. Though most of the speakers supported this view from the economical standpoint its importance as a question of national health and national defence was also admitted. It is from country districts that the best soldiers are recruited, and this for the simple reason that rural populations are healthier than town populations In the name of the French Government M Jean Dupuy, Minister of Agriculture, wished

the delegates welcome, so that the congress had a good set-off. Mr. Sutton represented the British Royal Agricultural Society, and there were influential delegations from the United States and most of the European nations. Here, then, was another opportunity, while keeping well within the programme of the congress, of propagating principles and projects of reform which would not only promote the interests of agriculture but also benefit the public health. The principal resolution adopted by the congress was in favour of teaching in universities and high schools those sciences which bear upon agriculture, such as chemistry, zoology, botany, geology, [illegible] eriology, &c. Needless to point o[illegible] would study bacteriology in vie[illegible] vegetable life and the lives of cattle, &c., he would not fail to realise that in many respects the same principles apply to the preservation of human life. The brotherhood of the sciences is an undeniable fact and a most beneficent fact, and hence sanitary reformers are well within their scope of action when they wish every success to the scientific [illegible] on agriculture depends our food-supp[illegible] but natural that several medi[illegible] congress. Dr. Cathélineau, for [illegible] paper on the bacteriology of m[illegible] often contained the bacillus o[illegible] fore milk should be always [illegible] depends on fermentation [illegible] conditions of the most pe[illegible] good deal said about the [illegible] necessity of legislation to [illegible] The sale of cheap pure wi[illegible] evils of alcoholism, therefore a resolution was carried in favour of abolishing all local taxation (*octrois*) on wine. When natural wines became scarce and dear they were replaced by manufactured alcohols, with the result that there was invariably a great increase in drunkenness, crime, and insanity. The agriculturists in wine-growing countries had to be taught not only how to contend against the diseases that devastated the vineyards, but also how to employ such precautions in the making, bottling, &c., of wine that it would be able to travel and to keep without being strengthened by adding the more or less poisonous alcohols of commerce. Thus in many ways the Congress on Agricultural Education treated questions that might appropriately find a place in a congress of hygiene.

Then there has been an immense gathering of women—women politicians, women of science, and women authors and artists; but far more numerous than all these were the women engaged in works of charity and philanthropy. It was the Congrès des Œuvres et Institutions Féminines. I am not aware that there is a good equivalent in the English language for the word "œuvres." It means work, but work for a particular purpose or mission, and all charitable organisations come under this denomination. Now there are so many works of this description that from the very first the congress was hopelessly blocked by the reports brought by the delegates who individually were all naturally anxious to prove how very worthy of sympathy was their own particular mission. Those reports brought by the foreign delegates took up three-quarters of the sittings. Altogether there were more than 200 of such reports. In many cases only summaries could be read and it was rarely possible to discuss the points raised. Therefore the congress became terribly monotonous, yet these documents have a literary and historical value, but they are better suited for publication in a volume than for a congress. There was, of course, a great deal said about the care of children and about institutions affecting the same. A somewhat sharp discussion arose when Madame Dussaud urged that *crèches* should not be converted into institutions offering a premium on idleness. Therefore before admitting the children an inquiry should be made as to the position of the parents, but Mesdames Bazaine, Kauffmann, and Louise Dehor retorted that a little child or infant should not be made to suffer on account of the idleness or vice of its parents, and Mademoiselle Bonnevial protested that the object of day nurseries, &c., was not to punish bad parents but to save unfortunate children. The congress adopted various resolutions to increase the financial and other help given to poor mothers and to render it illegal for any woman to work during the first month following upon her confinement. Of course, the old arguments against the Contagious Diseases Act were brought forward again, but M. Trarieux and M. Bérenger, Senators, urged that such regulations were necessary for the preservation of public health. Madame Pognon, profiting by this division in opinion, attacked virtuous women for their want of sympathy with their fallen sisters, who were generally driven to a deplorable life not through any inherent vice of their own, but by the force of economical circumstances. It was not contempt but sympathy and a true understanding of the situation which alone would remedy the evil. In respect to this want of understanding of the true position of women, Mademoiselle Selma Riza attempted to show that Mahommedan women held a better legal position than Christian women. Mahomed was a great advocate of women's rights and also a great sanitary reformer. Consequently married women controlled their own property independently of their husbands and if divorced retained the care of their children. On the other hand as there is and can be no prostitution among Mahommedan women, Contagious Diseases Acts when employed in Mahommedan countries only affected the Christian populations. Unfortunately the instruc[illegible] Mahomed that young women should be care[illegible] had to a large extent been neglected, and [illegible] any Mussulman women had fallen into a con[illegible] y and ignorance and led lives that might be [illegible] a sort of slavery. This was their own fault and contrary to the text and spirit of their laws and religion. A delegate from Alsace, Madame de Schlumberger, in regard to the question of morality thought that a mother should above all strive to remain the friend, companion, and confidante of her son during the critical period of adolescence. A mother should not fear from a mistaken feeling of modesty to speak of certain subjects, for it is on these very subjects that young men most need experienced advice. The congress adopted a resolution to this effect. In dealing with economic questions, which of course materially affect public health, for with extreme poverty sanitation becomes almost impossible, the congress adopted a motion in favour of what might be called a Women's Homestead Act. Already in France it is illegal to seize for debts the bed and the implements of work, such, for instance, as a sewing-machine. These enactments should be enlarged so that homes cannot be so readily broken up. Another resolution adopted proposed to abolish all work for wages under the age of 16. Such is the nature of a few out of the enormous number of questions brought before this congress. They will suffice to show how the subjects treated often affected, directly or indirectly, the causes that bear upon public health.

The Congrès des Habitations à Bon Marché (artisans' dwellings and the housing of the poor) has also met this month and was presided over by M. Jules Siegfried, Senator and formerly Minister of Commerce. Mr. David Waterlow attended on behalf of his father, Sir Sydney Waterlow, who as chairman of the Housing of the Working Classes Committee in the British House of Commons was one of the honorary presidents of the congress, together with Mr. Geoffrey Drage, M.P. M. Siegfried in opening the congress expressed his sense of shame at the fact that so large a proportion of the peasantry still ignored the most elementary comforts and decencies of home-life. While in large towns there were block buildings where the rate of mortality attained the appalling figure of 80 deaths per 1000 per annum, yet the death-rate of the town as a whole might be even lower than 20 per 1000. To remedy this disgraceful loss of life sanitary reformers, architects, engineers, and financiers should come together and devise healthy dwellings where the rent charge should not exceed from 3 to 4 per cent. of the capital invested. Actually the rents paid amount to from 5 to 60 per cent. on the capital cost of the buildings. But if we were to reduce the profits of capitalists from 60 per cent. to 3 or 4 per cent. on moral grounds we must also make the tenants realise on moral grounds that they should not squander in unnecessary things what they should reserve for the essentials of existence. M. Siegfried concluded by quoting Jules Simon, who said: "Without home there is no family; without family there is no morality; without morality there are no men; and without men there can be no nation." M. George Picot, Permanent Secretary of the Academy of Moral and Political Sciences, read a lengthy paper on Artisans' Dwellings. He is an economist of the old school and fears State intervention. Nevertheless, he did admit that it might be useful and without peril to remove such legal obstacles as exist preventing the investment of capital which is locked up. In every other respect he argued in favour of existing conditions and it was difficult to see

strongly in favour of municipal tenements and lodging-houses and was supported by many members of the congress, including several directors of private enterprises. The congress adopted ... declaring that as ci... various countries the ... be reserved for future congresses. But in any case ... must actively interfere ... regulations, and the cor... a permanent international com...

Paris, June 24th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The ...

Th... the origin and course of the Cawnpore plag... seems to have been a general fear of plague in ... ignorance of and uncertainty about the plag... The compulsory removal to hospital and seg... cases seem to have inflamed the people and ... gathering for a general meeting a false rumour was started about a boy being forcibly removed to the hospital to be burnt ...

... the cavalry returned to barracks. The mob, however, broke out again and had it not been for the presence of the Volunteer Light Horse, who were compelled to fire on the crowd, there ... place. The ... took place ... showed that ... about the plague regulations, that the police were utterly useless, being apathetic and ignorant and without any information as to the state of feeling among the populace, and that the leading natives failed to lend any assistance and apparently gave covert support to the agitators.

I am pleased to be able to record a great reduction in the plague mortality throughout India. There were only 975 deaths in the whole of India last week. The Bengal Presidency had 388 deaths and the Bombay Presidency 519.

The following medical practitioners have come in for Birthday Honours:—Colonel Campbell, I.M.S., of Shillong; Captain C. H. James, I.M.S., of Jullunder; Miss Charlotte Adams, L.R.C.P. Edin., of Jodhpur; Miss Susan Campbell of Ajmere; Mrs. H. Smith of Jullunder; and Major Stevenson, I.M.S., of Allahabad, the two first-mentioned getting the Kaisar-i-Hind gold medal and the others the silver medal. I have not heard of any honours having yet been given to the plague medical officers who were appointed by the Secretary of State.

An Anti-rabic Institute for India is at last an accomplished fact. After numerous delays Government have stepped in and practically settled the difficulties. The Indian Chiefs' Victoria Jubilee Bacteriological Institute came ...

... a diverted for the ... of the proposed ... and took over its ... opean and native ... able treatment for ...

... *soon.—The* ...

T... the total num... of India has now reached 5,700,000. The Central Provinces chiefly are affected. In the Bombay Presidency cholera has been ...

Intimately associated in interest with the present famine are the prospects of the coming monsoon. Unfortunately the forecasts are not ... Mauritius is reported as being ... of May, at the Seychelles the ... outh-east trade winds between ... lly light, with less rain and sea than usual. These reports seem to indicate considerable delay in the advance of the south-east trade winds towards the Equator, and the current seems to be determined more than usual towards the Zanzibar coast.

... ntinues to decline throughout ... reported for last week. From ... ed that plague has appeared at ... have occurred since April 30th. ... plague as prevailing at Sydney, ... Rats ... There ... eing an ... is also a death reported ... East Indian.

The trial of inoculation has been fairly extensive but in Bombay city, notwithstanding that the number of people inoculated has reached nearly 200,000, little impression seems to have been produced on the current outbreak. The prophylactic has been used this year in Karachi, Sholapur, Surat, and Aden.

May 31st.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Tramps and their Children.

AT a meeting of the Chorlton Board of Guardians, held on June 22nd, the subject of the best mode of dealing with tramps and their children came up for discussion. A communication from the Coventry Board of Guardians was read, asking them to support the following resolution: "That the Local Government Board be asked to give the guardians permission to detain tramps for a period of seven days, and that while such tramps are performing the legal task of work their children should receive such elementary education as could be given by the proper officials." When one considers the results that follow the more systematic methods of the elementary schools, the effect of a week's tuition even by the most earnest and skilful teacher would not be very visible on such waifs and strays and would be dissipated by the time the next stopping-place was reached. Dr. J. M. Rhodes who has had much experience in, and thought much on, such subjects considered that there should be power to detain such children for at least six months and that the guardians should have authority to detain and educate them just as they had for children not under proper guardianship. This would no doubt be good for the majority of the children, but some would object to the interference with the parental relationship and its duties. Among the habitual tramps, however, the

former is but lightly regarded and the latter is not regarded at all, and the best thing that can happen to the children is to get free from their parents But some of the homes for "waifs and strays" would be in many ways preferable to workhouse schools.

Great Britain

The sumn [illegible] Anatomical [illegible] Britain have been held this year in the [illegible] Owens College. At the close of the meeting on June 22nd Professor G D Thane of University College, London, proposed a vote of thanks to the Council of Owens College for their kindness in receiving and entertaining the members of the society. It was seconded by Professor A. M Paterson of Liverpool and carried In the afternoon Professor A H. Young gave a garden party and in the evening the annual dinner took place. Mention should be made of the admirable arrangements for the meetings, the credit for which is due to Dr. Peter Thompson, the honorary local secretary for the Manchester visit.

Manchester Medical Staff Corps.

The Manchester Medical Staff Corps has by the services of the 85 men serving in South Africa earned the approval of the Director-General of the Army Medical Department It appears that he inspected the companies at Aldershot and pointed out that there was so much sickness among the troops that for a long time more men of the department would be wanted, and he asked for additional volunteers About 30 men have already volunteered for service from the Manchester companies, and they are being sent to Aldershot with all speed. It is expected that they will sail for South Africa on June 30th. It is pleasant to know that Surgeon-Captain Coates, to whom the Manchester corps owes so much, has been raised to the rank of surgeon-major

Bar Parlours and Tuberculosis.

Dr J Wheatley, medical officer of health of Blackburn, in his annual report just issued, states that no places, excluding the workrooms of some trades, are more favourable to the spread of tuberculosis than bar parlours and other frequented rooms of public-houses. This is not to be wondered at when one considers the filthy habits as to expectoration too common among those who frequent these places and the neglect of cleanliness that often obtain with the people having the charge of the lower-class drinking-places. He urges most scrupulous cleanliness in the management of these places He also says that the birth-rate has been steadily declining since 1872, and was last year the lowest on record.

The late Professor Thomas Jones

A special meeting of the medical and surgical staff was held at the Manchester Infirmary on June 26th A resolution was unanimously passed expressing their deep sense of the loss which the institution has sustained and their sorrow for the death of their late colleague Professor Thomas Jones. A further resolution was passed asking the chairman of the board, Mr. Hardie, to forward it to Mrs Jones with expression of their sympathy with her in the irreparable loss which she has sustained It need scarcely be said that the news of Professor Jones's death was received by the medical profession in Manchester and by a wide circle unconnected with the profession with the deepest regret [illegible] urged to accept the superintendence of the Wels[illegible] Professor Jones went to South Africa under a sense of duty which he felt unable to put aside His departure was cheered by the good wishes of colleagues, friends, and students, and he went ready, if need be, to lay down his life for his country The sacrifice has been made and in his grave at Springfontein rests all that is mortal of a brave man, one of the heroes of peace.

Hospital Organisation

The board of management of the Manchester Royal Infirmary at their meeting on June 25th considered a communication from the Manchester and Salford Hospital Inquiry Association The association thought that there was a considerable abuse of hospital charity from (1) the insufficiency of the means taken to investigate the circumstances of the patients; (2) the necessity under present conditions of showing a large return of work done, as estimated by the number of patients and consultations; (3) the tendency to accept trivial cases as suitable for continuous treatment; and (4) the custom at some special hospitals of treating cases outside the proper scope of their work The association al[illegible] representatives from all [illegible] Salford with authority to create a united hospital board or to deal specifically with the causes of hospital abuse and to discuss the acceptance of contributions from patients. The board replied to the effect that they took reasonable and sufficient [illegible] to prevent the abuse of the charity; that there had [illegible] to be any necessity for the infirmary to show a larger return of work than was actually done, a statement of which is given with the annual report; that the acceptance of all cases for treatment absolutely rested with the medical staff; and that the fourth question did not affect the infirmary. The creation of a united hospital board was not, in the opinion of the board, desirable, as they believed that each hospital committee was best capable of managing in its own way the affairs of the institution over which it had control.

June 26th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Epidemic of Typhoid Fever in Belfast.

THE epidemic of typhoid fever in Belfast is still with us and in the week ending June 21st 50 cases of the disease were notified. Two views as to the cause of this epidemic are put forward.—The Public Health Committee say that the cause is the bad water-supply, and as evidence they point to the statements made by witnesses of the Water Commissioners (when they were promoting a Bill last year before a Parliamentary committee) as to the pollution of their catchment area at Stoneyford To prevent this risk in the future the Commissioners obtained Parliamentary powers to buy compulsorily all farms the drainage [illegible] way into the Stoneyford reservoir. Now the Public Health Committee allege that this has never been acted upon and it is hinted that before the present outbreak there was a risk of typhoid excreta again reaching this reservoir. Other links in the chain of evidence that the present epidemic is water-borne are the facts that the places specially affected are on the direct supply from the Stoneyford reservoir and that, as stated in the public press, the water in the houses affected even to the naked eye is dirty and deposits on a handkerchief, as it filters through, a dark residue. But up to the present no scientific bacteriological evidence has been given as to the condition of the water in the affected houses. This form of laboratory examination takes time, but the Public Health Committee, alive to its great value, are not neglecting to have it done and Belfast is awaiting the result The second view is that the disease is due to the soil being permeated with disease germs due to the defective drainage of so many of the jerry-built houses of Belfast; and, in truth, details brought before a meeting of the Public Health Committee on June 21st show an alarming state of affairs. It would appear that between April 25th and June 16th the drains of 819 houses in which typhoid fever occurred in the north division of the city had been tested. Of these, 431, or 52 6 per cent., were found in good order, [illegible] 003, or 47 4 per cent, were defective. In the south [illegible] of the city 731 houses in which typhoid fever occurred had been tested, and of these 342, or 46 8 per cent., were found to be in good order, and 389, or 53 2 per cent, were defective. Over 50 per cent. of the drains of houses where typhoid fever had not occurred had been found defective, and probably 50 per cent. of the drains of old houses are more or less defective, while the majority of the present cases of typhoid fever have occurred in a district where the houses are new and built on virgin soil. Now I think that these facts (and they were brought before the Public Health Committee at their meeting on June 21st) prove that sufficient attention in the past has not been paid to house sanitation in Belfast and that had a proper and effective supervision been exercised in the construction and arrangement of the drains there would have been far less typhoid fever A single case of typhoid fever coming into a district where there is defective drainage will spread the disease, and with such admittedly defective sanitation is it any wonder that the city of Belfast is never free from the disease? The Public Health Committee may blame the water-supply and say that it is the cause of the epidemic, but the Water Commissioners may in

[illegible] houses in Belfast? Everyone knows that in Belfast typhoid fever is never absent—it seems to be endemic; but at times there is, as at present, an alarming recrudescence of the disease assuming the type of an epidemic. No theory of the prevalence of the disease will be sufficient which does not [illegible] their share in giving rise to the disease. Unquestionably the present water-supply of Belfast is not good and that from the Stoneyford district is most suspicious. The Water Commissioners should push on rapidly with their new scheme which will bring a splendid supply of pure water from the Mourne mountains and in the meantime they should exercise their powers to buy out the farms in the neighbourhood of the catchment area at Stoneyford; while, on the other hand, the Public Health Committee must insist on the drainage of the houses of Belfast being made right and it is to be hoped that no more jerry-building (the great curse of Belfast in the past) will be permitted. All that is wanted is strictly to enforce the rules against such practices which already exist.

Municipal Honour to a Medical Man.

The Limerick Corporation on June 16th conferred the freedom of the city on Mr. Thomas Myles, M.D Dub., F.R.C.S. Irel. He is a native of Limerick and was recently elected President of the Royal College of Surgeons in Ireland.

June 26th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Disinfection of Wells.

At the meet[illegible] held on June 19th M. [illegible] surgeon, gave a descripti[illegible]n for disinfecting the we[illegible] pressure [illegible] after the method of Neisser does not give the [illegible] 95° C. and finally to 110° C. This process, Neisser considers, effects an absolute disinfection with great rapidity. It is, however, expensive, [illegible] well being 37 francs. Also it [illegible] it, for M Delorme, employing [illegible] stove as a generator, could not raise the temperature of the water in the well more than from 20° to 30°. M. Delorme then had recourse to permanganate of potassium [illegible] immes per [illegible] all living [illegible] in the well [illegible] A brown [illegible]rmless and [illegible]ter a little [illegible]iously sterilised in a [illegible] used to three parts [illegible] of an hour thorough [illegible] charcoal has been [illegible]r A bacteriological [illegible]iod of three months showed that the water after undergoing this process contained only an insignificant quantity of microbes—namely, 1026 per cubic centimetre—while before treatment the [illegible] centimetre and had a most [illegible] the water of which before [illegible] and contained in addition 112,160 microbes per cubic centimetre, after treatment it contained only 150 per cubic centimetre. The alleged difficulty in the use of permanganate—namely, that it leaves in the water an amount of potassium which is dangerous to health, is groundless, for examination of the water after treatment shows only very slight traces of potassium. Besides, it is perfectly easy to use permanganate of lime instead of the potassium salt. M. Delorme concluded by saying that in his [illegible] for the disinfection of [illegible]eap, the cost being only [illegible]

A Forerunner of Pasteur.

A monument has just been unveiled at Testo de Buch to a humble French medical man who passed all his life from 1779 to 1851 in this little hamlet, but who was perhaps one of the most intelligent medical men of the century. He was the initiator of the Pasteur theory, and there is to-day but little to add to the brochure of 100 pages which he published in 1836 under the title of "Reflections sur les Virus." His name was Jean Hameau and he lived all [illegible] from a Dog to Man. In 1818 he discovered the existence of pellagra, a disease then completely unknown in France. It was not until 1847 that his work upon viruses appeared in the *Revue Médicale* and he died quite unknown. In 1884 M. Solles made the work definitely known to the inhabitants of Bordeaux; and in 1895 a second edition was brought out by the son of the author, with a preface by Professor Grancher in which full credit was given to the humble practitioner of [illegible] [illegible]eritably the first to formul[illegible] [illegible]ant doctrine of living and [illegible] contagious viruses which [illegible] sown in a favourable soil. He made many attempts to discover the germs of vaccinia and variola, of measles, and of scarlet fever, but without success; nevertheless he held firmly to his conviction. If only he had possessed the laboratory accommodation and means of investigation available at the present day the microbe theory of disease would have been established 50 years earlier than it was. To day he is honoured by a bronze statue erected on the initiative of the medical men of the department where he worked, and tow[illegible] [illegible]sion subscribed [illegible] and orations were [illegible] in the analogous feeling of sadness at the reflection that as in the analogous cases of Duchenne and Morvan, who were pathologists of the first order but who never rose from the ranks of humble practitioners, the spectacle is so often seen in France of men with brains and intellects far above the average who live unknown and whose work meets with no response simply because they do not belong to the official ranks of the world of medicine.

The Feeding of Tuberculous Patients.

At a recent meeting of the Hospitals Medical Society M. Letulle, physician to the Boucicaut Hospital, described the régime upon which he put his tuberculous patients. Every patient has six meals per diem. At 6 A.M. when they awake they have tea and milk. At 8 A.M. they have soup and meat powder. At 11 A.M. they have a breakfast composed of three different dishes. At 3 P.M. a lunch of cold meat is given. At 5.30 P.M. they have dinner, which consists of soup and three dishes, and at bedtime—namely, at about 8.30 P.M.—they have a glass of milk and some rusks. In addition some patients have extras, such as cream, eggs, and raw meat. Under this régime, together with rest, most tuberculous patients, whether in the first, second, or third stage of their disease, put on weight in a wonderful manner. Unhappily, however, after some weeks the weight remains stationary and occasionally decreases little by little to the amount at which it was when the patient was admitted. As a rule men derive more benefit than women from their stay in hospital, for in the case of the latter the recurrence of menstruation nearly always brings about a loss in weight. The practical conclusion to be drawn from these facts is that tuberculous patients should be transferred to the country as soon as their weight remains stationary.

June 26th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Reciprocity of Medical Practice.

THE intimation of the Privy Council to the General Medical Council that Part II of the Medical Act of 1886 will be applied to Italy has been received with the greatest satisfaction by British practitioners resident here. This willingness on the part of Great Britain to grant the Italians the reciprocity of medical practice which the latter profess

to desire will, it is hoped, prevent the passing of the restrictive measures lately agitated for by certain Italian practitioners—measures which, had they become law, would have deprived foreign pract [illegible] which they now enjoy. Wh[illegible] these privileges may not yet b[illegible] Privy Council has, at all even[illegible] from the hands of those he[illegible] for the exclusion of British [illegible] illiberality of the English law regulating foreign practice in Great Britain. It is even thought by some that the result may be the establishment of that equal and full reciprocity of medical practice between the two countries on which such stress was laid in the discussion of this question during the last session of the General Medical Council. When the recent dissolution of the Italian Parliament took place a Bill had been prepared [illegible] at present the rights of [illegible] he existing [illegible] foreigners [illegible] the proposed law, only foreigners [illegible] which grants reciprocity of medical [illegible] be attended by other than an Italian practitioner. Moreover, only foreign practitioners holding diplomas from such a country would have been permitted to practise in Italy. A double restriction would thus have been imposed by the new law. To British practitioners it would have probably amounted to [illegible] Italians do not admit that the Brit[illegible] state permits them to practise in Great Britain; and even if it were not for this reason prohibitory the measure would have had the effect of cutting off the American practice which forms under existing conditions so large a proportion of the British practitioner's work. Although the proposed measure did not find [illegible] of the profession here it wou[illegible] form indicated, since its cha[illegible] the way, has been re-elected [illegible] of considerable Parliamentary influence, and because the majority of the Chamber of Deputies would have been indifferent in the matter. Now, however, that such a clear pronouncement has been made by the Privy Council of the intentions of the British Government, the hope at least seems justified that a proposal so much at variance with the repeatedly expressed desire of the Italians themselves for reciprocity will not be revived, and that in any future legislation for regulating foreign practice in Italy the claims of British medical men to fair and liberal treatment will be fully recognised.

Award of the Balbi-Valier Prize.

The biennial prize of 3000 lire (nearly £120) which was founded by Balbi-Valier has been awarded by the Venetian Institute of Sciences to Professor Grassi of Rome for his work on the mosquito and its relation to malaria.

Medical Legislators.

Amongst those lately elevated to the rank of Senator of the Kingdom appear the well-known names of Professor Maragliano of Genoa and Professor Golgi of Pavia. Professor Sanarelli of Bologna has also been elected one of the Deputies in the new Parliament.

The Malaria Problem.

Dr. L. Sambon and Dr. Low, the two medical men entrusted by the British Government with the perilous task of testing the possibility of guarding against malarial infection in the Roman Campagna, have at length found a favourable place for their purpose. After rejecting various other localities as for one reason or another unsuitable, they have selected a spot about two miles distant from Ostia, between Castel Porziana and Castel Fusano, and within five minutes' walk of the latter place. The site of their hut is on the edge of a "stagno," or swamp, forming part of the royal hunting demesne of Castle Fusano, and left undrained in order to preserve the wild boar, water fowl, &c., which frequent it. The hut will stand close to a canal containing a luxuriant growth of algæ and other aquatic plants and within a stone's throw of a clump of pine trees, which forms the outskirts of the Castel Fusano pine forest. The few dwellings near are inhabited by peasants who constantly suffer from malaria and are infested by mosquitoes of the anopheles variety. Situated thus in the heart of the swamps surrounding the mouth of a large river, among the haunts of innumerable mosquitoes of the malarial variety and in a locality notorious as one of the most deadly of the fever-stricken centres of the Roman Campagna, this dread and unhealthy spot appears to offer ideal conditions for the carrying out of the interesting but dangerous experiment now about to be begun. The two daring investigators hope to have everything in readiness early in July; in the meanwhile their time is profitably occupied in studying the animal and insect life of the Campagna, collecting and examining frogs, lizards, bats, spiders, mosquitoes, and the like. They have already made some interesting observations, as, for example, that although the larvæ of anopheles are at this season apparently very few, the adult mosquitoes are collected in the houses in great numbers, being especially numerous near byres and stables. The King has graciously given his consent to the erection of the hut in the royal preserves, and the municipality of Rome are doing everything in their power to help the enterprise.

June 22nd.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Montreal General Hospital.

AT the annual corporation meeting of the Montreal General Hospital, held in the latter part of the month of May, Dr. F. G. Finley, the secretary, presented the annual report. It showed that the income of the year from the ordinary sources was $76,421.72 and the ordinary expenditure $81,570.75, an excess over receipts of $14,149.63. As compared with the previous year the expenditure shows an increase of $1082.24, while the income shows a decrease of $1605.23. The total number of indoor patients treated to a conclusion during the year was 2824, being 94 more than in the previous year. Of these 189 remained over from the previous year and 2810 were admitted during the current year. 176 remained in the hospital at the end of this hospital year. 2629 were discharged, 195 having died in hospital, thus making the total of 2824. In regard to the 195 deaths 106 of them occurred within the first three days of their admission, a result in great measure due to severe accidents, but some to advanced disease. The average number of patients in the wards during the year per diem was 167, a decrease of nine compared with last year. The average number of days in the hospital per patient was 21·3 and the aggregate number of days in the hospital for all patients was 60,078 days. As compared with the previous year the report states that while the number of patients treat[illegible] the average daily number has [illegible] a shorter average stay per patie[illegible] more active service together with a less number of chronic and incurable cases. Of the indoor patients tre[illegible] were—males, 1795; and females, [illegible]. The following is the classificat[illegible] 1273; Roman Catholics, 1213; and o[illegible] Another interesting classification from the Montreal's standpoint: citizens, 2330; strangers, 368; sailors, 115; and immigrants, 11. Of the 2824 patients treated during the year 1684 were native-born Canadians and 773 hailed from the British Isles. The death-rate has been 6·5 per cent., or if the 106 cases which died within three days were excluded 3 per cent. In the outdoor department there were 37,373 consultations, being [illegible] 2295. In the medica[illegible] cases; surgical, 10,8[illegible] 1400; nose and thro[illegible] 60; and emergency, [illegible] during the year. [illegible] appointed surgeon to the Royal Canadian Regiment, has been granted leave of absence for active service in South Africa. His duties are at present being satisfactorily performed by Dr. Gilday. Dr. von [illegible], the medical superintendent, was re-appointed for another term. Mr. F. Wolferstan Thomas (since deceased) resigned the presidency, and Mr. James Crathern was unanimously elected to succeed him.

Canadian Army Medical Services.

Amongst medical men who take an active interest in our militia a good deal of satisfaction is being expressed that the Government of Canada has at last been able to get the medical service upon a proper and efficient footing. Almost since confederation in 1867 the medical officer has remained in the position that era in our politics found him up to the present time—a more or less of an ornamental appendage to

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been carried into
ff has been estab-
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jors, 22 captains,
of promotion the
officers of the Army Medical Staff are considered as a distinct branch, and promotion from rank to rank is to take place upon the same principle as that in vogue in a regiment or corps. By this order, also, five bearer companies and five field hospitals were established on a peace footing. A bearer company is to consist of one major, two captains or lieutenants, one sergeant-major, one quartermaster sergeant, one staff-sergeant-compounder, four
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compounders, two corporals, and 14 privates. Schools of instru
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which are to last one week,
two classes of certificate granted, a first class for those officers obtaining 70 per cent. of the whole number of marks and not less than 50 per cent. in any one subject; a second class to those who make 50 per cent. of the total and not less than 33 per cent. in any one subject.

Prepared for the Plague.

G having been
arance of the
ad quarantine
station on the Pacific coast of the United States, the eyes of the people of the Dominion have been turned with no little anxiety to our own territory in that quarter, wondering what are the facilities inaugurated by our Government
of the dread disease.
on our western shores
tendence of Dr. Watt,
his station is situated
nt about eight miles
on a long
from British Columbia's capital, Victoria. The equipment of the station far outclasses anything of its kind in the Dominion of Canada and is said to rival, or in fact to be far superior to, any similar institution in the neighbouring Republic to the south of us. On the wharf is a moveable engine for the purpose of forcing
the vessels.

plan and complete in all their arrangements. There is also a cheery home for first-class passengers at some distance from the common quarters. With such complete arrangements on our western confines the plague will have some difficulty in finding footing on Canadian or British Columbian soil.

Toronto, June 2nd.

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scheme for the
medical practi-
ch notification in
the case of private patients and 1s. for the notification in parish or dispensary cases.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Medical Anniversaries.

has been notable for the
place at Atlantic City, a
lantic coast in the vicinity
New Jersey State Medical Society with papers and

the laws regulating medical practice in
This was the tenth annual meeting of that body and it was very gratifying to learn of the progress of the reforms in the educational qualifications of
country. In every State these
standard of education and
no power to fix a standard of educational qualification
the first importance that the several States should come to an agreement and adopt a uniform standard. To that end this confederation of boards is properly exerting all its energies and has the support of the entire profession. The American Academy of Medicine, which admits to its membership only collegiates, was entertained with a variety of papers on ethical and scientific subjects. The American Medical Publishers' Association, the American Medical Editors' Association, and the Association of American Medical Colleges also held annual meetings at the same time and place. There were several other minor medical societies in session, but the great centre of attraction was the American Medical Association, which held its fifty-first annual meeting during four days. Indeed, it was the occasion of the meeting of this association that drew so many other societies to this city. The membership of the
association
ere in attend-
ance nearly
W. W. Keen
relating to the w

of th
al schools, hospitals,
was mostly given
compared the theological and museums, and libraries.
the medical schools. In
endowments of $18,000,0
no endowment. In the same year
endowments of $1,906,072, while 151 medical schools reported no endowment. Yet in 1899 there were only 8000 students of theology for whom this enormous endowment was provided, as against 24,000 students of medicine, with a slender endowment of less than $2,000,000. Each theological student had the income of an endowment of $2250 provided for his aid, while each medical student had the income from
As against 171 chairs of theology, all endowed, there
only five in medicine. He recommended that endow-
ts of medical colleges should be classed in three
gories—namely, first, the endowment of professorships; second, the endowment of the laboratories; and third, the endowment of post-graduate scholarships and research fellowships.

Typhoid Fever among the American Soldiers in 1898.

Professor Vaughan of the University of Michigan and late Division Surgeon United States Volunteers has reported the of the commission appointed by the Surgeon General typhoid fever as it appeared among the American soldiers. In accordance with instructions this commission visited the national encampments and inspected most of the regiments. It spent about 18 months in an examination of the medical records of these commands and accumulated a vast amount of information which is embodied in a report

about to be submitted to the Surgeon-General. The conclusions of the commission are as follows. Every regiment in the United States service during 1898 developed typhoid fever. More than 90 per cent. of the volunteer regiments developed typhoid fever within eight weeks after assembling at the state encampments. Most, probably all, *of the regular regiments developed typhoid fever* within less than eight weeks after going into camp. The fever not only appeared in every regiment in the service, but it became epidemic both in the small encampments of not more than one regiment and in the larger ones consisting of one or more corps. It became epidemic in camps located in the Northern as well as those located in the Southern States. Neither the miasmatic nor the pythogenic theories of the origin of typhoid fever is supported by these investigations, but they do confirm the doctrine of the specific origin of typhoid fever. Camp pollution was the greatest sin committed by the troops of 1898. It may be stated in a general way that the number of cases of typhoid fever in the different camps varied with the method of disposing of excretions. The tub system of the disposal of fæcal matter and the regulation pit did not prove satisfactory in permanent camps. Infected water was not an important factor in the spread of typhoid fever, but flies undoubtedly served as carriers of infection. It is probable that the infection was disseminated through the air in the form of dust. A command badly infected by typhoid fever does not lose the infection by simply changing the location, for it carries the specific agents of the disease in the bodies of the men, in their clothing, bedding, and tentage. About one-fifth of the soldiers in the national encampments of the United States in 1898 developed typhoid fever and army surgeons correctly diagnosed a little less than half the cases. The continued fever recognised among the soldiers the commission decides was typhoid fever. The belief that errors in diet with consequent gastric and intestinal catarrh induced typhoid fever is not supported by these investigations. The percentage of deaths among cases of typhoid fever was about 7·5. The deaths from typhoid fever were more than 80 per cent. of the total deaths.

Victims of Lightning in the United States.

The Superintendent of the United States Weather Bureau states that the loss of life by lightning in this country last year was greater than in any year since statistics began to be collected. 562 persons were killed instantly or suffered injuries from which death soon resulted and 800 persons were injured, many of them suffering from physical shock, others from painful burns, and some from temporary paralysis of portions of the body. Paralysis of the arms or legs was the most common form of injury. The greatest number of fatalities, or 45 per cent., occurred in the open; the next greatest number, or 34 per cent., occurred in houses; 11 per cent. occurred under trees; and the least number, 9 per cent., happened in barns. A number, mostly women, were killed while taking clothes from wire lines or while near the lines during a thunderstorm.

Death of Dr Edward O. Shakespeare.

This eminent man of science died suddenly from angina pectoris on June 1st, aged 54 years. Dr. Shakespeare devoted himself in his earlier years to ophthalmic surgery, to which he made some notable contributions. Later he became interested in sanitary investigations and on one occasion was commissioned by the Government to visit India and other countries for the purpose of reporting on cholera The results of a year's study of cholera in the Delta of the Ganges and the chief cities of India were embodied in a very voluminous report, published by Government, which has been regarded as an authority on the question of the propagation of that disease. In 1894 he was commissioned to attend the Ninth International Sanitary Conference which was called by the French Government and which met in Paris. He took a leading part in that Conference and many of the rules adopted by that body governing the pilgrimages to Mecca were advocated by him. During the war with Spain Dr. Shakespeare was appointed by the Surgeon General one of a commission to investigate the causes of typhoid fever among the soldiers in camp. His last days were spent in the completion of the report of the commission, which is a work of great magnitude and importance.

Responsibility of a Hospital for the Acts of a Nurse.

A verdict of $10,000 has been obtained against St. Vincent's Hospital of this city by a patient who was severely burned after an operation by a hot-water bottle placed against her leg while she was still under the influence of ether. It appeared on the trial that the person who placed the bottle against her leg was not a trained nurse but a pupil in the defendants' training school. The defence was based on the fact that the hospital was devoted to charity and on that plea chiefly two previous juries had failed to convict of culpable negligence. It was proved, however, that this patient was treated in the "pay ward" and that the plea of charity did not apply to her case and hence the verdict was against the hospital.

The Progress of the Bubonic Plague.

It is becoming daily more and more apparent that this pest can be arrested and stamped out even where all the conditions are most favourable for its propagation when modern scientific methods of sanitation are intelligently and rigorously applied. The outbreak in Honolulu is a striking instance of the enormous value of a well-appointed and well-equipped health organisation in a municipality which is allowed to exercise its authority with a free hand. The infection of the plague was there introduced into a community peculiarly susceptible by its location, its filthy habits, and its reckless opposition to all sanitary rules and restraints. It began to spread like fire in tinder and would, judging by its previous history, soon have involved the whole native Chinese and Japanese population. But the health authorities came at once to the rescue, and, like a well-organised fire department, first directed all their energies to the task of isolating the infected from the uninfected, and then attacked the infection itself. The result has justified measures that were regarded as unnecessarily severe, for the plague was at once brought under control and then exterminated. The same result has been secured at San Francisco and in a measure in Manilla. The lesson that we have learned will prove of incalculable value, not only in our future contests with this oriental pestilence, but with all other communicable diseases.

June 18th.

THE METROPOLITAN HOSPITAL SUNDAY FUND.

THE following were among the principal amounts received at the Mansion House in aid of this Fund up to noon on Thursday:—

	£	s.	d.
St. Michael's, Chester-square	1156	0	0
Chislehurst Parish Church (including £100 from Mr. Richard Foster)	290	0	0
St. Paul's Presbyterian Church, Westbourne-grove	103	0	0
St. John's Presbyterian Church, Kensington	82	0	0
St. Paul's Cathedral	255	0	0
St John's Wood Presbyterian Church	114	0	0
All Saints, Ennismore Gardens	487	0	0
Blackheath Congregational Church	154	0	0
St. Stephen's, South Dulwich	191	0	0
Union Chapel	130	0	0
St. Alban's, Streatham	182	0	0
St. Mark's, North Audley-street	107	0	0
All Saints, North Peckham	170	0	0
"F. H."	1000	0	0
St. Barnabas, Addison-road	100	0	0
St. Mary's, Kilburn	114	0	0
St. James's, Kidbrook	219	0	0
Holy Trinity, Sydenham	197	0	0

The total amount received by noon on Thursday, July 28th, was £24,000.

WELLS, SOMERSET.—At the meeting of the Wells Town Council held on June 18th it was decided to carry out the septic system of sewage disposal at an estimated cost of £4500.

THE NEW BELGRAVE HOSPITAL FOR CHILDREN.—The foundation-stone of this institution was laid on June 27th, by the Princess Henry of Battenberg. The site, which adjoins St. Mark's Church, Kennington, is the centre of a poor and populous district. £17,000 of the £50,000 required for initial expenses have been provided. The cost of the new site is £4000; the centre block and west wing will cost £25,000, the east wing £8000, the south wing £6000 and the out-patient department £5000. It is intended in the first instance to erect the centre block and west wing and the out-patient department. Purses to the amount of £200 were received by her Royal Highness.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—In June the following candidates passed in the subjects indicated:—

J. A . . Middlesex Hospital, J. R. . Hospitals, R. V. Cowey . . . y's Hospital, W. A. C. Cox (Section II.), St. Mary's Hospital; H. J. De Saram, Middlesex Hospital; W. D. French (Sections I. and II.), and T. R. Griffiths, . . . Hospital; J. H. Kellgren (Section II.).

Forensic Medicine—E. A. Dunn and E. Evans, Royal Free Hospital; A. W. H. Grant, Charing cross Hospital; J. H. Kellgren, Cambridge and St. George's Hospital; J. Klein, St. Mary's Hospital, . . . Hospital; S. Page, Birmingham; B. . . . Royal Free . . . T. Colyer, . Evans, Royal . Klein and . Cambridge . ospital, and . . . owing candidates, entitling them to practise medicine, surgery, and midwifery—Messrs. J. M. Anderson, H. J. De Saram, W. D. French, T. R. Griffiths, J. H. Kellgren, B. Leviit, W. P. R. Newth, and T. Young.

UNIVERSITY OF CAMBRIDGE.—At the examinations for medical and surgical degrees, Easter Term, the following candidates were successful in the subjects indicated:—

THIRD EXAMINATION.

Part I.—G. F. Barham, B.A., and A. E. Bodington, M.A., Caius; A. R. M. Brenan, B.A., Trinity; J. M. Brydone, Jesus; F. J. Child, . . . B.A., H. Selwyn; L. . B.A., Trinity; J. L. . B.A., Trinity; H. Walker, B.A., Caius; W. W. Wingate-Saul, M.A., B.A., and H. F. Williams, B.A., Caius; W. W. Wingate-Saul, M.A., Trinity; and H. C. S. Woodward, M.A., Downing.

Part II.—S. Bousfield, M.A., Caius; I. Bredford Emmanuel, H. P. . . . and G. V. Bull . . . Ub, B.A., and J. L. . H. N. Matthews, . St. John's; L. J. . ney Sussex; J. H. . J. G. Taylor, B.A., . A., Clare; and A. Whitmore, B.A., and . . . Caius.

The Council of the Senate have nominated Professor Sir Michael Foster, K.C.B., to represent the University on the Council of the Jenner Institute of Preventive Medicine.—Mr. A. W. Hill, B.A., King's College, and Mr. L. Lewton-Brain, B.A., St. John's College, have been appointed Demonstrators of Botany.—Mr. H. Nicholls, M.A., of St. John's College, was on June 19th admitted to the degree of M.D.—The Harkness Scholarship in Geology and Palæontology has been awarded to Mr. E. E. Walker, Trinity College.—The Professor of Pathology announces a series of ten courses of instruction in Pathology, Morbid Anatomy, Bacteriology, &c., to be given during the Long Vacation, beginning on July 5th.—The "Summer School" of Medicine for qualified practitioners, as announced last week, has been abandoned owing to the small number who intimated their wish to attend it.

UNIVERSITY OF BRUSSELS.—At the June examination the following practitioners satisfied the examiners and obtained the M.D. degree:—

W. Grantham Hill, B. Burnett Ham, J. L. Atkinson, and W. Gilbertson, London; C. S. Davies, Bishop's Stortford; T. K. Pallett, Burls Colne, G. H. Brand, Northampton; and Collingwood Fenwick, H. Hipwell, and S. Whitaker, London.

There were 13 candidates.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—FELLOWSHIP EXAMINATION.—The following gentlemen having passed the necessary examination have been admitted Fellows of the College:—Mr. R. C. B. Maunsell, M.B., B.Ch., B.A.O. Dub., and Mr. H. J. Satchwell, L.R.C.P. and L.R.C.S. Irel.

UNIVERSITY COLLEGE, LONDON.—The following is a list of the prizes awarded in the Faculty of Medicine for the winter session, 1899–1900:—Entrance scholarships: Bucknill Scholarship, £120, G. Hall; Int. Med. Course, £57 15*s.* each, J. A. Ferrière and E. Mapother*; Final M.B. Course, £79 16*s.* each, C. S. Parker* and T. L. Llewellyn. Atchison Scholarship (£55 per annum for two years), R. E. Lloyd. Bruce Medal: R. E. Lloyd. Physiology: Senior class, gold medal, A. M. H. Gray; third class, G. S. Hett; junior class, silver medal, R. A. Greeves. Certificates, 2† eq., J. A. Ferrière, G. Hall, 4,† R. S. Woods, and 5,† E. G. Perodeau; second class, A. G. C. Findlay; third class, N. S. Finzi,* P. M. Roberts, and C. S. White.* Anatomy: senior class, 1st silver medal, A. M. H. Gray, and 2nd silver medal, G. S. Hett; third class, C. H. Berry and M. W. Stewart-Smith; junior class, silver medal, R. A. Greeves, and certificates, 2,† G. Hall, 3,† and C. D. Holdsworth; second class, J. A. Ferrière, G. E. O. Williams, and R. S. Woods; third class, W. Appleyard, A. J. Blaxland, H. Farncombe, and A. G. C. Findlay. Medicine: second class, L. G. Hopkins, A. E. Jones, and R. E. Lloyd. Surgery: gold medal, R. E. Lloyd; silver medal, L. G. Hopkins; second class, A. E. Jones. Pathology, Morbid Histology, and Bacteriology: Tuke silver medal, T. L. Llewellyn; third class, C. S. Parker.* Practical Surgery: Erichsen prize, L. G. Hopkins; certificates, 2,† S. H. Bown, 3,† C. L. Addison, and 4,† T. C. Savage; second class, S. Bree, R. E. Lloyd, H. W. Reynolds, and A. N. Stevens. Clinical Medicine: senior class, Fellowes gold medal, H. W. Reynolds; Fellowes silver medal, A. E. Jones; certificate, 3,† T. C. Savage; second class, D. L. Davies, A. Emerson, L. G. Hopkins, R. E. Lloyd, and G. A. Upcot-Gill*; Junior class, Fellowes silver medal, A. F. Horn; certificates, 2,† G. E. Waugh, 3,† C. S. Parker,* and 4,† J. E. Stratton; second class, J. B. Burt, W. T. Crawford, L. A. E. de Zilwa, T. L. Llewellyn, and W. Parsons*; third class, J. C. Fleming and F. J. Lawson.* Clinical Dental Surgery: silver medal, L. G. Hopkins; certificates, 2† eq., A. E. Jones and R. E. Lloyd.

* Former pupil of University College School.
† Obtained the number of marks qualifying for a prize.

MEDICAL DEFENCE UNION, LIMITED.—The usual monthly council meeting of the union was held at the registered offices on June 21st, Dr. Walter Griffith, the President, being in the chair. An election of candidates took place, the total number of new members being 270. The general secretary read a draft letter which he had prepared in the matter of a report to the General Medical Council concerning the granting of certificates to persons other than medical practitioners by certain associations and lying-in institutions and which certificates are taken by the holders and the public as qualifying them to practise as midwives. The council adopted the letter and ordered it to be forwarded to the General Medical Council with a recommendation from the union to the following effect—viz., "That it is desirable in the interests of the public that medical practitioners either individually or collectively by association should not be allowed to issue any document which in any way can be taken by the holder or the public as granting authority to practise or which can be used to cover any practice of medicine, surgery, or midwifery, saving in the case of persons examined by duly appointed examining bodies under the supervision of the General Medical Council through their inspectors of examinations." Directions were given to the executive to call the attention of the council of the Royal British Nurses' Association to the heading in their register of nurses, Appendix B, and also to the use of the words "Diploma, London Obstetrical Society, &c.," appended to certain nurses' names. The union suggested to the Royal British Nurses' Association that the heading referred to—viz., "List of Nurse members who have Obtained Certificates Qualifying them to Act as Midwives"—i.e. to practise midwifery—was likely to mislead the public into the belief that these

nurses were duly qualified practitioners and that an alteration was desirable in the title to the appendix. A medical practitioner who was proved to be "covering" the practice of a much-advertised self-styled "aural institute" was ordered to be reported to his licensing corporation for unethical conduct. An important report drawn up by the solicitors of the union with regard to the present law relating to the keeping for gain of persons of unsound mind by registered practitioners who possessed no licence from the Lunacy Commissioners was read and ordered to be entered upon the minutes. The report urged an amendment in the lunacy law with regard specially to the definition of a "lunatic" and steps were directed to be taken to bring this question before the Lord Chancellor. A report in reference to the admission by school boards of certificates of ill-health of children signed by persons other than registered medical practitioners was ordered to be extended and dealt with later. Owing to the numerous cases which were brought before the council at each monthly meeting it was decided to hold executive council meetings regularly every 14 days in order to shorten the sittings if possible. Action was directed to be taken in certain instances where members were threatened with writs for alleged negligence in cases attended and reports were made by the solicitor and general secretary in other cases in which actions threatened had collapsed when it became known that the union was prepared to defend. A report was made by the solicitors in a case of dispute between a medical member and a druggist in reference to the ownership of prescription books kept by the latter which contained solely the prescriptions for patients for whom the druggist had dispensed medicines at the instance and at the charge of the practitioner. A satisfactory result of the difference was reported, but it was decided to recommend medical men who handed their dispensing over to local druggists that in order to avoid any chance of dispute they should use their own books in which the prescriptions could be copied in future.

CHURCH SANITARY ASSOCIATION.—The eighth annual meeting of this association was held last week at the Church House, Westminster.—Dr. W. Collingridge, sanitary officer for the Port of London, who presided, emphasised the need for the society's existence. A question which urgently demanded attention was the vital necessity for cleanliness in the preparation, storage, and use of food. Animals should be examined before slaughter by a competent authority. Municipal slaughter-houses would do much to prevent cruelty and undoubtedly much to prevent unfit food from being consumed.—The Rev. F. Lawrence, honorary secretary, reported that sermons had been preached during the year at home and abroad and efforts made to induce legislation respecting slaughter-houses, overcrowding, and the like. He appealed for additional funds.—The report was adopted on the motion of Dr. Christopher Childs, seconded by General Lowry.—Canon Rawnsley moved that it was desirable that preachers and all persons of influence should aid in preventing diseases and fostering the health of the people.—Mr. Hugh Munby seconded, and the Rev. A. M. Mitchell supported the motion, which was carried.—On the motion of Major W. C. Poole, R.A.M.C., it was agreed that "this meeting is of opinion that hygiene should be taught in elementary schools."—Miss Ethel Springett read an interesting paper on the subject of consumption.—Resolutions of thanks to the chairman and secretary concluded the proceedings.

CHARING-CROSS HOSPITAL MEDICAL SCHOOL.—The presentation of the scholarships, medals, prizes, and certificates awarded during the summer session of 1899 and the winter session of 1899-1900 took place on June 26th. Mr. H. Beerbohm Tree occupied the chair. The Dean, Dr. Montague Murray, in his report for the current year, stated that the number of new students had been 88 as contrasted with 82 in the previous year. The only important changes in the teaching staff were the appointment of Professor Moore of the Yale University to the Lectureship on Physiology, and of Dr. Marrett Tims to the Lectureship on Biology. In the school buildings important improvements had been effected. A new staircase had been added to the Museum and the electric light had been introduced. Reference was made to the large number of old and of present students now serving in South Africa, headed by Mr. C. Gibbs, one of the assistant surgeons, who is now senior surgeon to the Langman Hospital. The Dean announced that the new academical year would open on the evening of Oct. 1st with a conversazione given by the Students' Societies, that the Huxley lecture would be delivered on Oct. 2nd by Lord Lister, President of the Royal Society, and that the Old Students' dinner would be held on the same evening at the Hotel Cecil. The renovations and additions to the hospital had been commenced, and in two years' time the Dean anticipated that a considerable portion of the new buildings would be ready for occupation. Mr. Beerbohm Tree, in presenting the prizes, referred to the sympathy and regard with which the members of his own profession were ever held by members of the medical profession.

MEDICAL GOLF TOURNAMENT, 1900.—This tournament was held under medal play regulations on May 10th by permission of the Wembley Golf Club on their links. The winner was Mr. Percy Furnivall.

FALMOUTH.—A man at Falmouth was on June 19th fined £3 and £1 15s. costs for entering a cab whilst suffering from scarlet fever and also for mingling with the public in the street.

VACCINATION GRANT.—Mr. Richard Macartney, L.R.C.P., L.R.C.S., L.M. Edin., of Cinderford, Gloucestershire, public vaccinator for the fourth district, Westbury-on-Severn Union, has been awarded a grant for successful vaccination.

PERMANENT APPOINTMENT OF A MEDICAL OFFICER OF HEALTH.—Mr. C. M. Fegen, M.R.C.S. Eng., L.R.C.P. Edin., D.P.H., has been appointed permanently medical officer of health to the Croydon Rural District Council at a salary of £600 per annum. The appointment has been confirmed by the Local Government Board.

COMPLIMENTARY BANQUET.—Mr. Daniel Dougal, M.D., F.F.P.S. Glasg., of East Overton, Strathaven, was entertained on June 22nd in the Public Hall to a complimentary dinner an[illegible] on his retiring from [illegible] district after a life-long [illegible] sum of money has als[illegible] liberally assented to hand over the balance to the committee to appropriate as they deem most advantageous for the general public.

THE WOOLWICH, PLUMSTEAD, AND CHARLTON MEDICAL UNION.—At the last [illegible] the following resolutions were passed [illegible] icers of friendly societies be recommended to decline to attend juvenile members of clubs for a less sum than shall be agreed upon by members of this union. 2. That the union's resolution, 'That the same annual subscription with respect to juvenile clubs should be required as for men's clubs—viz., 4s. a year per member,' be taken to apply to clubs taking children over eight years of age only. 3. That under eight years of age children should be only taken at 8s. a year."

BRUSSELS MEDICAL GRADUATES' ASSOCIATION.—The twentieth annual general meeting of this association will take place at the Café Royal, Regent-street, W., on Tuesday, July 3rd, at 6.30 P.M. At 7.30 P.M. the members and their friends will dine together, and among the guests are expected Sir Walter Foster, M.P., Dr. G. Vivian Poore, Dr. T. Gilbart Smith, Dr. Dawson Williams, Mr. Howard Marsh, and Dr. Clement Godson. Any Brussels medical graduate desiring to be present is requested to communicate with the honorary secretary, Dr. Major Greenwood, 243, Hackney-road, N.E. Tickets for the dinner are 7s. 6d. each, exclusive of wine.

DEATHS FROM PTOMAINE POISONING.—An inquest was held at Carmarthen on June 15th upon the wife of the head constable of that town who had been taken ill after eating some shrimps on May 26th and had died on June 5th. Medical evidence showed that death had resulted from ptomaine [illegible] o that effect was returned. —A man, [illegible] ildren ate roast pork for dinner at [illegible] and within a few hours all, with [illegible] boys, were seized with vomiting. One of the children, a boy, aged five years, died on the following day. At the inquest held on June 13th the medical evidence showed that death was due to ptomaine poisoning and a verdict was given by the jury to that effect. This latter case is referred to in another column.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Hours of Labour in Shops.

LORD AVEBURY having failed to induce the Government to take steps this session for the appointment of a Parliamentary inquiry into the hours of labour in shops has announced that he will himself move for the appointment of such an inquiry at the commencement of next session.

Registered Companies and Medical Practice.

The Bill of the Government to amend the Companies Acts has been read a second time in the House of Commons and referred to the Grand Committee on Trade. The third clause of the Bill says that it shall be unlawful for a company to carry on the profession or business of a physician, surgeon, dentist, or midwife, and if any company contravenes this enactment it shall be liable on summary conviction to a fine not exceeding £5 for every day during which the contravention happens. Both Mr. RITCHIE (the Minister in charge of the Bill) and Mr. BALFOUR assured the House that the Government are anxious to see the measure passed into law during the present Parliament.

the census returns themselves were inaccurate.

in general terms.

no progress was made with it.

HOUSE OF LORDS.

TUESDAY, JUNE 26TH.

The St. Pancras Lunacy Scandal.

relieving officer to tak
before a particular m
qualified but more ac
institutions where they

received £7 17s 6d. pay

Private Mitchell, states that the people with
whom he had intended to stay had left Croydon. He accordingly
went to the Morley Hotel,
not improve and when he had

conclusion that the Act of 1889, Lord Randolph Churchill's Act, would not reach these persons. His own attention had been drawn to the

FRIDAY, JUNE 22ND.

The Extermination of Rabies.

During a debate in committee of

labours in con-
sides of the House
unpopularity and
uencies. He was

HOUSE OF COMMONS.

sufficient.

The Mortality Averages for Liverpool.

Sir JOHN WILLOX

culation of the mortality
whether measures would
in taking the next census
enumerators or otherwise.
said The question of my

tment would leave no
a success and to put
an end to the adulteration of food.

The St. Pancras Lunacy Scandal.

In Committee of Supply, when the vote for the salaries and expenses of the Commissioners in Lunacy in England was taken, Mr. BURNS called the attention of the Attorney General to what he described as a gross scandal in one of the branches of the *Lunacy Commissioners'* work. Some weeks ago it was discovered that five relieving officers employed by the St. Pancras Board of Guardians had been trafficking

with the owners of private asylums in London, so that lunatics who ought properly to have gone to the asylums controlled by the London County Council or some other public authority and there been maintained at a cost of 11s. per week, had been diverted to private asylums wher[illegible] charged ranged from 35s. to 40s. The five [illegible] y had received presents and sums of mon[illegible] n owners. The officials were censured by the guardians, but he was of opinion that they ought to be dismissed. There was a feeling that this sort of thing was somewhat general and he hoped the Attorney-General would have a special inquiry made.—The ATTORNEY-GENERAL (Sir Robert Finlay) said that if the facts had been correctly reported to the hon. Member they disclosed an offence of a very serious kind committed both by the relieving officers and by those who were alleged to have bribed them. He hoped, however, the hon. Member was mistaken in supposing that the practice was at all common, and he assured him that the Lunacy Commissioners would investigate with the utmost vigour the management of any establishment where it was shown the practices complained of prevailed.—Sir WALTER FOSTER, after speaking of the statement of the Attorney-General as satisfactory, said that the Member for Battersea (Mr. Burns) had rendered a public service in calling attention to the management of private lunatic asylums.

TUESDAY, JUNE 26TH.

Sunstroke at Aldershot.

Dr. FARQUHARSON asked the Under Secretary of State for War if he could state how many cases of sunstroke in connexion with the Aldershot review had been treated in hospital, what was the average duration of their stay, and whether any of the cases were reported as severe or dangerous; and whether the principal medical officer at Aldershot was consulted as to the propriety or otherwise of holding the field day on June 11th.—Mr. WYNDHAM: The total number of cases was 62; the duration of stay in hospital of those discharged was 10 days; 14 are still in hospital; 29 of the cases were considered severe. The general officer commanding did not consult the principal medical officer, nor was there any ground for doing so, since exceptional heat was not anticipated.

Inoculation for Enteric Fever.

Several questions were addressed to the Under Secretary of State for War with reference to the results of inoculation against enteric fever performed on soldiers going to South Africa. Mr. WYNDHAM replied that medical records showing these results were being compiled in South Africa but that the statistics at present available were not sufficient to enable him to give a conclusive reply. He doubted whether it would be possible to report on the subject before the end of the war.

MIDWIVES BILL.

DEBATE IN THE HOUSE OF COMMONS.

On Wednesday, June 27th, in the House of Commons, the order for the consideration of the Midwives Bill as amended in the Grand Committee on Law was reached at a quarter to five o'clock, that is to say, three-quarters of an hour before the time when the discussion of contested business must, by the rules of the House, cease.

Mr. GRIFFITH-BOSCAWEN moved that the Bill be considered upon this day three months—the formula for the rejection of a measure. The hon. Member said that he knew it was rather a strong order when a Bill had been read a second time by the House and considered and amended by a Grand Committee, to move that it be not considered, but in this case there were special reasons for the course he had adopted. First of all there was the great importance of the Bill and the necessity for the House considering its provisions very carefully and realising their full effect. Another reason was that the Bill had never had any proper consideration from the House. It came on for second reading most unexpectedly on an occasion when, to the astonishment of everybody, the business of the Government was suddenly concluded and when there was a very small attendance of members. The fact was that there had been no real or adequate discussion of the provisions of the Bill in the House. Then it went to the Standing Committee. Now reference to a Standing Committee was an excellent plan for Government Bills in which a large number of members were interested, but it was most unsatisfactory in the case of a private member's Bill, except, perhaps, from the point of view of the particular private members interested in the measure. By means of a little careful whipping any private member's Bill in which only a few members were interested could be got through a Standing Committee. This Bill was rushed through the Standing Committee and now that it came back to the House the House should carefully consider whether or not it should be allowed to proceed. He submitted that the Bill was contrary to the whole tendency of legislation in these matters in recent years. The whole tendency of recent legislation had been to insist upon a higher medical standard, to substitute science for what he might call quackery. This Bill went in quite the opposite direction. It proposed to give a certain bogus certificate to midwives to enable them to pose before the world as properly qualified. Under the Medical Acts before a person was recognised as qualified he must prove competency in medicine, surgery, and midwifery, while this Bill proposed to legalise the practice of midwifery by a class of people who were only qualified in one of these branches. If they could be sure that every case would be one of natural labour simple knowledge of midwifery would be adequate, but as in almost every case abnormal symptoms might arise it was necessary that there should be somebody present who was qualified not only in midwifery but also in medicine and surgery. He admitted the worthiness of the motives of those who promoted the Bill, but he denied that its provisions would have the effect desired. It would, in his opinion, largely increase the mortality in connexion with childbirth because it would induce people to employ partially qualified persons to a greater extent than in the past. The Bill, being badly drafted, stood in great need of amendment. Such an amount of amendment was necessary that the work could not be satisfactorily overtaken in the time now at the disposal of the House. In the Bill as it stood there was neither proper local control nor proper means of bringing to book certificated persons who did wrong. The local committee could do nothing but examine and report to the Central Midwives Board, a body sitting in London with no knowledge of the local circumstances, and all the Board could do was to suspend the midwife who did wrong; it had no power to fine her. It might be said that in this matter he was the mouthpiece of certain members of the medical profession who objected to the Bill from motives of self-interest, but this was not the case; he was the mouthpiece of no such people. The medical profession, or at any rate the great majority of the medical profession, objected to the Bill because they considered it contrary to the public interest.

Colonel MILWARD, in seconding the motion, said he objected to the Bill because it was another symptom of the modern craze for examining and registering everybody. They had had a measure for examining and registering plumbers and one for [illegible] architects, and now they had one for [illegible] midwives. Two of the promoters of this [illegible] country gentlemen, and he supposed that [illegible] a scheme for examining and registering [illegible] an advocate for greater freedom and a return to the old times when everybody had not to be examined and registered. He was anxious as any man to see the certified midwife properly educated and restricted to her proper duties, but he considered this Bill far too drastic.

Sir JOHN BATTY TUKE then rose to deliver his first speech in the House of Commons. He was received on rising with cheers from all parts of the House. He said that his hope was that this Bill would be allowed to proceed, because he believed it to be an important measure affecting the public health. The mover of the motion used the argument that the conduct of all case [illegible] medical profession. That would [illegible] his argument, midwives had exist[illegible] he was afraid they would continue to exist. One might as well attempt to suppress the condition which gave her her employment as attempt to suppress the midwife. It had been said that a large number of the medical profession objected to legislation in regard to midwives. That was true. But there was also a large section of the medical profession which approved of the registration of midwives and was anxious that their practice should be regulated. He desired to say that the General Medical Council, of which he had the honour to be a member—a body appointed by Parliament to regulate very important matters in connexion with medicine—approved generally of the Bill now before the House. As the House was aware, a series of Bills on this subject had been introduced. At the invitation of the Lord President of the Privy Council these Bills had been considered by the General Medical Council and after long and serious consideration the latter body had approved of them generally. The Bill now before the House was under consideration at the last meeting of the General Medical Council and its general principles were accepted, if not unanimously, at least by a very large majority. The Council had made suggestions from time to time the influence of which he saw in the Bill now under discussion. In his opinion the Bill contained the essentials of a good measure—registration of midwives, provision for their education, a good midwives board, and a provision by which all those practising midwifery should be under supervision. He must not be understood as approving of all that was in the Bill. He thought it might with advantage be amended very considerably, but he strongly urged the House to allow it to proceed inasmuch as it was an important measure and one which proceeded on the proper lines.

Dr. FARQUHARSON said that he quite admitted the importance of the Bill, but he was not prepared to admit that it had been sufficiently discussed. A large number of medical men opposed it and a large number supported it and with this balance of opinion he thought the House of Commons should be able after due discussion to produce a workable measure. In its present state the Bill was by no means perfect, though he admitted that upon the whole its principle was a good and sound one. He agreed with Sir John Batty Tuke that they could not end the midwife, but if they could not end the midwife they could mend her. At the present moment two-thirds of the poor women of the country in labour were attended by people of their own sex. Some of the midwives were clever, capable women; many of them were stupid, old, and unqualified. All that was wanted was to give midwives some reasonable period of study and some reasonable examination and then to hall-mark them in some reasonable way so as to show that they were qualified for their work. He had put down amendments in the hope of improving the Bill and he felt confident that when the measure came up again for discussion, perhaps in another session, they would be able to make it a really good Bill.

Mr. PARKER SMITH said that his opinion was that this matter should be looked at, not from the point of view of the interests either of medical men or of midwives, but from the point of view of the interests of the women of England and the coming generation, and he felt sure that the medical profession looked at it from this point of view. This was really not a medical man's question at all. The great majority of births were attended not by medical men but by women, and what was wanted by a Bill of this kind was to secure that these women had some kind of qualification. He felt confident that a very small amount of training would be sufficient to get rid of the worst of the dangers now incurred, because a very small amount of training and knowledge would enable these women to discriminate between the cases with which they could deal and the cases which required the skill of the qualified medical practitioner. He hoped the House would not put aside the subject, but express its sense of its urgency and importance by its vote that afternoon.

Sir WALTER FOSTER said he agreed with the last speaker that this was a matter of considerable importance, and because it was a matter of considerable importance he wanted it postponed. He thought he was to some extent responsible for some of this attempted legislation. Seven years ago he endeavoured to move the General Medical Council to take some steps to bring about the better education of women who attended the poor in childbirth and he was still in favour of that principle. For that principle he was prepared at any time to vote, but he was not prepared to vote for a Bill which would abrogate and repeal the Medical Acts of 1858 and 1886 by creating a new class of practitioner which was absolutely unnecessary in the interests of the public. What they wanted was that the public should have in time of childbirth properly educated nurses to look after them and when it was necessary to send for the local practitioner. That was the method by which they treated the paupers in the United Kingdom. The Local Government Board recognised these midwives under certain conditions. They recognised them only on condition that in every case of labour which they attended they let the parochial medical officer know that they

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before the country. This matter ...
... of the House in 1892 and 1893.

a close. When the debate will be ...
time of private Members has been appropriated by the Government for their own business.

PROPOSED EXEMPTION OF HOSPITALS FROM LOCAL RATES.

EVIDENCE BEFORE THE SELECT COMMITTEE.

FRIDAY, JUNE 22ND.

Mr. BURT, Chairman of the Central Hospital Board for London, had been partly examined at the previous sitting, said that the total amount of rates levied upon the 77 scheduled medical hospitals in the ... 921 70l. per annum. He thought that this was a

In reply to Sir CAMERON GULL, M.P., witness said that ... objection to exemption which had been raised in London came from

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ments, and depended entirely upon voluntary support, praying to be heard before the committee.

Mr. BURT said he quite admitted that the question presented many ... committee

the withdrawal of the claim. In the year named, however, ... was made that the exemption which had hitherto been allowed must cease, in pursuance of the circular issued by the Local Government Board of Scotland on Oct. 28th, 1897. The question of the legality of these particular exemptions had ... had been instituted some little ... the Board to check the procedu... matter was remitted to the Law Committee ... Board, who reported that as the law stood the institution had no defence against the claim of the parish council, and the rates amou ing to £348 15s. 9d. were accordingly paid. In March, 1897, a spe committee of the Board, consisting of the then Lord Provost (Andrew McDonald), Professor Rankine, and himself, were appoin to approach the Local Government Board with reference to this question. That committee subsequently met representatives of the Board and discussed the question but without any satisfactory result. In December, 1897, the matter was again before the Law Committee, when they reported that it was their opinion that under the 67th Section of the Poor-law Act, 1845, it would be lawful for the parish

otherwise from the funds raised
unds of the Royal Infirmary the
institution was assessed, or such
asonable and expedient. A letter

imated that it was ...
sible for the recovery of the assessment to
piers legally liable were duly assessed.

The committee then adjourned.

TUESDAY, JUNE 26TH.

The committee met again to-day, with Mr. T. W. RUSSELL in the chai ... witnesses

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He understood that it was a large establishment ... the valuation list would mean a very great loss to the ratepayers of the locality who he imagined, rarely benefited directly from the hospital. He fancied there would be great difficulty in defining the hospi ... to relief

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... said he

of exemption from rating being ...
had not been considered by ...
He was interested in the Royal College of Music ...
About five years ago the question was raised whether that institution came within the four corners of the Act of 1843. The question came before the courts and the judge gave his decision in favour of the Royal College, which in consequence was relieved of rates to the extent of £500 or £600 per annum. He did not suppose that the ratepayers of South Kensington were aware that they contributed this amount to the Royal College of Music. He was not opposed by any means to the idea of hospitals receiving aid from the rates, but he thought that the aid should be given in the form of a contribution. He thought that in all cases where the benefit could be fairly well localised the local authority might make a contribution to a hospital, but of course it would be a strong thing for Parliament to say that the contribution should be compulsory.

Mr. RALPH BROCKLEBANK, representing 14 of the hospitals of Liverpool, gave evidence in favour of exemption. The institutions he represented relieved the rates to a very large extent and besides they carried on valuable educational work which, he thought, should be acknowledged. He admitted that it might be difficult to resist other claims ... but he considered the hospitals had a special case, ... would have to be otherwise pro-

Mr. WAINWRIGHT, treasurer ...

examined, said that last year that institution paid £2566 in rates. If the hospital were relieved of this charge its managers would be able to open two wards with 30 beds each and treat between 380 and 400 in-patients. Owing to want of funds they were obliged to refuse many

[illegible] Unions' [illegible] nes for [illegible] on and [illegible] London [illegible] of the [illegible] nd the [illegible] one to promote the welfare of the feeble minded who, up to the present time, had been a very neglected class. The only question was this, Could exemption be made in favour of the buildings belonging to this class [illegible] Take, for instance, [illegible] An institution for [illegible] ablished in another county to that with which he was connected, from which the patients would be drawn. Over 400 acres of land would be occupied, having taken over those buildings and the grounds associated with them. Upon that land between 300 and 400 patients would be placed. Was it right that the authorities in that county should lose the whole of the rates from that institution and have to bear the whole of the expense of maintaining the roads along which all the stores, such as coals, &c., would have to be carted? If they made an exemption in favour of the feeble-minded, where were they going to draw the line? Epileptic colonies and the epileptics, who were certainly as deserving a class as the feeble-minded, would demand, and rightly demand, exemption, and personally he did not see how they were to grant the one and refuse the other. If exemption was given to these institutions it should be on a plan similar to the Agricultural Rating Act, by which the loss to the unions was made good from the Imperial Exchequer. As he said before, the unions had every sympathy with the promotion of establishments for the welfare of the feeble. [illegible] this matter should [illegible] neal, as in this inst[illegible] [illegible] be made a case for exemption of a large number of other institutions which appeared to them equally deserving of exemption.

The Rev A. W. JEPHSON, the last witness, said he [illegible] School Board of London who paid £120,000 in rates [illegible] view of the Board was that all exemptions were unfair [illegible] who were not exempted. The Board were of opinion [illegible] be no exemptions and that if possible Parlia[illegible] injustice which had already been done. I[illegible] apprehension to say that the Board sent its cl[illegible] in London for the examination of their eyes [illegible] the parents to have the eyes of their children [illegible] them with a list of the hospitals, but it [illegible] parents where the children should be examined. He might add that the Board no longer gave a list of the hospitals.

The committee then adjourned.

BOOKS, ETC., RECEIVED.

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BALE, J., SONS, AND DANIELSSON, Great Titchfield street, Oxford-street, London.
More Loose Links in the Darwinian Armour. By P. Y. Alexander, M.A., LL.D., &c. 1900. Price 2s. net.
A Handbook of the Gnats or Mosquitoes, giving the Anatomy and Life History of the Culicidæ. By Major G. M. Giles, I.M.S., M.B. Lond., F.R.C.S. 1900. Price 15s. net.
The Early Treatment of Appendicitis. By Donald W. C. Hood, M.D., F.R.C.P. Lond. 1900. Price 2s. 6d. net.

BAILLIÈRE, J. B. ET FILS, Paris.
Les Actualités Medicales, Les Albuminuries Curables. Par J. Teissier. 1900.

BAILLIÈRE, TINDALL, AND COX, King William street, Strand, London.
The Philosophy of Voice. By Charles Lunn. Ninth (standard) edition. 1900. 5s. net.
On Diabetes Mellitus and Glycosuria. By Emil Kleen, Ph.D., M.D. 1900. Price 10s. 6d. net.

BELL, GEORGE AND SONS, London.
My Diocese during the War. By the Bishop of Natal. Illustrated. 1900. Price 6s.

BLACKWOOD, W., AND SONS, London.
Journal of the Scottish Meteorological Society, with Tables for 1897 and 1898. Third Series, Nos. 15 and 16. Price 15s. (gratis to members).
Recollections of My Life. By Surgeon-General Sir Joseph Fayrer, Bart., K.C.S.I., M.D., &c. 1900. Price 21s.

BUTTERWORTH AND CO., Bell yard, London, W.C.
A Practical Guide for Sanitary Inspectors. By F. C. Stockman. With an Introduction by H. Kenwood, M.B., L.R.C.P., D.P.H. 1900. Price 5s. net.

CARRÉ, GEORGES, ET C. NAUD, Paris.
La Goutte et le Rhumatisme. Par A. Delpeuch. 1900.

CASSELL AND COMPANY, London.
Diseases of the Tongue. By H. T. Butlin, F.R.C.S., and W. G. Spencer, M.S., M.B. Lond. Illustrated. 1900. New edition, price 21s.

CHURCHILL, J. & A., Great Marlborough street, London.
Surgery: Its Theory and Practice. By W. J. Walsham, F.R.C.S. Eng. Illustrated. Seventh edition. 1900. Price 15s.

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Histology of the Blood, Normal and Pathological. By P. Ehrlich and A. Lazarus. Edited and translated by W. Myers, M.A., M.B., B.Sc., with a Preface. By G. Sims Woodhead, M.D. 1900. Price 5s. net.

CLIVE, W. B., London.
The Organised Science Series. First Stage Hygiene. By R. A. Lyster, B.Sc. Lond. 1900. Price 2s.

CONSTABLE, A., AND CO., Whitehall-gardens, Westminster.
The Ascent of Mount St. Elias. By H.R.H. Prince Luigi Amedeo. 1900. 31s. 6d. net.

DEACON, C. W. & CO., Duke-street, Adelphi, London.
Before Good Night (being a Little Story told to a Little Child) and from Door to Door (a sequel to the above). By G. H. R. Dabbs, M.D. 1900. Price 2s. 6d.

F. A. DAVIS COMPANY, Philadelphia.
Annual and Analytical Cyclopædia of Practical Medicine. By C. E. de M. Sajous, M.D., and others. Illustrated and Maps. Vol. V. 1900.

FINCH, B., AND CO., 82, Belvedere-road, Lambeth, London.
Finch's Scientific and Novel Sanitary Appliances for Hospitals and Asylums.

FISC[illegible] [illegible] orlesungen. Von Dr. E. Leser. Vierte [illegible]

GREEN, W., AND SONS, Edinburgh.
Encyclopædia Medica. Editor, C. Watson, M.B., M.R.C.P.E. Vol. IV. Foot to Hernia. 1900.

INGRAM, ROBT., Pleydell street, Fleet-street, London.
Sewage and the Bacterial Purification of Sewage. By S. Rideal, D.Sc. Lond. 1900.

KEGAN PAUL, TRENCH, TRÜBNER AND CO., Paternoster House, Charing Cross road, London.
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[illegible] H., High Holborn, London.
[illegible] ressive Medicine. Vol. I. March, 1900. Edited by H. A. [illegible] M.D., assisted by C. A. Holder, M.D. 1900. Price 12s. 6d.

[illegible] J. F., München.
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Theorie und Praxis der Schattenprobe. Von Dr. O. Neustatter. 1900.
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Surgical Anæsthesia. Addresses and other Papers. By Henry J. Bigelow. 1900.
A Memoir of Henry J. Bigelow. 1900.
Orthopedic Surgery and other Medical Papers. By Henry J. Bigelow. 1900.

MACDOUGALL, A., Mitchell-street, Glasgow.
Lectures on Clinical Medicine delivered in the Glasgow Royal Infirmary. By John L. Steven, M.D. Illustrated. 1900. Price 6s.

MACMILLAN COMPANY, London.
The Ophthalmic Patient. By P. Fridenberg, M.D. 1900. Price 6s. 6d. net.
The Care of the Child in Health. By N. Oppenheim, M.D. 1900. Price 5s.

MALOINE, A., Paris.
La Medication Ergotée (Ergot de Seigle, Ergotine, Ergotinine). Par Samuel Bernheim. 1900.

MARCUS, LOUIS, Berlin.
Fliegenlarven als gelegentliche Parasiten des Menschen. Von Dr. E. Peiper. 1900.
Dermato-histologische Technik. Von Dr. M. Joseph und Dr. G. Loewenbach. 11. Auflage. 1900.

MIEDES, RAMON, Zaragoza.
Lecciones de Clinica Quirurgica. Por Dr. R. Lozano. 1900.

RENSHAW, H., 356, Strand, London.
An Introduction [illegible] Anatomy. By T. H. Green, M.D., F[illegible] Revised by H. M. Murray, M.D., F[illegible] Price 21s.

SCIENTIFIC PRESS, Southampton-street, Strand, London.
Burdett's Hospitals and Charities. 1900. By Sir H. Burdett. Eleventh year. Price 5s.

SCOTT, GREENWOOD, AND CO., Ludgate-hill, London.
The Risks and Dangers of Various Occupations and their Prevention. By L. A. Parry, M.D., B.S. Lond. 1900. Price 7s. 6d. net.

SIMPKIN, MARSHALL, HAMILTON AND CO., Stationers' Hall-court, London.
The Failure of Surgery in Cancer, and what has Medicine done during the Queen's Reign? By S. Kennedy, L.R.C.P., L.R.C.S. Edin. 1900. Price 1s. net. By post 1s. 3d.

SMITH, ELDER, AND CO., Waterloo-place, London.
Origin and Character of the British People. By N. C. Macnamara. 1900. Price cash 4s. 6d.

SWAN SONNENSCHEIN AND CO., Paternoster-square, London.
With Methuen's Column on an Ambulance Train. By H. N. Bennett. 1900. Price 2s. 6d.

UNIVERSITY PRESS OF LIVERPOOL.
The Thompson-Yates Laboratories Reports. Edited by R. Boyce, and C. S. Sherrington. Illustrated. Vols. I. and II., reprints and reports 1893-1899.

WILSON, BITTINGHAM, Royal Exchange, London.
Food and Drugs: A Manual for Traders and Others. By Chas. J. Higginson, Barrister-at-Law. 1900. Price 2s. 6d. net.

Conty's Practical Guides to the Paris Exhibition, 1900 (Conty's Guides Office, 12, Rue Auber, Paris), price 1s. net.—Magazines, &c., for July: Strand Magazine, Boy's Own Paper, Girl's Own Paper, Leisure Hour, Sunday at Home, Ludgate Magazine, Westminster Review, Contemporary Review, Friendly Greetings, Myra's [illegible]

Munsey's Magazine, and Sandow's Magazine.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

[illegible] appointed Medical Officer [illegible]

[illegible] pointed Medical Officer for Epping Union, vice F. A [illegible]

[illegible] C.S., has been appointed [illegible] Hospital.

BENNETT, J. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the No. 4 Sanitary District by the Maidstone Board of Guardians, vice A. S. Wood.

[illegible] Council.

[illegible] Health for the Grendale Rural Sanitary District, vice R. Walker, resigned.

BAIRDAIRN, J. S., M.B., B.Ch. Oxon., F.R.C.S. Eng., has been appointed Pathologist to the Chelsea Hospital for Women, Fulham road, London, S.W.

[illegible] Visiting Medical Officer at the Infirmary of the King's Norton Union.

HORA, J., M.B., B.S. Lond., L.R.C.P., M.R.C.S., has been appointed Resident Medical Officer at the Infirmary of the King's Norton Union.

KEATING, JAMES, L.R.C.P., L.R.C.S. Edin., has been appointed Certifying Surgeon under the Factory Acts for the Ballygarvan Dispensary District, County Cork.

KELLY, T. J., L.R.C.S. Irel., has been appointed Certifying Surgeon under the Factory Acts for the Buniscorthy Nos. 1 and 2 Dispensary Districts.

LOX [illegible] has been appointed [illegible] mes, Aston Union.

MA[illegible] has been appointed [illegible]

MCC[illegible] appointed Medical [illegible] Dispensary District.

MACLENNAN, ALEXANDER, M.D., C.M., L.M. Rotundis, has been appointed Extra Dispensary Surgeon to the Western Infirmary, Glasgow.

MANNIX, J. F., L.R.C.P., L.R.C.S. Irel., has been appointed Certifying [illegible] ep District.

[illegible] has been [illegible] District of [illegible]

[illegible] re appointed [illegible]

[illegible] appointed [illegible] ry District.

[illegible] Camb., has been appointed Medical Officer of Health for the Borough of [illegible]

vice F. Friend.

RICHARDS, JOHN, Medical Officer [illegible] District by the [illegible]

ROBERTSON, J. A., [illegible] the Tarcet Sanitary [illegible] Payne, deceased.

SIMONS, CHARLES EDWARD GLASCODINE, M.B., C.M. Aberd., D.P.H. R.C.S. Edin., has been appointed Medical Officer of Health for Merthyr Tydvil.

STEDMAN, S. B., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Swinhope Sanitary District of the Calstor Union, vice J. H. O. Richards, resigned.

SUTTER, H. R., M.D. Aberd., L.R.C.P. Lond., M.R.C.S., has been appointed First Assistant Medical Officer for the Poplar and [illegible]

SA[illegible]

SY[illegible]

TE[illegible] Senior House Surgeon to the [illegible]

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

[illegible] ASYLUM, Portsmouth.—Junior Assistant Medical Officer. [illegible] increments to £150, [illegible] ary £80 per annum [illegible] House Surgeon for [illegible] ut residence.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House Surgeon. Salary £120 per annum, with rooms and attendance (not [illegible] to [illegible]

CARDIF[illegible] Ba[illegible] the [illegible]

CENTR[illegible] to [illegible]

CHELS[illegible] Me[illegible] He[illegible]

HONOR[illegible] INFECTIOUS DISEASES HOSPITAL.—[illegible]

CITY OF LIVERPOOL INFECTIOUS DISEASES HOSPITALS, unmarried. Salary [illegible] Resident Medical Officer for these hospitals, unmarried. Salary £100 per annum, with board, washing, and lodging at the hospital. Applications to be addressed to the Chairman of the Port Sanitary and Hospitals Committee, under cover to the Town Clerk, Municipal Offices, Liverpool.

CLAYTON HOSPITAL AND WAKEFIELD GENERAL DISPENSARY.—Junior House Surgeon, unmarried. Salary £50 per annum, with board, [illegible]

[illegible] Salary £80 with board, [illegible] House Surgeon and [illegible]

DEVO[illegible] of House [illegible] £50, with [illegible]

A[illegible]

S[illegible]

f[illegible] ...—House [illegible]

DU[illegible] ...R.

HA[illegible]

[illegible] to the Guardians Office, [illegible]

HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE, Virginia Water, Surrey.—Junior Assistant Medical Officer. Salary £100 per annum, rising £20 annually to £200, with board, lodging, washing, and attendance.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London.—Two House Surgeons to Out-patients, non-resident, for six months. Salary 25 guineas each and lunch at the hospital.

KENSINGTON INFIRMARY.—Resident Assistant, *pro tem.* Salary £3 3*s.* per week, with apartments, board, and washing. Apply to the Medical Superintendent at the Infirmary in the Marloes-road.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL. — House Surgeon. Salary £140, rising £10 annually to £170, with rooms in the infirmary and attendance (option of board at £40 per annum).

LIVERPOOL STANLEY HOSPITAL.—Honorary Physician.

LONDON HOSPITAL Whitechapel, E.—Assistant Surgeon.

METROPOLITAN ASYLUMS BOARD.—Four Assistant Medical Officers—males—at the Fever and Small-pox Hospitals, unmarried. Salary £160 per annum the first year, £180 the second year, and £200 the third and subsequent years, with board, lodging, attendance, and washing (subject to statutory deduction). Applications to the Clerk to the Board.

MIDHURST UNION, Sussex.—Medical Officer and Public Vaccinator for the Tillington District. Salary £60 per annum (subject to statutory deduction). Apply to the Clerk, Midhurst, Sussex.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Junior Medical Officer for six months. Salary at the rate of £60 per annum, with board, attendance, and washing.

NORTH RIDING ASYLUM, Clifton, York.—Junior Assistant Medical Officer. Salary £125, with board, lodging, and washing.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £140 per annum, all found except board.

OLDHAM INFIRMARY.—A Senior and a Junior House Surgeon for one year. Salary £85 and £70 per annum respectively, with board, residence, and washing.

PARISH OF BIRMINGHAM WORKHOUSE INFIRMARY.—Assistant Resident Medical Officer for the Workhouse Infirmary, for one year. Salary £100 per annum, with furnished apartments, rations (no alcoholic liquors), coals, gas, laundry, and attendance. Applications to the Clerk to the Guardians, Parish Offices, Edmund-street, Birmingham.

PARISH OF ST. GILES, Camberwell.—Locum Tenens to act for the Medical Officer at the Constance-road Workhouse, East Dulwich, for four weeks. Salary 5 guineas per week, and the usual in-door allowance. Apply to the Clerk to the Guardians, Offices, 29, Peckham-road, S.E.

PONTEFRACT GENERAL DISPENSARY AND INFIRMARY.—Resident Medical Officer, unmarried. Salary £150 per annum, with furnished rooms, fire, lights, and attendance.

POPLAR AND STEPNEY SICK ASYLUM DISTRICT.—Second Assistant Medical Officer for the Sick Asylum at Bromley, Middlesex, E. Salary £100 per annum, with rations, furnished apartments, and washing (subject to statutory deduction). Apply to the Clerk to the Managers, Bromley, Middlesex, E.

ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, Dyke-road, Brighton.—House Surgeon for twelve months. Salary £80, and board, lodging, and washing. No stimulants.

ROYAL HALIFAX INFIRMARY.—Senior House Surgeon, unmarried. Salary £90 per annum, with residence, board, and washing. Also Third House Surgeon, unmarried. Salary £50 per annum, with residence, board, and washing.

ROYAL INFIRMARY FOR THE SICK AND LAME POOR OF THE COUNTIES OF NEWCASTLE-UPON-TYNE, NORTHUMBERLAND, AND DURHAM.—Honorary Ophthalmic Surgeon. Applications to the Secretary, Royal Infirmary, Newcastle-upon-Tyne.

RUBERY-HILL ASYLUM FOR THE CITY OF BIRMINGHAM, Barnt green, Worcestershire.—Senior Assistant Medical Officer.

ST. MARY'S CHILDREN'S HOSPITAL, Plaistow, E.—Assistant Resident Medical Officer for six months. Salary at the rate of £80 per annum, with board, residence, laundry, &c.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, Paddington, London.—Demonstrator of Physiology. Salary £150.

ST. MUNGO'S COLLEGE, GLASGOW, FACULTY OF MEDICINE.—Bellahouston Chair of Anatomy. Emoluments £300 per annum.

ST. PAUL'S HOSPITAL FOR SKIN AND GENITO-URINARY DISEASES, Red Lion-square, London.—Honorary Anæsthetist.

SALOP INFIRMARY, Shrewsbury.—Assistant House Surgeon for six months. Salary at the rate of £60 per annum, with board and washing.

SALFORD ROYAL HOSPITAL.—Honorary Medical Officer for the Pendleton Branch Dispensary.

STAMFORD-HILL AND STOKE NEWINGTON DISPENSARY, 189, High street, Stoke Newington.—Assistant Resident Medical Officer. Salary £100 per annum, with board.

STAMFORD, RUTLAND, AND GENERAL INFIRMARY, Stamford.—House Surgeon for two years, unmarried. Salary £100 per annum, with board, lodging, and washing.

SURREY DISPENSARY, Southwark, S.E.—Resident Medical Officer. Salary £120 per annum, with furnished apartments, coals, gas, and attendance. Apply to the Secretary, 53, Borough High-street, Southwark.

SUSSEX COUNTY HOSPITAL, Brighton.—Assistant House Surgeon, unmarried. Salary £30 per annum, with board and residence in the hospital.

SWANSEA GENERAL AND EYE HOSPITAL.—House Physician for twelve months. Salary £50 per annum, with board, apartments, washing, and attendance.

THE CHIEF INSPECTOR OF FACTORIES gives notice of vacancies as Certifying Surgeons under the Factory Acts:—At Portsmouth in the county of Southampton; and at Ellesmere, in the county of Salop

UNIVERSITY COLLEGE, Cardiff.—Demonstrator and Assistant Lecturer in Anatomy, and Demonstrator and Assistant Lecturer in Physiology. Salary in each case, £120.

WESTERN GENERAL DISPENSARY, Marylebone-road, London.—Honorary Physician. Also House Surgeon, resident and unmarried. Salary £75 per annum, with board and 10s. a month for washing.

WEST HAM HOSPITAL, Stratford, E.—Junior House Surgeon for one year. Salary £75 per annum, with board, residence, &c.

WEST RIDING ASYLUM, Menston, near Leeds.—Locum Tenens for two months. Salary, three guineas per week, with board and apartments.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Surgeon. Salary £100 a year, with board, lodging, and washing. Also Assistant House Surgeon, for six months. Honorarium at the rate of £75 per annum, with board, lodging, and washing.

YORK DISPENSARY.—Resident Medical Officer, unmarried. Salary £110 a year, with board, lodging, and attendance

Births, Marriages, and Deaths.

BIRTHS.

BARENDT.—June 20th, at 65, Rodney-street, Liverpool, the wife of Frank Hugh Barendt, M.D. Lond., F.R.C.S. Eng., of a son.

BUCHANAN.—On June 26th, at Hammersmith-terrace, W., the wife of G. S. Buchanan, M.D., of a daughter.

CROSS.—On June 19th, at The Limes, Wallwood-park, Leytonstone, N.E., the wife of Ernest W. Cross, M.R.C.S., L.R.C.P. Lond., of a son.

FORDE.—On June 18th, at Central-hill, Upper Norwood, S.E., the wife of R. M. Forde, Colonial Surgeon, Gambia, of a son.

GONIN.—On June 19th, at Towcester, the wife of Edmund Henri Gonin, M.D., of a son.

HAMILTON.—On June 23rd, at Sandon-street, Falkner-square, Liverpool, the wife of George G. Hamilton, F.R.C.S., of a daughter.

HORNER.—On June 27th, at St. Mary's-road, Walthamstow, the wife of Charles Julian Horner, L.R.C.P. Lond., M.R.C.S., of a daughter.

LAMBE.—On June 20th, at West View, Seaford, the wife of Thomas Lambe, M.R.C.S., L.R.C.P., of a daughter.

LEWIS.—On June 21st, at Farleigh, Pontypridd, the wife of B. M. Lewis, M.R.C.S., L.R.C.P. Lond., of a daughter.

LISHMAN.—On June 21st, at Puerto Orotava, Teneriffe, the wife of Frederick Lishman, M.D., of a daughter.

MANN.—On June 10th, at Revesby, Lincolnshire, the wife of F. W. St. Mann, M.R.C.S., L.R.C.P. Lond., of a daughter.

PARKINSON.—On June 19th, at Wimpole-street, the wife of J. Porter Parkinson, M.D. Lond., of a son.

ROWE.—On June 20th, at Cecil-street, Margate, the wife of Arthur W. Rowe, M.S., M.B., of a son.

MARRIAGES.

BACON—PLATT.—On the 19th inst., by the Rev. O. P. Sergeant, at St. James's, West End, near Southampton, Robert A. D. Bacon, M.R.C.S. Eng., L.R.C.P. Lond., only son of Robert Bacon, Esq., R.N., of Sandmere, Bitterne Park, Southampton, to Elizabeth S. Platt, second daughter of Charles Platt, Esq., R.N., of Wood Leigh, West End, near Southampton.

CARTER—TOONE.—On June 21st, at Emmanuel Church, Loughborough, Arthur Burnell Carter, M.R.C.S., L.R.C.P., of Dartford, Kent, to Edith Annie, eldest daughter of the late William Henry Toone, Solicitor, of Loughborough.

COURT—PARLBY.—On June 19th, at St. Peter's, South Weald, by the Rev. R. W. Chilton, assisted by the Rev. Canon Fraser, Edward Percy Court, M.R.C.S., L.R.C.P., of Hambledon, Hants, to Lillie, eldest daughter of John P. Parlby, of Harold Wood, Essex.

DUNLOP—GRIMLEY.—On June 22nd, at St. Magnus Episcopal Church, Lerwick, Scotland, Alexander Watson Dunlop, M.A., M.D., Dunrossness, to Agnes, eldest daughter of Mr. William Grimley, Sutton-bridge, Lincolnshire.

HIBBARD—WEST.—On June 27th, at Holy Trinity Church, Cottage-grove, Bow, E., Charles E. Hibbard, L.R.C.P., L.R.C.S., of The Grove, Wandsworth, to Alice, only daughter of James West, Bow-road, E.

MAGUIRE—JEFFERYS.—On June 23rd, at St. Helen's Church, North Kensington, W., George J. Maguire, M.B., Richmond, Surrey, to Louise, younger daughter of Francis Jefferys, of Cambridge-gardens, W.

RUST—SHIERS.—On 21st inst., at St. Margaret's Church, Dunham Massey, by the Rev. Albert Rust, brother to the bridegroom, assisted by the Ven. Archdeacon Woosnam, John Rust, M.R.C.S., L.R.C.P., of 30, St. Mary's-road, Crumpsall, Manchester, third son of John Rust, Ditchingham, Norfolk, to Florence Louisa, youngest daughter of the late Richard Shiers of Bowdon, Cheshire.

VASEY—GRIFFITHS.—On June 21st, by the Rev. W. Hardy Harwood, at Union Chapel, Islington, S. Arch. Vasey, F.I.C., F.C.S., of Loughton, Essex, to Gertrude, the youngest daughter of J. J. Griffiths, Esq., J.P., of Highbury-grange, N.

WYLLYS—BALLANCE.—On June 21st, at St. George's, Hanover-square, Henry John Mackeson Wyllys, F.R.C.S.E., of Great Yarmouth, to Rosa Louisa, third daughter of the late Charles Ballance of Clapton.

DEATHS.

FARR WHITE.—On June 20th, at Leopold-road, Wimbledon, George Farr White, F.R.C.S., late Assistant Surgeon, H.M.'s 77th Regiment.

FITZ HUGH.—On June 15th, at the Imperial Hospital, Deelfontein, Civil Surgeon Richard Truman Fitz Hugh, M.B. Lond., aged 28 years.

FORRESTER.—On June 19th, at Cape Town, Surgeon-Lieutenant-Colonel J. S. Forrester, Royal Horse Guards, aged 46 years.

HOPE.—On June 21st, at Church-hill, Petworth, Samuel Wilson Hope, M.R.C.S., L.R.C.P., in his 66th year.

JONES.—On June 20th, at Windsor Esplanade, Cardiff, Francis William Brandram Jones, M.D. Edin., aged 39 years.

RAMSDEN.—On 24th inst., suddenly, at Sunnyside, Doncress, Saddleworth, Walter Henry Fox Ramsden, M.R.C.S., L.R.C.P., aged 66 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

A [illegible]
arguments [illegible]
present time that the following translation of a quaint passage from the writings of Pufendorf can scarcely fail to be of interest. The translation was made by Mr. R. Milne, who sent it to the Society for the Study of Inebriety. That society caused it to published in their pamphlet of Proceedings. Many of the temperance journals have unwarrantably assumed that the society is necessarily an ardent patron of teetotalism. Most of the so-called temperance reformers aim not at temperance or moderation in drinking, but at total abstinence. The society mentioned, however, does not consist and is not intended to consist of teetotal members. It exists for the study of inebriety as such and not for its extinction or suppression. Thus, as a really learned body the society does not hesitate to hear and discuss all sides of a question. One may feel sure that such breadth of view in investigation can only result in the attainm
the subject. One cannot feel
arrived at about inebriety or e
to be prejudiced in favour of [illegible]
views of the millions of moderate drinkers. The passage is as follows —

We should ask *why* people get drunk? And *how* it is that some keep sober?"

One is sober because he has not the means to get drunk.

Another because greater pleasures than drunkenness are within his reach.

Another simply through *fear*, whether of the law, or of his fellows.

Another because drunkenness hinders his pursuits and the ends he has most at heart. Thus are great criminals sober

[This last observation is of great antiquity. Aristotle wrote "If the knave be sober through design, and the invalid through necessity, the wise man will be so from choice and the good man from a sense of duty."]

One is drunk simply because his bodily machine is so crazy and dilapidated that he can find no other way to keep his brain alive but through drunkenness.

Another because of the desolation and the joylessness of his life He drinks to forget.

Another because drinking exalts certain powers of his body or mind for a time.

Another because drinking feeds the vices he takes most pleasure in.

Another because drinking makes him feel big and important

Another is drunk because drinking eases certain stomach distresses.

Another because the *very ideals* of the sober party are hateful to him.

Another simply because he has somehow got into the habit of drinking.

Another to stave off exhaustion.

Another because his dietary is unsuitable to him.

Saint and sinner alike we all seek pleasure, and men will go wherever to their understandings the greatest promise of pleasure is held out. All these notions, both of sober and inebriate, are at root one and the same, the getting of pleasure or the avoidance of pain of every degree whatsoever, for if you can avoid pain you will be absolutely happy And this absolute easing it is that gives the "beat
tension.
life, work
worries an[illegible]
to ourselves.

What, then, are the remedies?

In one word, Knowledge. All else will follow. We must *take counsel with* the inebriate. And before he will allow that he must see that you love him, that you respect him, and you understand him and his bodily and mental needs. There is no reformation, no amendment, but *from within outwards*. You must cooperate with the man himself.

The translator adds "There seems to be in this book the ancient, the eternal, confusion between what a man ought to do and what his neighbours have a right to require of him. By 'ought to do' I mean either what is due to his Maker or what is due, fitting, becoming to himself. Do you really think you have the *right* to compel your neighbour to be sober, supposing you had the power? I mean no offence in thus asking."

PULEX IRRITANS.

C. M. H. wishes to know how to get rid of a plague of fleas in an old country house where the pests have established themselves in the woodwork and cracks of the floors. In THE LANCET of April 6th, 1895, p. 842, and in our issue of May 14th, 1898, p. 1343, the subject is dealt with, but perhaps some of our readers may be able to help our correspondent further. The use of formalin, of which we have no experience in this particular application, is suggested, but if it is tried we would recommend as an additional measure that a stiff soapy lather should be worked into the cracks and crevices of the boards before or after fumigation and allowed to remain for 24 hours.

HOMES FOR INCURABLE POOR.

To the Editors of THE LANCET.

SIRS,—Could any of your readers kindly give me the addresses of homes for incurable patients, where the patients are received for very nominal amounts per annum?

I am, Sirs, yours faithfully,

Hayle, Cornwall, June 25th, 1900. H. ROBERTS.

"DEATHS UNDER CHLOROFORM."

To the Editors of THE LANCET.

SIRS,—In the issue of THE LANCET of June 23rd, 1900, p. 1846, appears a letter from Mr. C. J. Harris, in which he quotes the case I reported in your issue of June 9th, 1900, using that case to draw a comparison between the older method of giving chloroform and the latest fad of the Krohne Inhaler. But Mr. Harris does not quote correctly. He says that chloroform in my case "was administered by the towel or Simpson's method." Well, it was not so. The chloroform was given on an inhaler of the Skinner type to the patient on both occasions and on both was the same amount used. Giving chloroform as I am doing very frequently I can practically be certain that I hold the mask the same distance from the face in every case, so that the concentration of the vapour of chloroform and air is the same in each case, and according to experiments by S. J. Lister the percentage of chloroform is about 4·5 per cent., [illegible]
chloroform used on an open inhaler [illegible]
of which the patient gets 4·5 per cent, [illegible]
as an excessive dose; my patient certainly had quite as much chloroform on the second occasion with no ill results. I cannot explain why he behaved as he did on the first occasion, but in view of the second operation I state emphatically that it was not an overdose, and I am certain that had the chloroform been given in a Krohne or any other inhaler the result would have been the same. The advocates of some particular new fad are always quoting any case under the old conditions, but one notices that no figures are given in support of the new *régime*, and when one considers the huge number of occasions on which chloroform is given under what they are pleased to term the [illegible] in a year and the comparatively insignificant numb[illegible] to go on until one's own [illegible] nistered chloroform up to date 576 times with no [illegible] wo of my fellow anæsthetists, one of whom has had over 3000 cases with no deaths and the other over 1500 cases with no deaths. When I see these figures equalled under any new conditions it will be then quite time enough to change from the "old" to the new.

I am, Sirs, yours faithfully,

FRANK E. MARSHALL, M.B., Ch.B. Vict., L.S.A.,
Anæsthetist to the Royal Southern Hospital, Liverpool.

Liverpool, June 22nd, 1900.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of June 16th, 1900, there is a very interesting paper upon anæsthetics by Dr. Dudley Buxton. But there is one sentence on which I think we need further light. Dr. Buxton writes (page 1715, col. 2):—

"It is one great advantage of inhalers such as Junker's over the open method that you can give chloroform in great dilution but maintain the continuity of the inhalation. With skill and judgment the drop-bottle method with a Schimmelbusch's mask will give a good result, but it is inferior to a regulating inhaler."

At page 1716, col. 1, Dr Buxton again writes: "... I gave him oxygen with chloroform with the best result. I administered oxygen continuously and exhibited chloroform from my modified form of Junker's inhaler."

Many readers will be thankful to see this pronouncement, and especially the essential principle of "great dilution," "extreme dilution and slowly." But what instrument does Dr. Buxton mean by "the Junker inhaler", what by "a regulating inhaler", and what by "my modified form of Junker's inhaler"? [illegible] who over "a Junker
This is a seri[illegible]
inhaler" or "a [illegible]
an obsolete a[illegible]
Buxton means [illegible]
enough of it, [illegible]
an old Junker, *or any other* [illegible] a little vary in size with the
of chloroform that [illegible]
shape, magnitude, a[illegible]
flannel mask does no[illegible]
air which goes into each inspiration. [illegible]
method and the graduated drop-bottle is illusory.

As to the "Junker inhaler" it has two fatal faults. The respiratory orifice, when the thirtle valve is fully open, is of smaller cross section than the glottis and is inadequate to save from asphyxiation. Moreover, it cannot be seen whether this throttle valve on the outlet of the

inhaler is open or shut except by the administrator on his stooping down to make a close inspection. This is a very dangerous fault and it adds the risks of asphyxiation to the chances of chloroform poisoning. The old Junker is, however, safer than the Junker modified by the rubber-inflator, which makes the mask air-tight to the face. With the old Junker the throttle valve was useless and unsafe, but the patients' lives were saved by the fact that the periphery of the face-piece, being of rigid vulcanite, never fitted the face air-tight. Large chinks remained open between the patient's face and the base of the mask, and while the administrator [illegible] throttle valve the patient was brea[illegible] chinks. These chinks also made it [illegible] strenuous pumper to kill his patient, inasmuch as the heavy chloroform vapour drained out through the chinks at every expiration. But when the rubber inflator was put on to the edge of the mask it fitted the face air tight and the improved Junker became a death-trap.

The presence of Krohne's two fire-engine balls so as to produce a continuous jet of chloroform air all round the respiration cycle also made the apparatus chaotic in action and practically unmanageable. The result was that practical men preferred the towel method, or any other, [illegible] of the rubber inflator Krohne knocked [illegible] valve and replaced them by a large respiration orifice many times the area of the glottis and always open—unless some sage stops it up w[illegible] it. Krohne thus transformed the [illegible] as to one point—the survival of the [illegible] fortune to point this out in THE LANCET of Oct. 28th, 1899, pages 1205-6. Krohne at once adopted the single ball and improved valve as suggested by me. The result now is a[illegible] of chloroform-air can be injected into e[illegible] described by me the whole of the [illegible] recesses of the lungs. All that is now [illegible] to learn to think of his chloroform in [illegible] in fractions of an ounce. Krohne adde[illegible] exhibits to everyone in the room the [illegible] phase of each respiration cycle.

What I desire to point out is that if we want the right implement we must order the "Krohne Inhaler, 1900." In this we have the fundamental step made by Junker of pumping chloroform vapour into a facepiece, the continuous jet abolished, the rubber inflator to close up the chinks round the periphery of the mask, the large uncloseable respiration orifice, and the feather indicator. It is a perfect instrument. But it will not be obtained under either of the names used by Dr. Buxton.

One more point. It is useless to talk vaguely and incidentally of "large dilution" of the chloroform vapour. What is large dilution? Sound teaching should point out that the anæsthetising atmosphere must contain from 1 to 2 per cent., by volume, of chloroform vapour; that a larger percentage is dangerous and is only to be used on rare occasions. 1 to 2 per cent. means one to two cubic inches of chloroform vapour diluted up to a volume of 100 cubic inches with pure fresh atmospheric air. Such an atmosphere, continuously inspired, induces a safe, comfortable, and perfect surgical anæsthesia, in less than ten minutes, and with a total abstraction from the graduated burette of from 30 to 50 minims of chloroform. And the anæsthesia is as pleasant as the 40 winks into which a tired man drifts in an afternoon siesta. The first ten inspirations should carry into the lungs even less than 1 per cent of chloroform vapour. First, we gently benumb the reflex irritability of the larynx and air-passages. That having been achieved we commence the work of charging up the whole mass of the circulating blood and its extra vascular plasma. This charging up of the system requires time for the necessary diffusion and penetration. It must be so graduated that a killing surcharge is never at any moment precipitated into those few cubic inches of blood which lie between the capillaries of the pulmonary artery and the capillaries of the coronary arteries—a fraction of the circulation which I have described as "the pulmo cardiac blood," and on which the life of the heart depends. A momentary surcharge here kills the heart.

I am, Sirs, yours faithfully,

Manchester Square, W., June 23rd, 1900. JAMES EDMUNDS.

"THE YOUNG PRACTITIONER, HIS CODE AND TARIFF."

To the Editors of THE LANCET.

SIRS,—Will someone inform me in the columns of THE LANCET where I can obtain a copy of this work? I can gain no information about it at the usual shops.

I am, Sirs, yours faithfully,

June 17th, 1900. M.R.C.S., L.R.C.P.

POINTS IN ETIQUETTE.

C. G. D. asks:—

1. What course should be adopted when a junior partner in a large general practice refuses to be governed by the ordinary rules of etiquette in his conduct to his partner and totally ignores all rules by which medical men are usually governed? 2. Also, can a junior partner in a large general practice accept an honorary appointment in a hospital (which may take him away from his work probably for some hours each day) without the consent of his partner?

1. The gist of the first question lies in the words "ordinary" and "usually." No member of the profession, we are sure, would willingly infringe the rules of medical etiquette, whether he did so to the detriment of his own partner or of any other medical man, but the rules are not as definite in many directions as they might be and presumably the junior partner differs from his senior in his interpretation of them. 2. The answer to the second question depends upon the phraseology as well as upon the meaning of the agreement between the partners. It may be good for the practice that one or the other partner should hold an appointment in a hospital, and the junior partner might be able to bring evidence that such is his view. In general answer to both questions we would say that it is perfectly clear that the matters in dispute should be settled amicably by arbitration. A medical man of senior standing whose position is [illegible] both partners should be asked to decide [illegible]

O. H. B.—No book contains the information in question. The position of the General Medical Council now practically is that the employment of unqualified assistants is completely forbidden. A practitioner may be accompanied to a case by a *bonâ fide* pupil, while the chief difference between a pupil and an assistant lies in the fact that the former pays for [illegible] whilst the la[illegible] is paid for help that [illegible] more defini[illegible] than this.

B. O.—In our opinion the Oxford graduate should be considered the senior man, but we can only give an opinion. If the matter is of importance the electing body should decide which is to be considered senior.

Ethics.—We regret to be unable to help our correspondent, but have published his letter as some of our readers may be better informed than we are.

A Subscriber.—The possession of such diplomas would make their owner "doubly qualified."

ERRATA.—In the letter of Dr. Chaumier, headed "A Propos du Rapport de la Commission de THE LANCET, sur la Pulpe 'Vaccinale' Glycérinée," which appeared in our issue of June 23rd, p. 1831, the following corrections should be made. On page 1832, col. 1, line 7, Chalybais should read *Chalybaus*; on page 1833, col. 1, line 18, the word printed "infinie" should be *infime*; in paragraph 2, line 2 "pouvait" should be *pourrait*; paragraph 4, lines 4 and 5, "Grigorien" and "Voiton" should read *Grigoriew* and *Voitow*.—In THE LANCET of June 2nd, on page 1629, column two, paragraph two, lines 10 and 11 should read "It had taken place since he ceased to be a member of the board—i.e., February, 1897."

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 28th, 1900.

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rainfall	Solar Radiation in Vacuo	Maximum Temp Shade	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
June 22	29·83	W.	0·36	114	70	55	57	60	Cloudy
" 23	29·77	N.W.	0·18	116	70	49	52	56	Cloudy
" 24	29·84	S.W.	...	119	69	53	57	62	Cloudy
" 25	29·46	S.W.	0·12	108	66	54	54	55	Raining
" 26	29·84	N.W.	0·55	102	69	53	55	58	Cloudy
" 27	30·00	N.W.	...	110	70	50	54	59	Hazy
" 28	30·00	N.E.	...	70	61	55	56	57	Overcast

During the week marked copies of the following newspapers have been received: *Western Mail, Western Morning News, Whitehall Review (London), South Wales Daily News, Sydney Daily Telegraph, Leeds Mercury, Staffordshire Sentinel, Macclesfield Courier, Dewsbury Reporter, Manchester Guardian, Newcastle Daily Chronicle, Birkenhead News, Daily Mail (London), Gazette (Middlesbrough), Norfolk Daily Standard, Times of India, Pioneer Mail, Architect, Builder, Citizen, Bristol Mercury, Yorkshire Post, Caterer, Liverpool Daily Post, Sanitary Record, Barrow Herald, Siam Free Press, Brighton Gazette, Jersey Express, Carmarthen Reporter, The New Age, Drogheda Advertiser, Morning Post, Morning Advertiser, Warrington Guardian, Christian World, City Press, Reading Mercury, Local Government Journal, Natal Mercury, Surrey Advertiser, Swansea Journal, Manchester Evening Chronicle, Mining Journal, Local Government Chronicle, Hertfordshire Mercury, Preston Herald, Torquay Times, Topical Times, Hastings Times, Lincoln Mercury, Horse Guards Gazette, Chelsea Mail, Public Health Engineer, The Observer, Chester Guardian, Walsall Observer, Daily Express (Dublin), South London Press, Liverpool Journal of Commerce, Scotsman, &c., &c.*

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

Bartholomew's (1 30 P M.), St. ' P M), St Mary's (2 30 P M), (2 P M), Chelsea (2 P.M), ...sicians, 2 P M), Soho-square (2 P M), Royal Orthopædic (2 P M), City Orthopædic (4 P.M), *Gt Northern Central (2 30 P M), West London* (2 30 P M), London Throat (2 P.M.)

TUE ... Guy's ... West-College ... Mark's ... Throat ...

minster (2 P M), Metropolitan (2.30 P M.), London Throat (2 P M.), Cancer (2 P.M)

THURSDAY (5th)—St. ... (3 30 P M) University ... George's (1 P M), Lond ... x (1.30 P M), St Mary's (2.30 P M), Soho-square (2 P M), North West London (2 P M.), Chelsea (2 P M), Gt. Northern Central (Gynæcological, 2.30 P M), Metropolitan (2.30 P M.), London Throat (2 P M), St. Mark's (2 P.M).

FRI ...

Northern Central (2.30 P M), West London (2.30 P M), Lonpon Throat (2 P M and 6 P M)

SATURDAY (7th)—Royal Free (9 A.M and 2 P M), Middlesex (1 30 P M), St. Thomas's (2 P M), *London (2 P M), University College (9 15 A.M),* Charing-cross (2 P.M.), St. George's (1 P M), St. Mary's (10 P M), London Throat (2 P M.).

At the Royal Eye Hospital (2 P M), the Royal London Ophthalmic (10 A M), the *Royal Westminster Ophthalmic (1.30 P M),* and the Central London Ophthalmic Hospitals operations are performed daily

SATURDAY ... (Pathological Laboratory ... Papers and Demonstr ... Dr Eyre, Mr Griffiths ... M Dinner in Trinity Hall.

WI ...

Meeting

LECTURES, ADDRESSES, DEMONSTRATIONS, &c

MONDAY (2nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W C.).—4 P M. Dr. J Galloway: Consultation. (Skin.)

LONDON THROAT HOSPITAL (204, Gt. Portland street, W) —4 30 P M Mr C Weakes Demonstration on Selected Cases. (Post-graduate ...

Course (West London Hospital, ... Diagnosis of, and Operations for, ...

TUESDAY (3rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22 Chenies-street, W C) —4 P M. Dr J F Payne: Consultation. (Medical.)

BRITISH MEDICAL GRADUATES' ASSOCIATION (Café Royal, Regent-street, W) —6.30 P M. Twentieth Annual General Meeting 7.30 P M Dinner

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen square, W C)—3.30 P M Mr M Gunn Ocular Paralysis

WEDNESDAY

22, Chenies ...

Clinical M ...

Lecture: P ...

EVELINA HOSPITAL (Southwark bridge-road, S E.) —4 30 P M Dr W. S Fenwick: On Diarrhœa in Children (Post-graduate Course.)

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M Dr Scherstein: The Forms of Dyspepsia in Pulmonary Tuberculosis.

MASON ... (Neuro ... Lecture.) ... tatro ... toner ... dleby

...DUATES' COLLEGE AND POLYCLINIC ... M. Mr J. Hutchinson: Consulta ...

... Course (West London Hospital, ... Diagnosis of, and Operations for, ...

CHARING-CROSS HOSPITAL.—4 P M. Dr M. Davidson: Röntgen Ray Demonstration. (Post-Graduate Course)

FRIDAY (6th)—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W C) —4 P M Dr Tilley: Consultation. (Nose and Throat.)

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE, OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, mu ... addresses of their ...

We cannot ...

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Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager"*

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MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title page to Vol I of 1900, which is completed with the issue of to day, will be given in the next number of THE LANCET

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